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ABSTRACT

The primary goals of the Texas Education Agency's Educational Technologies Providing Increased Learning Opportunities for Texas Students (Ed Tech PILOTS) are to employ technology to more efficiently and effectively deliver information to students and teachers to enhance the efficacy of classroom instruction. This interim report discusses the background and guiding principles for the ED Tech PILOTS, and reports on the individual projects, the current status of the pilot projects, and the project evaluation. The Texas Primary Reading Inventory (TPRI) Pilot Project is exploring the use of a handheld personal digital assistant to collect student performance data as teachers assess individual students using the TPRI. The mathematics pilot project was designed to develop and evaluate an online mathematics homework service for Grades 5-8. The Biology pilot project is exploring the use of a Web interface as an access point for biology-oriented curriculum materials aligned to the Texas Essential Knowledge and Skills (TEKS) learning standards and learning objectives on the Texas Assessment of Knowledge and Skills (TAKS) test. The Social Studies pilot project is similar in intent and structure to the Biology pilot project, and is exploring the use of curriculum materials that are being drawn from the Texas Library Connection (TLC) online education materials pool and associated with textbooks on the state's approved list in Grade 8 United States History, and high school World History and World Geography. All of the PILOTS have completed the development of the software applications with feedback from participating teachers and pilot partners. Extensive training materials have been developed and training conducted in campus-based workshops, via videoconferences and campus-based individualized training. Appendixes include descriptions of the Texas Primary Reading Inventory; University of Texas Online Homework Service; and Texas Library Connection. (AEF)

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A REPORT TO THE 78TH TEXAS LEGISLATURE FROM THE TEXAS EDUCATION AGENCY



INTERIM REPORT ON ED TECH PILOTS

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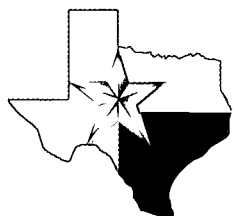
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78th Texas Legislature
from the
Texas Education Agency
January 2003

*Submitted to the Governor,
Lieutenant Governor,
Speaker of the House, and the
78th Texas Legislature*

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TEXAS EDUCATION AGENCY

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Felipe T. Alanis
Commissioner of Education

January 14, 2003

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 Texas Legislature

The 77th legislature authorized the Texas Education Agency to develop and conduct the Educational Technology PILOTS (EdTech PILOTS). The primary goals of these pilot programs are to employ technology to more efficiently and effectively deliver information to students and teachers to enhance the efficacy of classroom instruction. These goals are meant to be achieved across the diversity of schools represented in the various projects. Specifically these goals are to:

- ◆ Increase the use of existing print and online curriculum resources;
- ◆ Increase the efficiency of the classroom content delivery;
- ◆ Increase the efficiency of classroom lesson plan development;
- ◆ Increase the effectiveness of student diagnostic assessment; and
- ◆ Increase the accessibility and quality of educator professional development.

The programs are being implemented in a wide range of school districts across the state. The final report regarding these pilot projects will be provided at the conclusion of the EdTech PILOTS in 2003.

I am pleased to submit this interim report for your consideration.

Sincerely,

Felipe Alanis
Commissioner of Education

Executive Management

FELIPE ALANIS

Commissioner of Education

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Chapter 1: Executive Summary



Executive Summary

Ed Tech PILOTS 2001 - 2003

Technology is playing an increasing role in how we live, work, play and educate. As technologies become more prevalent in our school system, it is critical to continually explore and evaluate their effectiveness. Texas has a well established history of technology pilot programs and demonstration projects. Through this exploratory process, many statewide programs have been initiated, expanded and evaluated. The current **Educational Technologies Providing Increased Learning Opportunities for Texas Students** (Ed Tech PILOTS) program provides the Texas Education Agency (TEA) with an avenue to continue this innovative process. The purpose of the program is to examine applications of technology in K-12 schools to determine the feasibility and effectiveness of those applications and technologies in meeting educational goals and objectives of the school, district, and state in the areas of: teaching and learning; educator preparation and development; and administration and support, with the ultimate goal of improving student performance.

The recommendations from the 1999-2000 EdTech PILOTS were guiding factors in establishing four new pilot projects in the fall of 2001 in the foundation curriculum areas of Reading, Math, Science, and Social Studies.

The general purpose of these projects is to use technology to more effectively deliver student performance data, curriculum content or professional development to classroom teachers. All projects employ a web interface as a focal point for delivering this content.

Each of the PILOTS established partnerships that include TEA, content area centers for professional development, existing state initiatives, universities, and technology vendors.

The primary goal of the Ed Tech PILOTS is to employ technology to more efficiently and effectively deliver information to educators and thereby enhance the efficacy of classroom instruction. These goals are meant to be achieved across the diversity of schools represented in the various projects. Specifically, these goals include:

- ◆ Increasing the use of existing print and on-line curriculum resources;
- ◆ Increasing the efficiency of the classroom content delivery;
- ◆ Increasing the efficiency of classroom lesson plan development;
- ◆ Increasing the effectiveness of student diagnostic assessment; and
- ◆ Increasing the accessibility and quality of educator professional development.

Brief Descriptions of Pilot Projects

Reading (TPRI) Pilot Project

The Texas Primary Reading Inventory (TPRI) Pilot project is exploring the use of a handheld personal digital assistant (i.e. PDA, such as a Palm Pilot) to collect student performance data as teachers assess individual students using the Texas Primary Reading Inventory (TPRI). The partners include The University of Texas Center for Academic and Reading Skills (CARS), Region IV Education Service Center, and vendor Wireless Generation.

A software-based version of the TPRI has been developed for the pilot that runs on a PDA. A teacher uses the PDA-based TPRI to assess the student. Once assessment is complete, the software program then uploads individual student data to a secure database via the Internet. The data is then aggregated for all students in a classroom, and then made accessible back to the teacher on a secure web site. The web site offers various data analysis tools and recommended teaching intervention strategies that are tied to certain student performance benchmarks.

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The primary goals of the project are to develop the handheld and secure web site applications, deploy them to a variety of classroom types across multiple school districts, successfully use them for actual TPRI administrations, and to provide more useful student performance data immediately to teachers.

The project currently operates on eight campuses in four school districts and involves 100 teachers. Plans are to expand the pilot in January of 2003 to include an additional 20 campuses, representing all 20 ESC regions of the state. The pilot will be extended to a second tier of campuses in the spring of 2003. The Center for Academic and Reading Skills (CARS), University of Texas Health Science Center has also received a grant from the U.S. Department of Education to conduct the study "Scaling Up Assessment-Driven Intervention Using the Internet and Handheld Computers" which will include the TPRI handheld application. The study will involve 255 campuses in Texas.

Mathematics Online Homework Help Pilot Project

The mathematics pilot project was designed to develop and evaluate an online mathematics homework service for Grades 5-8. The University of Texas at Austin Homework Service has been in development for over a decade and serves over 10,000 students throughout Texas each semester at high school and college levels. Through the pilot, the service is expanding to assist teachers in Grades 5-8 by providing and grading mathematics homework assignments with immediate feedback, as well as assisting them in providing and grading student examinations. Teachers can monitor student progress in a variety of ways, and have flexibility in the design of their assignments. Problems may be selected for remedial or acceleration purposes, and errors or inconsistencies can be reported for immediate review and resolution. The web interface is being improved to provide ease of use and immediate feedback to students, parents, and teachers. Additional homework problems and solutions for math in Grades 5-8 will also be developed. The project began in three districts and will expand to additional districts to include approximately 100 teachers.

Biology Pilot Project

The Biology pilot project is exploring the use of a Web interface as an access point for biology-oriented curriculum materials aligned to the Texas Essential Knowledge and Skills (TEKS) learning standards and learning objectives on the Texas Assessment of Knowledge and Skills (TAKS) test. The curriculum materials themselves are being drawn from the state's Texas Library Connection (TLC) online education content pool, specifically associated with individual biology textbooks on the state's approved textbook list and packaged as lesson plans that cover TAKS learning objectives. The web interface allows a teacher to readily locate these materials based on content strand and the specific textbook being used in the classroom.

The primary goal of the project is to extend the reach of current generation biology textbooks by delivering TEKS/TAKS-aligned curriculum content to teachers and students in a readily accessible lesson plan format via the Web. The project involves a partnership between TEA, vendor Gale Group, and Region IV Education Service Center. The project currently operates on approximately 50 campuses in 45 districts and involves approximately 55 teachers. Plans are to expand the pilot to additional biology teachers on those campuses in January 2003.

Social Studies Pilot Project

The Social Studies pilot project is similar in intent and structure to the Biology pilot project. The project is exploring the use of curriculum materials that are being drawn from the Texas Library Connection (TLC) online education materials pool and associated with textbooks on the state's approved list in eighth grade U.S. History, and high school World History and World Geography. The materials are designed to supplement those TAKS objectives covered in any one text. A web interface allows a teacher to readily locate these materials within the TLC curriculum resources web site based on content strand and the specific textbook being used in the classroom.

The primary goal of the project is to extend the reach of current generation social studies textbooks by delivering TEKS/TAKS-aligned curriculum content to teachers and students in a readily accessible lesson plan format via the Web. The project involves a partnership between TEA, vendor Gale Group, and Region VI Education Service Center. The project operates on 35 campuses in 32 districts and involves approximately 55 teachers and 30 librarians. Plans are to expand the pilot to additional social studies teachers in January 2003.

Current Status of Pilot Projects

All of the PILOTS have completed the development of the software applications with feedback from participating teachers and pilot partners. Extensive training materials have been developed and training conducted in campus-based workshops, via videoconferences and campus-based individualized training. Web-based materials are also available for additional support. PILOTS are now in the expansion and utilization phase with ongoing feedback from participating teachers. Communication among participating teachers is enhanced through e-mail lists established for each pilot.

Evaluation

Each pilot project director is responsible for ongoing monitoring of the implementation of the pilot and providing regular progress reports to the Agency. In addition, TEA issued a Request for Proposal (RFP) to conduct an evaluation of the EdTech PILOTS during the spring of the 2002-2003 school year. An external evaluator will evaluate the effectiveness of the PILOT projects against a set of qualitative and quantitative criteria. The evaluation will center on outcomes associated with the three key elements of each project including:

- ◆ Content - The lesson plans, applications, student performance data, or recommended teaching interventions developed for a project.
- ◆ Delivery Technology - The technology (PDA, web sites, or other means) used to make project content available to teachers and students.
- ◆ User Training - The training given to users on how to access and use content and deliver technology.

The contractor will evaluate the three primary project elements stated above, from three perspectives including:

- ◆ Effectiveness - Is the content, technology and training effective in achieving the specific outcome goals stated for each project?
- ◆ Efficiency- Is the model of content, technology and training development and deployment efficient compared to traditional methods of development and deployment? If this model were scaled-up to a significantly greater number of sites or statewide, would it generate time or cost savings for the state compared to the current model(s) being used by the state or districts?
- ◆ Efficacy - Is the content and the technology used to deliver the content having a positive impact on teaching effectiveness and student achievement?

Information provided from all PILOTS and the evaluator will contribute to the final report due to the Texas legislature in December of 2003.

Chapter 2: Introduction



Introduction

Educational Technology Providing Increased Learning Opportunities for Texas Students (EdTech PILOTS)

Technology is playing an increasing role in how we live, work, play and educate. As technologies become more prevalent in our school system, it is critical to continually explore and evaluate their effectiveness. Texas has a well-established history of technology pilot programs and demonstration projects. Through this exploratory process, many statewide programs have been initiated, expanded and evaluated. The current **Educational Technologies Providing Increased Learning Opportunities for Texas Students (EdTech PILOTS)** program provides the Texas Education Agency (TEA) with an avenue to continue this innovative process. The purpose of the program is to examine applications of technology in K-12 schools to determine the feasibility and effectiveness of those applications and technologies in meeting educational goals and objectives of the school, district, and state in the areas of teaching and learning, educator preparation and development and administration and support, with the ultimate goal of improving student performance.

Background

Computer Network Study 1997-1998

Section 32.037 of the Texas Education Code required the Agency to develop a study project to determine the costs and benefits of using computer networks, including the Internet, in public schools. The issues to be studied were to include the possibility of delivering, through a computer network, updated supplements to state-adopted textbooks.

An advisory committee of textbook publishers, educators, students, technology experts, and TEA personnel was organized to assist TEA in the study project. Additionally, a subcommittee was organized to investigate the feasibility and cost-effectiveness of developing electronic textbooks that could be used by students who are blind or have other disabilities.

Ed Tech PILOTS 1999-2001

In March 1999, TEA began the EdTech PILOTS authorized by the Texas Legislature in Rider 63 of the Legislative Appropriations Act. TEA awarded grants enabling a broad-based selection of school districts to develop innovative technological strategies to boost student learning. TEA selected 13 school districts and 28 technology and curriculum companies to participate. The EdTech PILOTS used a variety of technologies, such as laptop computers, the Internet, CD-ROM-based instruction, and other strategies.

Interim and final reports of these pilots were delivered to the legislature in the fall of 2000 and 2001, respectively.

As a result of experiences with these pilot projects, the Educational Technology Division at TEA established the following guiding principles for pilot projects.

Guiding Principles

We are not piloting the technology – we are piloting the specific uses of technology in educational settings to determine if we can do things more effectively, more efficiently or in ways not possible without technology. Pilots should be designed to include essential conditions for success and provide appropriate models for replication.

Critical Success Factors for Technology PILOT Projects

1. Clear goals and objectives for the pilot.
2. Careful planning and flexible implementation.
3. Well-defined evaluation plan of pilot project designed to measure impact on students and teachers.
4. Project director has dedicated time for pilot activities (Each entity must identify a project coordinator or director –TEA, fiscal agent, business and other partners, school district, campus(es)).

5. Active support of pilot project from all levels of district administration – ie. Superintendent, curriculum coordinator, technology coordinator, campus principal, project director, librarian, etc.
6. Teachers involved are well informed of all aspects of pilot plans.
7. Time for collaboration, communication, adjustments, and feedback during course of pilot.
8. Time for all the components to be implemented appropriately and then pilot must last long enough to measure results.
9. Clear understanding of pilot goals and objectives and expected data collection by all participants at the beginning of the project.
10. Clear understanding of obligations of all participants before, during and after the pilot. Includes students, parents, teachers, campus, district, ESCs, higher education and business partners and others as applicable.
11. Demonstration of sound practices in current instructional setting before addition of pilot complexities.
12. All necessary hardware, software, connectivity and peripherals in place and fully functional.
13. Teachers have received sufficient professional development on existing technologies before addition of piloted technologies and applications.
14. Adequate professional development regarding piloted technologies and applications.
15. Plan for changes in staff that may occur during the pilot.
16. Adequate technical support available for existing and piloted technologies.
17. Clear understanding of what happens to piloted technologies and applications at the end of the pilot.
18. Recognition that policy issues may arise that need to be addressed during pilot.
19. Communications plan to ensure all pilot participants are kept informed as needed.
20. Written pilot framework that defines roles and responsibilities, timelines, implementation benchmarks and expected evidence of success.

The recommendations from the 1999-2000 EdTech PILOTS were guiding factors in establishing four new pilot projects in the fall of 2001 in foundation curriculum areas of Reading, Math, Science and Social Studies. The general purpose of these projects is to use technology to more effectively deliver student performance data, curriculum content or professional development to classroom teachers. All projects employ a web interface as a focal point for delivering this content. Each of the PILOTS established partnerships that include the Texas Education Agency, content area centers for professional development, existing state initiatives, universities, and technology vendors.

Each of the PILOTS is based on current programs already in place in Texas schools. The reading pilot examines the use of handheld technology to implement the Texas Primary Reading Inventory (TPRI). The TPRI provides educators with data to inform reading instruction and plan professional development opportunities for teachers. Additional information about the TPRI is available in Appendix A. The mathematics pilot extends the University of Texas Homework Service to elementary and middle school students. The homework service historically provided assistance to high school teachers in the areas of physics, math, physical science and chemistry. Additional information about the Homework Service is in Appendix B. The Biology and Social Studies pilots use the resources provided through the Texas Library Connection (TLC), a statewide technology initiative established to provide current, relevant information equitably to Texas school districts. The TLC provides access to online databases of full text journals, magazines, newspapers, encyclopedias, and electronic reference collections. Additional information about the Texas Library Connection is found in Appendix C.

Descriptions of each of the pilot projects are provided in this interim report. The PILOTS are scheduled to continue through the 2002-2003 school year. A final report will be delivered to the Texas legislature in December 2003.

Chapter 3: TPRI Pilot



Texas Primary Reading Inventory Pilot Project

3.1 Description of the Pilot

The Texas Primary Reading Inventory (TPRI) pilot project is exploring the use of a handheld personal digital assistant (e.g. PDA, such as a Palm Pilot) to collect student performance data as teachers assess individual students using the TPRI (for more information on the TPRI, see Appendix A). A software-based version of the TPRI has been developed for the pilot that runs on a PDA. A teacher uses the PDA-based TPRI to assess the student. The student reads from print-based TPRI materials. Once assessment is complete, the software program then uploads individual student data to a secure database via the Internet. The database then aggregates data for all students in a classroom and then makes it accessible back to the teacher on a secure web site. The secure web site offers various data analysis tools and recommended teaching intervention strategies that are tied to certain student performance benchmarks. The primary goals of the project are to develop the handheld and secure web site applications, deploy them to a variety of classroom types across multiple school districts, successfully use them for actual TPRI administrations, and to provide more useful student performance data immediately to teachers. The project involves a partnership between the Texas Education Agency, University of Texas Center for Academic and Reading Skills, Region IV Education Service Center (ESC) and vendor Wireless Generation. Region IV ESC was selected due to the expertise as the Center for the Texas Reading Academy. The project currently operates on eight campuses in four school districts and involves 100 teachers.

3.2 Project Goals

- ◆ Time (and cost) savings in administration of the TPRI.
- ◆ Improvement in the reliability of teacher assessment activities.
- ◆ Improvement in the depth and extent of teacher diagnostic analysis of student performance.
- ◆ Improvement in the extent of teacher usage of assessment data to inform and adjust instruction.
- ◆ Development of appropriate reporting formats for analysis of TPRI data.
- ◆ Demonstration of effective integration of TPRI data into existing district and TEA systems.
- ◆ Demonstration of the ability to target teacher professional development based on needs identified through analysis of TPRI data.

3.3 Phase I

The goal of Phase I was to create TPRI software for the handheld device and test this concept with teachers. To that end, work focused on creating a product that will allow teachers to administer the TPRI on a handheld device and analyze the results on both the handheld device and the Web. A competitive bid process was conducted to select a vendor to develop software applications for the handheld computers. Wireless Generation was selected as the vendor from this bid process.

Phase I activities were accomplished through a working partnership that involves the University of Texas Health Science Center, Center for Academic and Reading Skills (CARS) at the University of Houston, Texas Institute for Measurement, Evaluation & Statistics (TIMES), Texas Education Agency (TEA), Region IV Education Service Center (ESC), Wireless Generation, and JPX Interactive Technologies. This team engaged in a highly collaborative project, yielding an easy to use end product that has been enthusiastically accepted.

During Phase I, a group of 25 teachers and administrators from three campuses were trained: Poe Elementary (Houston ISD), Roosevelt Elementary (Houston ISD) and I.M. Terrell (Fort Worth ISD). Since the TPRI is administered in Kindergarten and first and second grade, all teachers of those grade levels on each campus were included in the pilot. The first step on these campuses was to train participants to use the handheld. Since handheld devices are a new piece of technology for most participants, it is important to train them on the handheld before application training. This ensures that participants are comfortable and capable with the device itself. Then teachers were trained to use the initial TPRI handheld software.

After training, Wireless Generation conducted usability testing with a subset of these teachers to identify potential user problems and make changes to the application before finalizing the technology. Then, once the software was fully developed and tested, the system software was installed on each campus, and participants were trained on application usage.

Once trained, teachers used the TPRI application and administered five or six mock TPRI tests with students in their class. Although this was not part of the official TPRI testing on these campuses, the mock TPRI tests were sufficient for testing user-friendliness and feasibility for actual TPRI administration. Initial estimates show a potential time savings of 20-30 minutes per teacher per student. And as the following comments indicate, teachers seem eager to continue with this program.

"I must say, it was truly a stress-free experience! The entire testing process took no longer than maybe 35 or 40 minutes. The time involved for testing decreased by an enormous margin."

—Teacher, Roosevelt Elementary

"Having the test automatically go through the tasks has simplified my life and made giving the test less of a hassle. Thank you for creating such a helpful and user-friendly teaching aid. I am really looking forward to using this tool next school year."

—Teacher, Roosevelt Elementary

"I enjoyed giving the TPRI on the Palm. It was very fast and convenient...I look forward to working with you and the Palm next school year."

—Teacher, Roosevelt Elementary

"I like this. So many times during the [paper] test I am trying to figure out what's the next test and figure out where I am."

—Teacher, Poe Elementary

Phase I Activities

A series of specific activities conducted during the first phase of the pilot are described below:

1. Collaborative Design

A series of meetings and design reviews with key representatives from each partnership group were held to develop in-depth product knowledge and create consensus on product design and functionality. All team members were provided with documentation via e-mail from these meetings and team members from each group were selected to be most actively involved in each session. Once all team members agreed on basic design and functionality, Wireless Generation began developing and testing the software for delivery at the beginning of May 2002.

2. Usability Testing and Adjustments

Before releasing the Phase I product, it was important to test the basic functionality with teachers to ensure the product is designed to meet the needs of the end-user. In this testing, the team worked with 12 teachers (six at Poe and six at Roosevelt) to analyze the application's ease of use and understand how teachers would react to the product as a classroom tool. Both measures showed very positive results. Design and functionality modifications were immediately made to simplify the few problem areas discovered. The product was once again tested and finalized before training.

3. Handheld Training

Training was conducted at DeZavala, Terrell, Poe and Roosevelt by a Palm certified trainer provided courtesy of Palm Inc. The trainer was briefed by Wireless Generation on the project and provided with a TPRI demo to discuss with the teachers. It was determined that future training would include an approved project overview but application training would be conducted by TPRI trainers. Experience with the schools demonstrated that it was very important to conduct Palm training a week or two before TPRI application training. This allowed teachers to become comfortable with the device itself before learning additional applications. Teachers from one campus (Roosevelt) chose to conduct Palm training a few days before application training. While they seemed capable in the training session, they had not yet learned how the device could impact their daily lives. It appears that teachers will synchronize data more frequently when they are also using the handheld for other purposes. Since synchronizing is an important component of effectively using the handheld TPRI, understanding and incorporating this into daily routine is important.

4. Software Installation

There are two places where software must be installed for successful use of the TPRI handheld application:

1. Application software installed on the handheld device.
2. Synchronization software installed on an Internet-ready computer.

Installing software on the handheld provides teachers with the key applications that will allow them to automatically receive the TPRI when they synchronize their handheld with the Wireless Generation server. In addition, it allows them to automatically receive software updates when they synchronize. The conduit software on the Internet-ready computer then allows the information from a teacher's handheld to be communicated through to the Wireless Generation server. When this synchronization happens, teachers can then review and print various types of performance reports for all of their students.

Technology contacts on each campus are a critical part of successful implementation. The full system was scheduled to be implemented two to three days before each training session. Wireless Generation installed the TPRI application on all teachers' handhelds either the day before or the day of training. However, implementation on the school computers was delayed, which prevented teachers from synchronizing information or uncovering any synchronization problems until the second-to-last week of school.

5. TPRI Handheld Training

Wireless Generation worked closely with CARS and Region IV to develop the TPRI application content and to set up the training sessions at each campus. Training was held at three separate campuses and was conducted with support from CARS and Region IV. Not all training participants were teachers because it is important that key people on each campus be properly trained. Other educators receiving training included: principals, assistant principals, reading consultants, and technology coordinators.

Each session lasted four to five hours and followed the format outlined below:

- ◆ Overview of system (handheld and web components);
- ◆ Semi-interactive handheld application walkthrough;
 - Teachers used their Palms and followed the trainer's actions as she demonstrated the application.
- ◆ Paired practice administration of TPRI;
 - Teachers role played TPRI administration.
- ◆ Web demonstration;
- ◆ Web activity;
 - Hands-on exploration of TPRI web site.
 - Interactive discussion of TPRI results led by CARS.
- ◆ Individual Syncing (Syncing activity was added based on experiences at Poe and Roosevelt campuses).

6. Campus Feedback Visits (Post Training)

Team members returned to the Roosevelt and Terrell campuses to conduct feedback sessions with teachers and to help them complete testing and resolve problems. During these sessions, we discovered that teachers were still very excited about using the handheld even though some encountered problems using the application.

Based on this feedback and usability testing of the application, Wireless Generation made refinements to the application and web site. Campus training procedures were also condensed and additional teacher follow-up materials were produced to ensure consistent performance across the school year.

3.4 Phase II

The project entered its second phase of work in June of 2002. Phase II included refinement of the TPRI PDA application, training and web site, and expansion to a significantly larger teacher population for actual use in fall administration of the TPRI.

- ◆ Installed the application at eight campuses in four school districts: Houston ISD, Brownsville ISD, Fort Worth ISD, and San Marcos ISD and involved approximately 100 teachers.
- ◆ Streamlined application training, implementation and usage procedures.
- ◆ Used the application to conduct actual (live) TPRI administrations at all pilot sites.
- ◆ Returned student performance data to teachers and principals via a secure web site that offers preconfigured analytical tools.

3.5 Conclusions/Lessons Learned

The following factors were identified at this stage of the pilot:

- ◆ The application will generate significant time savings for teachers administering the TPRI.
- ◆ The application makes administering the TPRI multiple times per year easier.
- ◆ The web site facilitates easy summarization of performance data across a classroom or campus.
- ◆ The web site provides a conduit for associating student performance with specific teaching or staff development interventions.
- ◆ The training of teachers and campus administrative staff in application usage is critical to successful use.

3.6 Next Steps

Plans are to expand the pilot in January of 2003 to include an additional 20 campuses, representing all 20 ESC regions of the state. Reading specialists at each ESC will be trained to provide training and support the use of the handheld application for teachers in their region. The pilot will be extended to a second tier of campuses in the spring of 2003. The Center for Academic and Reading Skills, located at the University of Texas Health Science Center, has also received a grant from the U.S. Department of Education to conduct the study "Scaling Up Assessment-Driven Intervention Using the Internet and Handheld Computers" which will include the TPRI handheld application. The study will involve 255 campuses in Texas.

TPRI PILOT Program Participants

District	Campus	# of Classrooms
Brownsville ISD	Putegnat	15
Brownsville ISD	Yturria	20
Fort Worth ISD	Harlean Beal	10
Fort Worth ISD	Eastern Hills	19
Fort Worth ISD	Terrell	6
Houston ISD	Poe	14
Houston ISD	Roosevelt	9
San Marcos ISD	DeZavala	21

Ⓢ = Developed
 Ⓣ = Still Developing

Student Name	Graphophonemic Knowledge					Reading Comprehension				
	Inv. 1: Spelling of CVC and CVCe Words	Inv. 2: Spelling of Long Vowels	Inv. 3: Orthographic Patterns, Conventions, and Past Tense	Inv. 4: Orthographic Patterns, Conventions, and Inflectional Endings	Story #	Grade Level	Reading Accuracy Level	Reading Fluency Rate (WPM)	Explicit Questions	Implicit Questions
<u>Chu, Julie</u>	Ⓢ	Ⓢ	Ⓣ	Ⓣ	4	2	IND	137	2	1
<u>Clark, Kelly</u>	Ⓣ	Ⓣ	Ⓢ	Ⓢ	3	2	IND	154	2	2
<u>Flowers, Vonetta</u>	Ⓢ	Ⓢ	Ⓢ	Ⓢ	4	2	IND	186	3	2
<u>Gale, Tristan</u>	Ⓢ	Ⓢ	Ⓣ	Ⓣ	4	2	IND	152	3	1
<u>Kass, Danny</u>	Ⓣ	Ⓢ	Ⓣ	Ⓣ	1	2	IND	145	1	0
<u>Young, Scott</u>	Ⓢ	Ⓢ	Ⓣ	Ⓣ	4	2	INS	102	1	1

Texas Primary Reading Inventory
 Student Summary
 Bazile Grade 2, Danny Kass

Ⓢ = Developed
 Ⓣ = Still Developing

Screening Summary	Beginning of Year	Middle of Year	End of Year 29-May-02
Scr. 1: Word Reading			

(View Component Detail)

Inventory Summary: Graphophonemic Knowledge	Beginning of Year	Middle of Year	End of Year 29-May-02
Inv. Task 1: Spelling of CVC and CVCe words			2 / 5 Ⓣ
Inv. Task 2: Spelling of Long Vowels			4 / 5 Ⓢ
Inv. Task 3: Orthographic Patterns, Conventions and Past Tense			2 / 5 Ⓣ
Inv. Task 4: Orthographic Patterns, Conventions and Inflectional Endings			2 / 5 Ⓣ

(View Component Detail)

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Inventory Tasks

	Students	Students				
Developed	Screening Developed = 10 Inventory Administered = 15	Screening Developed = 20 Inventory Administered = 5				
	Beginning of Year	End of Year				
	5 10	12 3				
Task Name 1	<table border="1" style="width: 100%;"><tr><td style="width: 50%; height: 20px;"></td><td style="width: 50%; height: 20px;"></td></tr></table>			<table border="1" style="width: 100%;"><tr><td style="width: 90%; height: 20px;"></td><td style="width: 10%; height: 20px;"></td></tr></table>		
	10 5	12 3				
Task Name 2	<table border="1" style="width: 100%;"><tr><td style="width: 60%; height: 20px;"></td><td style="width: 40%; height: 20px;"></td></tr></table>			<table border="1" style="width: 100%;"><tr><td style="width: 90%; height: 20px;"></td><td style="width: 10%; height: 20px;"></td></tr></table>		
	5 10	12 3				
Task Name 3	<table border="1" style="width: 100%;"><tr><td style="width: 30%; height: 20px;"></td><td style="width: 70%; height: 20px;"></td></tr></table>			<table border="1" style="width: 100%;"><tr><td style="width: 90%; height: 20px;"></td><td style="width: 10%; height: 20px;"></td></tr></table>		
	10 5	12 3				
Task Name 4	<table border="1" style="width: 100%;"><tr><td style="width: 60%; height: 20px;"></td><td style="width: 40%; height: 20px;"></td></tr></table>			<table border="1" style="width: 100%;"><tr><td style="width: 90%; height: 20px;"></td><td style="width: 10%; height: 20px;"></td></tr></table>		

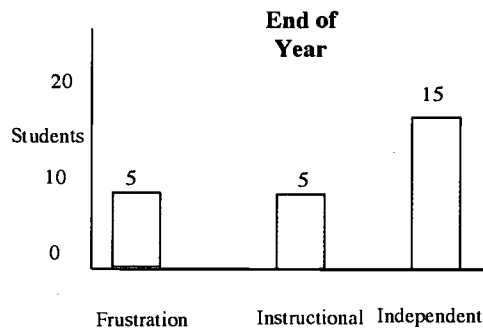
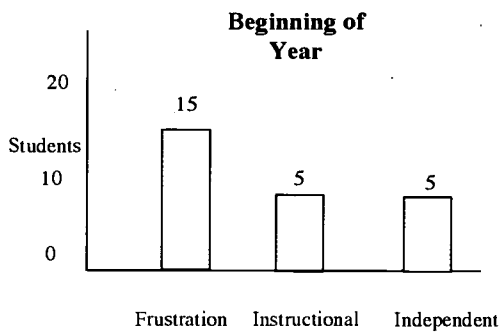
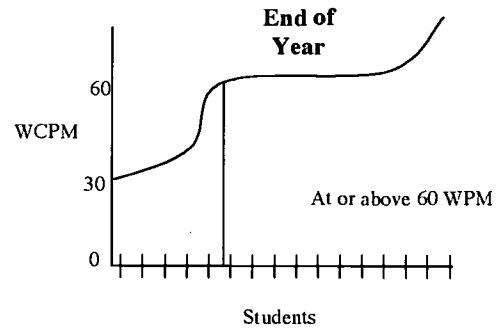
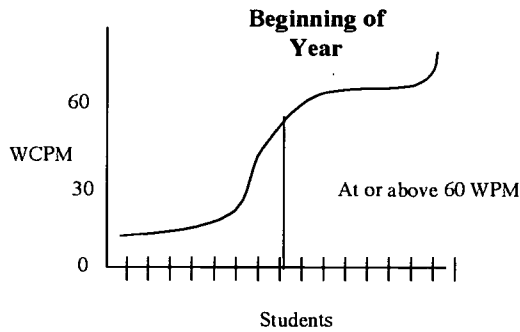
Class Reading Performance

Fluency = The ability to read connected text accurately, quickly and automatically. This is measured as Words Read Correctly x 60 (seconds).

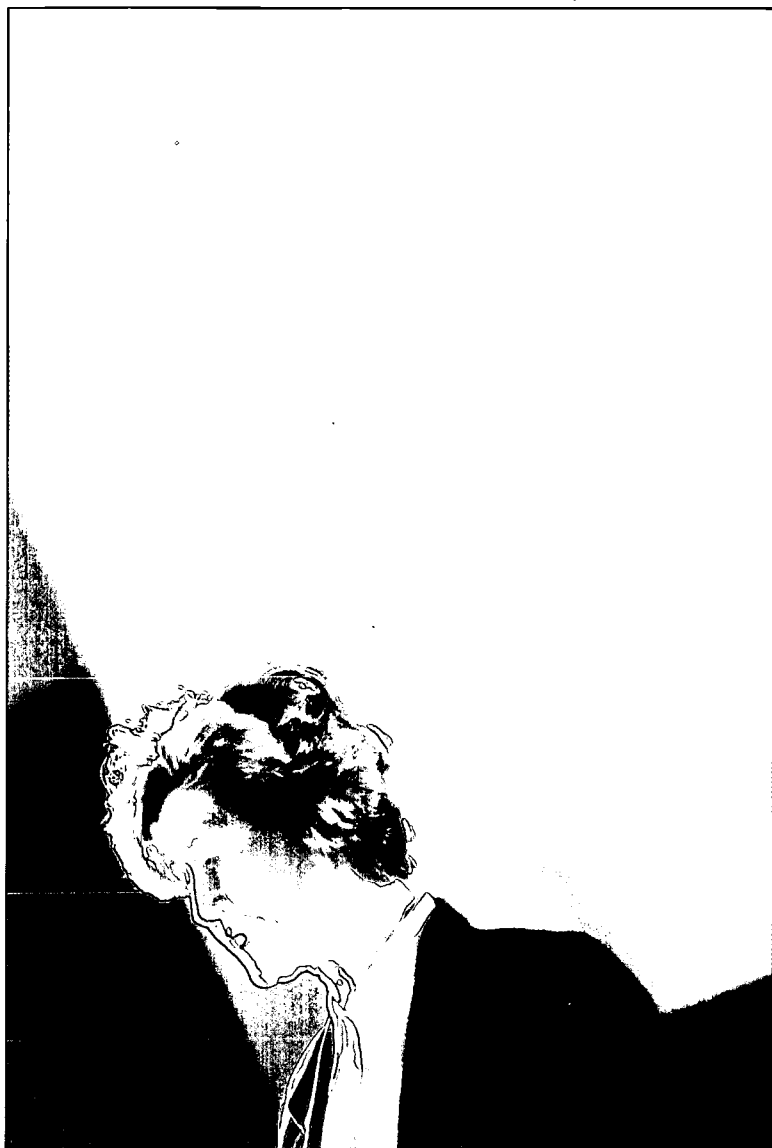
Accuracy = The ability to read text accurately. Incorrectly read words count against a student's overall score.

Performance is described as Frustrational, Instructional or Independent based on percentage correct.

Frustrational = <90%
Instructional Level = 90-94%



Chapter 4: Mathematics Pilot



Mathematics Online Homework Pilot Project

4.1 *Description of the Pilot*

The Mathematics Online Homework pilot project was designed to develop and evaluate an online mathematics homework service for Grades 5-8. The University of Texas at Austin Online Homework Service has been in operation for over a decade and serves over 10,000 students throughout Texas each semester at high school and college levels. See Appendix B for additional information about the University of Texas Online Homework Service. Through the pilot, the service expanded to assist teachers and students in the mathematics curriculum area in Grades 5-8. The service provides and grades online mathematics homework assignments and provides immediate feedback for students. Teachers can monitor student progress, and they have flexibility in the design of their assignments. Problems may be selected for extra practice or acceleration purposes, and errors or inconsistencies can be reported for immediate review and resolution. The web interface is being improved to provide ease of use and immediate feedback to students, parents, and teachers. Through continuation of the project, additional homework problems and solutions for mathematics in Grades 5-8 will be developed. The project began in three school districts and will expand to additional districts to include approximately 100 teachers.

4.2 *Project Goals*

The primary goals of the Mathematics Online Homework pilot project are to:

- ◆ provide online mathematics homework help for students in Grades 5-8,
- ◆ provide teachers with assistance in assigning and grading math homework problems including problems with immediate feedback for students,
- ◆ provide opportunities for teachers in the areas of technology integration and instructional innovation in the mathematics curriculum,
- ◆ explore the effective use of technology for homework assistance in the mathematics curriculum, and
- ◆ increase student learning in mathematics through the effective integration of technology.

4.3 *Phase I*

During Phase I, over 800 new electronic problems in mathematics were created for Grades 5-8 and added to the homework service. These problems addressed TEKS in the following areas:

- ◆ number, operation, and quantitative reasoning: multiplication and division of whole numbers and fractions;
- ◆ patterns, relationships, and algebraic thinking;
- ◆ probability and statistics; and
- ◆ measurement.

In the homework problem database, there are a sufficient number of problems that can be used throughout the year as tools to assist teachers with homework assignments and practice examinations. A variety of styles are provided in problem solutions, and visuals are included where possible.

Preliminary training on the usage of the Mathematics Online Homework pilot began in the spring of 2002. Several teachers participated in the preliminary stages of the pilot by providing input on the math homework problems, the web interface, and the training. The feedback given by the teachers prompted the focus of developing a new web interface. A new training video was also developed to share details about the pilot.

As part of the University of Texas at Austin Online Homework Service, the mathematics problems are free to any teacher in Texas who uses them. Over 20 teachers from elementary schools, junior high schools, and middle schools created classes in the system during Phase I; therefore, many students began submitting answers to homework assignments.

The Homework Service delivers unique, algorithm-based problems, where each student receives a version different from those given to other students. Since the parameters printed in each question differ, the answers differ between versions; however, the service is capable of handling these issues.

Many of the students resubmitted incorrect answers, and some showed persistence in reworking problems. When the results were provided to the teacher, the teacher was able to monitor the progress of the students and assign additional problems or give further instruction to students who were having difficulty with the mathematics concepts.

During the pilot, teachers analyzed the items in the homework database and recommended new items to the University of Texas at Austin as needed. As teachers identified solution errors and inconsistencies, they began reporting them to the University of Texas at Austin, where they were promptly corrected.

4.4 Phase II

- ◆ The University of Texas at Austin is working on improving the interface of the Online Homework Service to make the site more user-friendly and to provide more prompt feedback for students, parents, and teachers. The University of Texas at Austin is also continuing to develop homework problems and solutions for the mathematics curriculum in Grades 5-8.
- ◆ In the first few weeks of the 2002-03 school year, several requests were activated for classes in Grades 5 through 8 from teachers new to the system. Copies of the homework books were sent to the new teachers to help facilitate their introduction to the system.
- ◆ Copies of the homework books were also sent to participating teachers from the spring of 2002 and to others who expressed an interest in the service over the summer of 2002.

4.5 Lessons Learned

The following factors were identified at this stage of the pilot:

- ◆ The service will generate time savings for teachers by providing and grading homework problems for students.
- ◆ The diversity allowed in assigning students' homework problems is an advantage for teachers in trying to maintain the integrity of homework.
- ◆ The service provides immediate feedback to students who can resubmit problems when having difficulty.
- ◆ The web site must be user-friendly for students, teachers and parents.
- ◆ The web site provides a conduit for enhancing student performance with specific math concepts through frequent problem solving with immediate feedback.
- ◆ The training of users is critical to successful use of the service.
- ◆ Training must be appropriate for the grade level of participating teachers.

4.6 Next Steps

The web interface is currently being redesigned and additional mathematics problems are being prepared for Grades 5-8. Additional training materials and a training plan are under development. When these activities are complete, additional teachers will be added to the pilot and properly trained in the use of the Mathematics Online Homework Service.

Chapter 5: Biology Pilot



Biology Pilot Project

5.1 Description of the Pilot

The Biology pilot project is exploring the use of a web interface as an access point for biology-oriented curriculum materials that are aligned to the Texas Essential Knowledge and Skills (TEKS) learning standards and learning objectives on the Texas Assessment of Knowledge and Skills (TAKS) test. The curriculum materials themselves are being drawn from the state's Texas Library Connection (TLC). The TLC supports the K-12 learning community by providing access to over \$40,000 worth of online resources for teachers, students, and parents. For more information on the TLC, see Appendix C. The online education curriculum resources are specifically associated with individual biology textbooks on the state's approved textbook list. The existing resources were leveraged and aligned as lesson plans that cover TEKS/TAKS learning objectives. A web interface allows teachers to readily locate these materials within the Texas Library Connection web site. It is based on content strands and the specific textbooks being used in the classroom.

The primary goal of the project is to extend the reach of current generation biology textbooks by encouraging teachers to focus on TEKS/TAKS-aligned curriculum content for students by utilizing readily accessible lesson plan resources via the Web. The project involves a partnership between the Texas Education Agency, Region IV Education Service Center (ESC), the Gale Group, and the Publisher's Resource Group. Region IV ESC was selected because of the expertise of the Science Center for Educator Development located at their site. The Gale Group was selected because of the existing statewide license to the databases of full text resources through the Texas Library Connection. The campuses were selected because of their prior TLC usage.

5.2 Project Goals

- ◆ Provide teacher resources for Biology TEKS aligned with TAKS objectives.
- ◆ Provide resources in key areas in which students fail to meet minimum expectations on Biology End-Of-Course Exams.
- ◆ Demonstrate time savings for teachers in locating and using relevant resources for targeted Biology TEKS and TAKS objectives.
- ◆ Demonstrate improvement in teachers' classroom use of TLC to enhance instructional strategies and improve student performance.
- ◆ Develop a successful model of information dissemination and implementation training that capitalizes on existing human and technology resources.

5.3 Phase I

The customized web interface and biology lesson plans using the Texas Library Connection resources were initially developed during the spring of 2002. The prototypes were field tested with a small group of Biology teachers. Feedback was utilized to further refine the web interface and guide future lesson plan development. The Biology pilot completed the initial development stage during the summer and the implementation stage began in the fall of 2002.

Teachers from 46 districts were selected for participation in the program. These participating districts include at least one from each ESC region. The districts selected represent a diverse student population, have high Texas Library Connection use, have access to Internet connections, and use the adopted Biology textbooks.

Training and support was provided for approximately 100 participants (teachers, librarians, principals, district coordinators, ESC personnel) during a two day training session in the summer of 2002. The training was held at local service centers via TETN video conferencing and was videotaped for those who were unable to attend. The Gale Group and Region IV ESC provided technical support to teachers during this phase.

5.4 Phase II

- ◆ Training is ongoing for teachers, librarians, principals, science coordinators, technology directors, and ESC science specialists. The Gale Group is providing technical assistance via e-mail and a toll-free hotline to the program participants. The Gale Group is also providing handouts for the training sessions. Publisher's Resource Group is providing lesson plans aligned to the TEKS and TAKS objectives that are to appear on the web site.
- ◆ Data is being collected regarding teacher and student use of pilot and TLC resources. The Gale Group is collecting records via a database that stores individual use of lesson plans and an analysis of results through the Texas Library Connection interface.
- ◆ The web site is consistently being updated by The Gale Group to reflect edited and new lessons created by PRG. There are now thirty-nine lessons online, which cover all of the Biology TEKS objectives that will be tested on the TAKS test.
- ◆ Teachers began implementing pilot lesson plans and completing online surveys. Most teachers used at least five lessons during the fall semester and completed surveys to provide feedback.
- ◆ Student surveys will be uploaded to the web site to gather additional feedback.
- ◆ Onsite visits with teachers began in October of 2002.

5.5 Lessons Learned

Training on the Texas Library Connection as well as the Biology ClassTrac interface was essential for teachers to effectively use the lesson plans.

Technical difficulties regarding mega-search engines recently deployed caused delays. These search engines impacted all online database providers as the volume of searches increased to above 100 times the normal use. Delays were frustrating to pilot teachers.

Surveys provided valuable feedback regarding lesson plans. Overall, high ratings were given to the accuracy of the lesson content and the extent to which content was TEKS/TAKS focused. Several teachers did not use all of the lesson portions in their instruction.

5.6 Next Steps

All Biology teachers at participating campuses will be invited to participate in the pilot during the spring of 2003. Additional training will be provided by Region IV ESC, the Gale Group, and the current pilot teachers. Teacher and student surveys will be collected and analyzed to evaluate the overall usefulness and effectiveness of the Biology ClassTrac web site.

Biology Contacts

District	High School	ESC
Edcouch-Elsa	Edcouch	1
Harlingen Consolidated	Harlingen South	1
Sharyland	Sharyland	1
Corpus Christi	Moody	2
Goliad	Goliad	3
Victoria	Memorial	3
Alief	Elsik	4
Friendswood	Friendswood	4
Galena Park	Northshore	4
Fort Bend	Hightower	4
Cypress Fairbanks	Jersey Village	4
Klein	Klein Oak	4
Spring Branch	Northbrook	4
Waller	Waller	4
Hamshire-Fannett	Hamshire-Fannett	5
Hamshire-Fannett	Hamshire-Fannett	5
College Station	A&M Consolidated	5
Conroe	McCullough	6
Diboll	Diboll	7
Jacksonville	Jacksonville	7
Texarkana	Texas	8
Quanah	Quanah	9
Grand Prairie	Grand Prairie	10
Richardson	Richardson	10
Mesquite	West Mesquite	10
Fort Worth	Arlington Heights	11
Birdville	Birdville	11
Lewisville	Flower Mound HS	11
Lewisville	Flower Mound HS	11
Northwest	Northwest	11
La Vega	La Vega	12
West	West	12
Austin	Johnston	13
New Braunfels	New Braunfels	13
Seguin	Seguin	13
Abilene	Abilene	14
Colorado	Colorado	14
Christoval	Christoval	15
Schleicher	El Dorado	15
Amarillo	Palo Duro	16
Spearman	Spearman	16
Lubbock	Monterey	17
Midland	Midland	18
Monahans-Wickett-Pyote	Monahans	18
El Paso	Jefferson	19
Ysleta	Parkland	19
Bandera	Bandera	20
Northeast	McArthur	20
Northeast	Reagan	20

Biology Project	Feature	Benefit
Teacher Interest		
	Updated content that supports and addresses the TEKS. Also, it enables the classroom teacher to have access to current information.	Provides current information in biology, especially content that will be included on the TAKS test.
	User friendly interface.	Learners are encouraged to easily locate information that is current, relevant, and accurate.
	Internet-based.	All students can access same materials at the same time.
	Lessons available from home or campus.	Teachers can research and learn in their classroom as well as from home.
	New technology applications skills.	Educators can enhance their Technology Applications knowledge and skills as they gain current information in biology.
	Information is arranged according to the Biology textbook adoption.	Allows for supplemental materials to be relevant to the unit currently being covered in class.
	Accessed through Texas Library Connection site.	TLC link is available currently at each high school campus. Training will be minimal for students.
	Below, on-level and advanced units available for each lesson.	This allows teachers to individualize instruction, reduce preparation time, and have materials for all students. Therefore, the teacher can focus on teaching.
	Tech support available.	Allows teachers to work on their own schedule and know that they will have support when needed, not just during school hours.
Student Interest		
	Internet based information.	Format that is easily accessible and appealing to teens.
	User friendly interface.	Allows for ease of use and ability to “jump into the lesson” with little or no training.
	Access from home or campus.	Students can research and learn in their classroom as well as from home.
	Lessons that involve multiple learning styles and activities.	Students learn information in different ways. Each lesson is complete with multiple activities to meet many students needs and interests.
	Content is always available.	Students have access 24 hours a day/7 days a week.

Biology Project	Feature	Benefit
Administrator Interest		
	Units address the TEKS that will be covered on the TAKS test.	Students will be able to reinforce and review content from current or prior years of biology in order to be prepared for the TAKS test.
	Internet based.	The databases will help to ensure that technology is used in valuable settings.
	Complete lesson in one place.	This will ensure strong lessons focusing on the TEKS.
	Supplement to current Biology Text.	Allows textbook to stay current until newly adopted instructional materials are available.
	Cutting edge delivery of information.	Introduces students and teachers to the next generation of information delivery. Prepares students for college and the world of E-course packs.
	Initial training will be completed on campus.	Teachers will learn to use program with their own equipment reducing the learning curve and time away from the classroom.
Parent Interest		
	Current, up to date content.	Students will have the latest Biology information to prepare them for higher education and the job force.
	Internet Access.	Students are using the Internet to improve student learning.
	Available from home or campus.	Students can research and learn in their classroom as well as from home.
	Units address the materials that will be covered in the TAKS exit test.	Students will be able to review and reinforce the TEKS that will be covered in TAKS testing.

ClassTrac - Biology

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[Go To The Teacher...](#)
[Gale Group Databases](#)

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Diagnostic Pretest
Log-Off

Retrieve lesson plans by choosing one of the following options...

#1 Browse Objectives and Standards
 Click here to retrieve lesson plans that correspond to selected Texas Assessment of Knowledge and Skills objectives.

[Browse Objectives and Standards](#)

Search by Objective
 If you know the objective number you want, select it from the list below.

Select TAKS Objective Number

▼ 01

OR

#3 Browse by Textbook Chapter
 [Holt Biology: Principles and Explorations](#)
 [Holt Biology: Visualizing Life](#)
 [Prentice-Hall Biology: The Living Science](#)
 [Prentice-Hall Biology: The Web of Life](#)
 [Glencoe Biology: The Dynamics of Life](#)
 [Glencoe Biology: Features of Biology](#)

#4 Browse by Topic

Cellular Biology	Genetics
Evolution	Evolutionary Biology
Ecology	Ecology and Environmental Science
Human Biology	Human Biology
Microbiology	Microbiology
Plant Biology	Plant Biology
Zoology	Zoology

[Diagnostic Pretest](#) | [Log-Off](#) | [Browse Objectives and Standards](#) | [Search by Objectives](#) | [Browse by Textbook Chapter](#) | [Browse by Topic](#) | [Help](#) | [To The Teacher...](#) | [Gale Group Databases](#)

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Home
Log-Off

You have chosen to Browse by Objective
 Select an Objective, or Standard, to drill to lesson plans.

TAKS Objective 1: The student will demonstrate an understanding of the nature of science.

- **Biology (1)(A)** demonstrate safe practices during field and laboratory investigations
- **Biology (2) (A)** plan and implement investigative procedures including asking questions, formulating testable hypotheses and selecting equipment and technology.
- **Biology (2) (B)** collect data and make measurements with precision.
- **Biology (2)(C)** organize, analyze, evaluate, make inferences, and predict trends from data; and
- **Biology (2) (D)** communicate valid conclusions.

TAKS Objective 2: The student will demonstrate an understanding of the organization of living systems.

- **Biology (4) (B)** investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules.
- **Biology (6)(A)** describe components of deoxyribonucleic acid (DNA), and illustrate how information for specifying the traits of an organism is coded in the DNA.
- **Biology (6) (B)** explain replication, transcription, and translation using models of DNA and ribonucleic acid (RNA); and
- **Biology (6) (C)** identify and illustrate how changes in DNA cause mutations and evaluate the significance of the changes.
- **Biology (6) (C)** identify characteristics of kingdoms including monera, protista, fungi, plants, and animals
- **Biology (10) (A)** interpret the functions of systems in organisms including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory, and immune, and
- **Biology (10) (B)** compare the interrelationships of organ systems to each other and to the body as a whole.

TAKS Objective 3: The student will demonstrate an understanding of the interdependence of organisms and the environment.

- **Biology (11)(C)** compare the structures and functions of viruses to cells and describe the role of viruses in causing diseases and conditions such as acquired immune deficiency syndrome, common cold, measles, influenza, and warts; and
- **Biology (11)(D)** identify and describe the role of bacteria in maintaining health such as in digestion and in causing diseases such as streptococcal infections and diphtheria.
- **Biology (17) (A)** identify evidence of change in species using fossils, DNA sequences, anatomical similarities, physiological similarities, and embryology; and
- **Biology (17) (B)** illustrate the results of natural selection in speciation, diversity, phylogeny, adaptation, behavior, and extinction
- **Biology (18)(C)** analyze the flow of matter and energy through different trophic levels and between organisms and the physical environment.
- **Biology (17) (B)** interpret interactions among organisms exhibiting predation, parasitism, commensalism, and mutualism; and
- **Biology (17) (E)** investigate and explain the interactions in an ecosystem including food chains, food webs, and food pyramids.
- **Plants (1)(2)(B)** evaluate the significance of structural and physiological adaptations of plants to their environments

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You have chosen to Browse by Topic

You have two options...

#1 Narrow choices by choosing a subtopic
 Home > Living Systems
 Cellular Processes | **Reproduction, Growth, and Development** | Knowledge of Living Systems | Other Systems

OR

#2 View the results of your current selection
 Your search (Topic: Living Systems and Document Type: Lesson Plans) returned the following results.
 Lesson Plans. Below are items 1-10 of 12 found.

Item	Lesson Plan	Subject(s) Type
<input type="checkbox"/>	Reproduction: Objective 2, Standard (1)(A).	
<input type="checkbox"/>	Reproduction: Objective 2, Standard (2)(B).	
<input type="checkbox"/>	Reproduction: Objective 3, Standard (1)(B).	
<input type="checkbox"/>	Reproduction: Objective 3, Standard (2)(C).	
<input type="checkbox"/>	Reproduction: Objective 3, Standard 4B.	
<input type="checkbox"/>	Reproduction: Objective 3, Standard (5)(C).	
<input type="checkbox"/>	Reproduction: Objective 4, Standard (2)(A).	
<input type="checkbox"/>	Reproduction	
<input type="checkbox"/>	Reproduction	
<input type="checkbox"/>	Reproduction	

Home | Log Off | Browse Objectives and Standards | Search by Objectives | Browse by Textbook Chapter | Browse by Topic | Help | To The Teacher... | Gale Group Databases

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You have chosen to Browse by Textbook Chapter

Click on any highlighted chapter, or section, to find lesson plans covering related material.

Biology: The Web of Life

Adison Wesley Longman, 1998

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Chapter 1 - Biology: The Science of Life
 • What is Biology?
 • What is Life?

Chapter 2 - Scientific Methods in Biology
 • Problem Solving Methods in Biology
 • The Nature of Biology

Chapter 3 - Principles of Ecology
 • Organisms and Their Environments
 • How Organisms Interact

Chapter 4 - Community Dynamics
 • How Species in Communities
 • Biomes

Chapter 5 - Population Biology
 • Population Dynamics
 • Human Population Growth

Chapter 6 - Wise Use of Our Resources
 • Effects of Human Activities on Our Resources
 • Maintaining the Natural Balance

Home | Log Off | Browse Objectives and Standards | Search by Objectives | Browse by Textbook Chapter | Browse by Topic | Help | To The Teacher... | Gale Group Databases

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Student Edition

Locate Your Assignment...

Enter your assignment number here:

Search

Clear Form

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Student Edition

Home



Online DNA Banks

Access the online article "An 'ark' needed to save genetic material of species, scientists say"

http://www2.infotrac.galegroup.com/x12/infomark954/ERRA7R06708w21.rw?x1_k12R_0_CJ81482267&vnp=4&in_1_P_CJ814822677.rw_app=k12tdtl

by Glendys Chui, in the Texas Library Connection.

Imagine that you will be presenting a paper at the Zoological Society of San Diego, either for or against the development of online DNA banks. First, select a position, either for or against. Next, use the Texas Library Connection to search for more information on DNA banks, cloning, and extinction. From these sources, gather evidence to support your position.

Source (Article Title and URL)

Evidence that supports my position

1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

Now, incorporate the evidence you collected into a three-to-five-minute persuasive speech to defend your position. Use the back of this paper, a computer, or a separate sheet of paper to draft your persuasive speech. Remember these key elements of a good persuasive speech:

- The speech clearly identifies your position.
- The speech includes evidence to back up your position.
- The speech ends with a conclusion that sums up your position and asks the listener to support it.
- The speech includes correct spelling, grammar, punctuation, and capitalization.

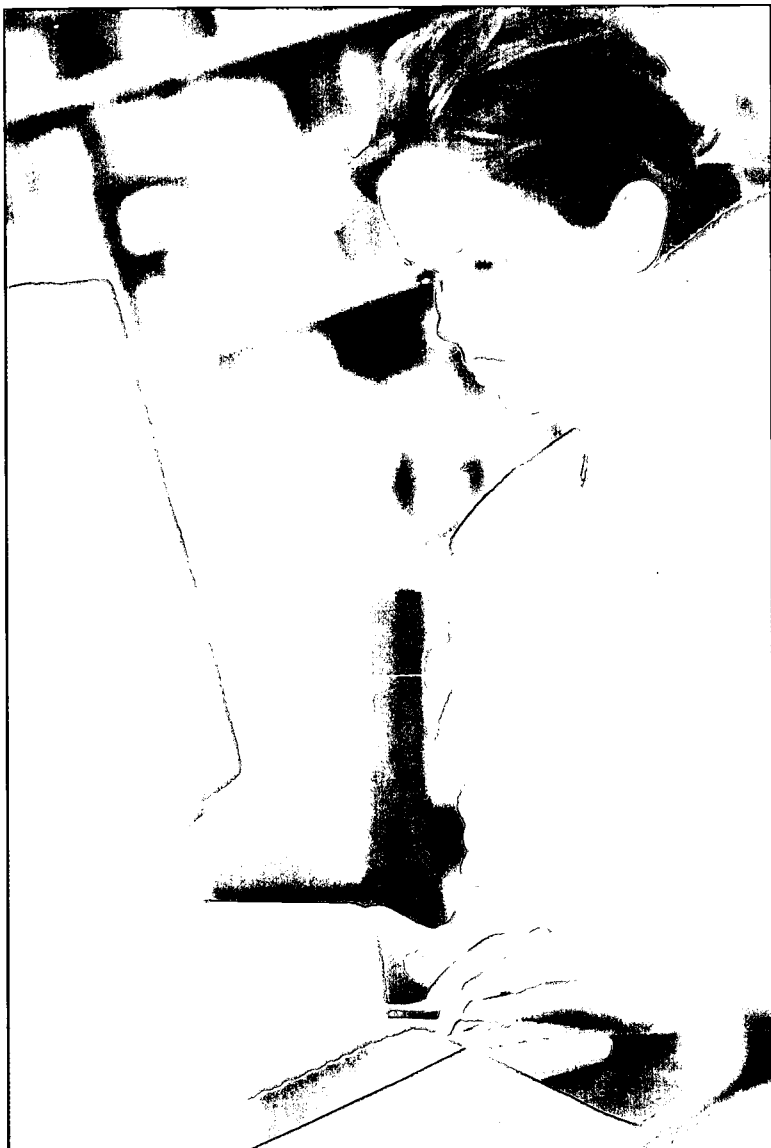
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Chapter 6: Social Studies Pilot



Social Studies Pilot Project

6.1 Description of the Pilot

The Social Studies pilot project is similar in intent and structure to the Biology pilot project. The project is exploring the use of curriculum materials that are being drawn from the state's Texas Library Connection (TLC) online education curriculum resources pool and specifically associated with textbooks on the state's approved list in 8th grade U.S. History, high school World History and World Geography. The TLC supports the K-12 learning community by providing access for each member campus to over \$36,000 worth of online resources for teachers, students, and parents. For more info on Texas Library Connection, see Appendix C. The pilot materials are meant to supplement those TAKS objectives covered in any one text. A web interface allows a teacher to readily locate these materials within the Texas Library Connection curriculum resources web site based on content strand and the specific textbook being used in the classroom.

The primary goal of the project is to extend the reach of current generation social studies textbooks by delivering TEKS/TAKS-aligned curriculum content to teachers and students in a readily accessible lesson plan format via the Web. The project involves a partnership between Texas Education Agency, Region VI Education Service Center (ESC), the Gale Group, and Publisher's Resource Group (PRG). Region VI ESC was selected due to the expertise at the Social Studies Center for Educator Development (CED) located at their site. The Gale Group was selected in order to leverage the existing statewide license to the databases of full text resources through the Texas Library Connection. PRG has developed the lesson plans based on the Gale Group resources available through the TLC. The campuses were selected based on their prior TLC usage.

6.2 Project Goals

- ◆ Provide teacher resources for TEKS in 8th grade US History, high school World History and World Geography aligned with TAKS objectives.
- ◆ Demonstrate the depth and extent to which the TLC resources can assist teachers in providing current information to supplement the adopted textbooks.
- ◆ Demonstrate time savings for teachers in locating and using relevant resources for targeted Social Studies TEKS and TAKS objectives.
- ◆ Demonstrate improvement in teachers' classroom use of TLC to enhance instructional strategies and improve student performance.
- ◆ Develop a successful model of information dissemination and implementation training that capitalizes on existing human and technology resources.

6.3 Phase I

The customized web interface and social studies lesson plans using the TLC resources were initially developed during the summer of 2002. The prototypes were field tested with a small group of 8th grade US History teachers. Feedback was utilized to further refine the web interface and guide future lesson plan development. The lesson plans are designed for use by middle and high school social studies teachers.

Teachers from 28 districts were selected for participation in the program. The goal was to include at least one from each ESC region. Teachers were selected that teach 8th grade U.S. History, high school World Geography, or World History. The districts selected represent a diverse student population, access to Internet connections, and represent the adopted social studies textbooks. Social studies teachers typically have high Texas Library Connection use so pilot teachers were selected from TLC campuses representing both high and low usage of the TLC to help determine the effectiveness of the pilot resources.

Training and support was provided for approximately 92 participants (teachers, librarians, principals, district coordinators, ESC personnel) during a training session in the fall of 2002. The training was held at local service centers via TETN video conferencing and was videotaped for those who were unable to attend. The Gale Group and Region VI ESC provided technical support to teachers during this phase.

6.4 Phase II

- ◆ Training is ongoing for teachers, librarians, principals, social studies coordinators, technology directors, and ESC social studies specialists. The Gale Group is providing technical assistance via e-mail and a toll-free hotline to the program participants. The Gale Group is also providing handouts for the training sessions and onsite training support. Publisher's Resource Group is providing lesson plans aligned to the TEKS and TAKS objectives that are to appear on the web site.
- ◆ Teachers began implementing the lesson plans in September of 2002. Teachers and students will respond to a Web-based survey to provide feedback on the use of web-based resources in the classroom.
- ◆ The Gale Group is collecting data regarding teacher and student use of pilot and TLC resources via a database that stores individual use of lesson plans and an analysis of results through the Texas Library Connection interface.
- ◆ The web site is consistently being updated by The Gale Group to reflect edited and new lessons created by PRG. There are now thirty-nine lessons online, which cover the Social Studies TEKS objectives that will be tested on the TAKS test.
- ◆ Teachers began implementing pilot lesson plans and completing online surveys to provide feedback during the fall semester.
- ◆ Student surveys will be uploaded to the web site to gather additional feedback.
- ◆ Onsite visits with teachers began in October of 2002.

6.5 Lessons Learned

Training on the Texas Library Connection as well as the Social Studies ClassTrac interface was essential for teachers to effectively use the lesson plans.

Staffing turnover could delay any project if there is not an effective recovery plan in place. The Social studies pilot faced staff changes among various partners which caused unavoidable delays.

Technical difficulties regarding recently deployed mega-search engines caused delays. These search engines impacted all online database providers as the volume of searches increased to above 100 times the normal use. Delays were frustrating to pilot teachers.

Surveys provided valuable feedback regarding lesson plans. Overall, high ratings were given to the accuracy of the lesson content and the extent to which content was TEKS/TAKS focused. Several teachers did not use all of the lesson portions in their instruction.

6.6 Next Steps

There are plans to extend access of the pilot to all Social Studies teachers at participating campuses in the spring of 2003. Additional training will be provided by Region VI ESC, the Gale Group, and the current pilot teachers. Teacher and student surveys will be collected and analyzed to evaluate the overall usefulness and effectiveness of the Social Studies ClassTrac web site.

Social Studies Contacts

District	High School	ESC
McAllen ISD	Lincoln Middle School	1
McAllen ISD	Morris Middle School	1
Aransas Pass ISD	Aransas Pass High School	2
Aldine ISD	Shotwell Middle School	4
Stafford ISD	Stafford Middle School	4
Port Neches Groves ISD	Port Neches Middle School	5
Woodville ISD	Woodville Middle School	5
Bryan ISD	Stephen F. Austin Middle School	6
Bryan ISD	Bryan High School	6
Alba-Golden ISD	Alba-Golden Junior/Senior High School	7
Frankston ISD	Frankston High School	7
Como-Pickton CISD	Como-Pickton High School	8
Sulphur Springs ISD	Sulphur Springs High School	8
Wichita Falls ISD	Zundelowitz Junior High School	9
Prairie Valley ISD	Prairie Valley High School	9
Arlington ISD	Lamar High School	11
Arlington ISD	Lamar Middle School	11
McGregor ISD	H.G. Isbill Junior High	12
Killeen ISD	Killeen High School	12
Blooming Grove ISD	Blooming Grove Junior High School	12
Round Rock ISD	Hopewell Middle School	13
Ballinger ISD	Ballinger Junior High School	15
Brookesmith ISD	Brookesmith Middle School	15
Brookesmith ISD	Brookesmith High School	15
San Angelo ISD	Edison Junior High School	15
May ISD	May High School	15
Abernathy ISD	Abernathy Junior High School	17
Alpine ISD	Alpine Middle School	18
Clint ISD	Clint Junior High School	19
Socorro ISD	Socorro High School	19
San Antonio ISD	Wheatley Middle School	20
Northside ISD	Jordan Middle School	20
Northside ISD	Pat M. Neff Middle School	20
Northside ISD	John Marshall High School	20
Northside ISD	Stinson Middle School	20

Biology Project	Feature	Benefit
Teacher Interest		
	Updated content that addresses the TEKS. Also, it enables the classroom teacher to have access to current information.	Provide current information in social studies, especially content that will be included on the TAKS test.
	User friendly interface.	Learners are encouraged to easily locate information that is current, relevant, and accurate.
	Internet based.	All students can access same materials at the same time.
	Lessons available from home or campus.	Teachers can research and learn in their classroom as well as from home.
	New technology applications skills.	Educators can enhance their Technology Applications knowledge and skills as they gain current information in social studies.
	Information is arranged according to the Social Studies textbook adoption.	Allows for supplemental materials to be relevant to the unit currently being covered in class.
	Accessed through Texas Library Connection web site.	TLC link is available currently at each high school campus. Training to access will be minimal for students.
	Below, on-level and advanced units available for each lesson.	This allows teacher to individualize instruction, reduce preparation time, and have materials for all students. Therefore, the teacher can focus on teaching.
	Technical support available.	Allows teachers to work on their own schedule and know that they will have support when needed, not just during school hours.
Student Interest		
	Internet based information.	Format that is easily accessible and appealing to teens.
	User friendly interface.	Allows for ease of use and ability to “jump into the lesson” with little or no training.
	Access from home or campus.	Students can research and learn in their classroom as well as from home.
	Lessons that involve multiple learning styles and activities.	Students learn information in different ways. Each lesson is complete with multiple activities to meet many students needs and interests.
	Content is always available.	Students have access 24 hours a day/7 days a week.

Biology Project	Feature	Benefit
Administrator Interest		
	Units address the TEKS that will be covered on the TAKS test.	Students will be able to reinforce and review content from current or prior years of social studies in order to be prepared for the TAKS test.
	Internet-based.	The databases will help to ensure that technology is used in valuable settings.
	Complete lesson in one place.	This will ensure strong lessons focusing on the TEKS.
	Supplement to current Social Studies Text.	Allows textbook to stay current until newly adopted instructional materials are available.
	Cutting edge delivery of information.	Introduces students and teachers to the next generation of information delivery. Prepares students for college and the world of E-course-packs.
	Initial training will be completed on campus.	Teachers will learn to use program with their own equipment reducing the learning curve and time away from the classroom.
Parent Interest		
	Current content.	Students will have the latest social studies information to prepare them for higher education and the job force.
	Internet Access.	Students are using the Internet to improve student learning.
	Available from home or campus.	Students can research and learn in their classroom as well as from home.
	Units address the materials that will be covered in the TAKS exit test.	Students will be able to review and reinforce the TEKS that will be covered in TAKS testing.

ClassTrac - Social Studies

HOME

Help | To The Teacher... | Gale Databases | Powered by InfoTrac

Retrieve lesson overviews by choosing one of the following options...

#1 Browse Objectives and Standards
Click the button to retrieve lesson plans that correspond to selected Texas Assessment of Knowledge and Skills (TAKS) Objectives and Standards.

[Browse Objectives and Standards](#)

#2 Search by Objective
If you know the objective number you want, select it from the list below.

Select TAKS Objective Number:

[Search](#)

OR

#3 Browse by Textbook

U.S. History
 [GO](#)

World History
 [GO](#)

World Geography
 [GO](#)

#4 Browse by Topic

U.S. History
 [GO](#)

World History
 [GO](#)

Geography and Cultures
 [GO](#)

[Home](#) | [Help](#) | [To The Teacher...](#) | [Gale Group Databases](#) | [Overall Survey](#)

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ClassTrac - Social Studies

HOME

Help | To The Student... | Gale Databases | Powered by InfoTrac

Student Edition

Locate your assignment...

Enter your Assessment Number here: [Search](#) [Clear Form](#)

OR

#1 Browse by Textbook

U.S. History
 [GO](#)

World History
 [GO](#)

World Geography
 [GO](#)

#2 Browse by Topic

U.S. History
 [GO](#)

World History
 [GO](#)

Geography and Cultures
 [GO](#)

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ClassTrac - Social Studies

Help
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HOME

You have chosen to Search by Objective

Your search returned the following Lesson Overviews.
Below are items 1-10 of 10 found.

Page: 1

[British Colonization of Africa Lesson Overview](#). Objective: 2, Standard WG1A.

[Development of Fertile Crescent Civilizations Lesson Overview](#). Objective: 2, Standard WG6A; WH26H.

[Invasions and Fall of the Roman Empire Lesson Overview](#). Objective: 2, Standard WG1A.

[Movement of Early Human Groups Lesson Overview](#). Objective: 2, Standard WG1A.

[Tengchitlan Lesson Overview](#). Objective: 2, Standard WG6A; WH26C.

[The Bubonic Plague Lesson Overview](#). Objective: 2, Standard WG1B.

[The Columbian Exchange Lesson Overview](#). Objective: 2, Standard WG1B.

[The Spread of American Blues Music Lesson Overview](#). Objective: 2, Standard WG1B.

[The Spread of Islam Lesson Overview](#). Objective: 2, Standard WG1B.

[Urbanization of Britain in the 18th and 19th Centuries Lesson Overview](#). Objective: 2, Standard WG1A.

[Home](#) | [Help](#) | [To The Teacher...](#) | [Gale Group Databases](#) | [Overall Survey](#) | [Revise Search](#)

ClassTrac - Social Studies

Help
To The Teacher
Gale Databases

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HOME

You have chosen to Browse by Topic

Topic: **Geography and Cultures**

Topics in these overviews...

- [Africa](#)
- [African History](#)
- [British Colonialism](#)
- [Emigration and Immigration](#)
- [Hominids](#)
- [Human Geography](#)

Lesson Overviews for: Africa

Below are items 1-2 of 2 found:

Page: 1

[British Colonization of Africa Lesson Overview](#). Objective: 2, Standard WG1A.

[Movement of Early Human Groups Lesson Overview](#). Objective: 2, Standard WG1A.

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[HOME](#)

World Geography, A Global Perspective

World Geography, A Global Perspective. T. J. Baerwald, C. Fraser. Needham, MA: Prentice Hall, 1995.

Table of Contents

Click on any highlighted Unit or Chapter to find lesson overviews covering related material.

Unit 1 Physical and Human Geography

- Chapter 1 The Study of Geography
- Chapter 2 Land, Climate and Vegetation
- Chapter 3 Population and Culture
- Chapter 4 Resources and Land Use

Unit 2 The United States and Canada

- Chapter 5 Regional Atlas: The United States and Canada
- Chapter 6 Profile of the United States
- Chapter 7 Regions of the United States
- Chapter 8 Canada

Unit 3 Latin America

- Chapter 9 Regional Atlas: Latin America
- Chapter 10 Mexico
- Chapter 11 Central America and the Caribbean
- Chapter 12 Brazil
- Chapter 13 Other Countries of South America

Unit 4 Western Europe

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Appendices



APPENDIX A:

The Texas Primary Reading Program (TPRI)

Since the Texas Reading Initiative in 1996, data disaggregation, benchmarking, intervention planning, and accountability have become every day responsibilities for even the smallest school districts. The 75th Texas Legislature requires the Commissioner of Education to adopt a list of assessment instruments for diagnosing reading skill and comprehension development. Texas Education Code 28.006 requires a list of reading instruments for diagnosing reading skills development and comprehension be adopted. Currently, over 90% of Texas school districts and charter schools are using the Texas Primary Reading Inventory (TPRI). The TPRI assists Texas educators in implementing comprehensive programs of reading instruction and ensure that Texas students are reading on grade level by grade 3 and beyond.

The TPRI is an informal assessment developed to provide teachers with a means of determining where along the continuum of growth students are progressing as readers. The TPRI screens specific reading concepts depending on the grade level and time of year that the assessment should be administered. Specific reading concepts assessed in the inventory are also dependent on the grade level and the time of year that the inventory is administered. This portion provides teachers with information about a child's book and print awareness, phonemic awareness, graphophonemic knowledge, oral reading ability, listening and reading comprehension.

If a child is "still developing" on the Screening, the Inventory is given in order to gain further information about each child's strengths and weaknesses. Even if the child is "Developed" on the Screening, the Inventory is sometimes administered to gain additional information so teachers can plan the most appropriate reading instruction for each child.

When the TPRI data indicates a student needs intensive, targeted instruction in a specific area, intervention may include one-on-one, or small group instruction with the teacher; additional instruction by another teacher; and/or placement in the school's early reading intervention program (which could include any of these approaches and others). Before placement in an early reading intervention program with Accelerated Reading Instruction funds, parents will be notified of the student's particular needs and the plans to meet these needs.

For more information, contact the TEA Office of Statewide Initiatives or go to <http://www.tpri.org>.

APPENDIX B:

The University of Texas Online Homework Service

The University of Texas began an online homework service over a decade ago. The service now provides homework assistance for over 18,000 high school and college students in the curriculum areas of biology, chemistry, mathematics, physical science, physics, and física en español. Because the service is provided online, it is available 24 hours a day at no cost to any of its users.

To create a class in the system, teachers begin by accessing the web site at <https://hw.utexas.edu/overview.html>. Once a teacher/instructor has created a class in the system, they select problems for the students' assignments from inventoried problem banks in the Homework Service book. These optional books can be downloaded from the web site and printed. The homework service does the delivery, grading, and bookkeeping of homework problems; however, the teacher maintains full control by monitoring the students' progress.

The University of Texas at Austin reports that students in approximately 660 schools are using the system. There are over 7,500 physics; 7,000 algebra, pre-calculus, and calculus; 2,500 physical science; 750 biology; and 11,200 chemistry problems inventoried for use. Problems in all subject areas are continuously being updated and created. There are over 500,000 homework questions graded by the service each week.

The Homework Service delivers unique, algorithm-based problems, where each student receives a version different from those given to other students. Since the parameters printed in each question differ, the answers differ between versions.

Some students utilize the system in the following manner:

1. log in
2. print their homework
3. log out
4. work their homework offline
5. log in
6. submit their homework problem answers
7. obtain immediate answer feedback
8. resubmit answers when incorrect

This quick grading feedback promotes effective learning. After the teacher's designated assignment due date, students may download their homework answers, which includes explanations for their individualized problems. The instructors' versions always include explanations to problems.

The University of Texas Online Homework Service logs and scores each record for each student with grades and a semester summary. This data is accessible to individual students through their secured log-in via the web site. A student may access his or her scoring record at any time via the web site. Statistical plots of homework scores are also updated daily.

Source: This information was derived from The University of Texas at Austin Homework Service web site at <https://hw.utexas.edu/bur/description.html>. Please visit the web site for additional information.

APPENDIX C:

The Texas Library Connection (TLC)

Description

The Texas Library Connection (TLC), administered by the Texas Education Agency, provides students, parents and educators access to online information resources that are updated daily and valued at more than \$40,000 per campus. Provided at no charge to the campus, these electronic magazines, reference materials, newspapers, maps, and encyclopedias are accessible twenty-four hours a day, seven days a week. They can be accessed from the classroom, the school library, and most importantly, from students' and educators' homes. Students learn how to access and use these online databases as needed for classroom research projects. At the same time that they learn to use them, students are provided instructions including identification and passwords to access the resources from their homes. The Texas Education Agency encourages parents to access and use the resources for their own information needs. To be eligible to access these resources, campuses must meet certain requirements such as having computer access for students in the school library and having a school librarian who is committed to teaching students and staff how to access, evaluate, and use the resources.

Purpose

The Texas Library Connection provides online databases and a unique web portal to Texas students, educators, and parents. Resources include:

- ◆ Texas Library Connection Union Catalog provides links to over 5,578 school libraries in the state of Texas. Students may borrow books from more than 50 million items held by those school libraries.
- ◆ Magazines, newspapers, primary source materials, and reference databases from The Gale Group's sixteen databases include the full text of more than 2,000 magazines such as National Geographic World, Ranger Rick, Children's Digest, Humpty Dumpty, Reading Teacher, Newsweek, Business Week, Sports Illustrated, Science, Time and newspapers such as New York Times, Houston Chronicle, Austin American Statesman, and The Washington Post. Other Gale databases include the Texas Almanac, a collection of professional journals and information for educators, literary resources, and primary documents and resources.
- ◆ Encyclopedia Britannica School Edition provides access to three complete encyclopedias—the original Encyclopedia Britannica, Britannica Student Encyclopedia; and Britannica Elementary Encyclopedia. Britannica also provides the Merriam-Webster's Dictionary and Thesaurus and an Internet guide to hundreds of thousands of sites available on the Web today created and selected by Britannica editors for their educational value and curriculum-based content.
- ◆ AGen, a web gateway, allows TLC users to search all the TLC resources including The Gale Group databases, the TLC Union Catalog, Britannica Online School Edition and any other identified web resources with a single search.

The Texas Library Connection Information and Training Center

The Texas Library Connection Information and Training Center (TLCIC) was established at the Region 20 Education Service Center to support this initiative. The TLC Information Center supports the K-12 learning community in the effective use of the electronic resources provided through this statewide resource-sharing project. Smart Starts for the TLC Learner provides e-learning modules for TLC students, parents, teachers, and librarians. The 20 regional Education Service Centers have designated a TLC contact to provide informational and training support for local TLC members. The TLC Information Center also provides training and training support through the materials posted on the TLCIC web site and through scheduled training events. TLC members are encouraged to use the available materials when working with campus students and staff, campus librarians and district TLC/library trainers. The TLCIC also provides enrollment and membership processing services, maintains a database of TLC members, and supports users through the TLC help desk.

For more information, visit <http://www.tea.state.tx.us/technology> or the Texas Library Connection Information Center at Education Service Center-Region 20: <http://tlcic.esc20.net>.

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Reviews of local education agencies pertaining to compliance with Title VI Civil Rights Act of 1964 and with specific requirements of the Modified Court Order, Civil Action No. 5281, Federal District Court, Eastern District of Texas, Tyler Division are conducted periodically by staff representatives of the Texas Education Agency. These reviews cover at least the following policies and practices:

- (1) acceptance policies on student transfers from other school districts;
- (2) operation of school bus routes or runs on a nonsegregated basis;
- (3) nondiscrimination in extracurricular activities and the use of school facilities;
- (4) nondiscriminatory practices in the hiring, assigning, promoting, paying, demoting, reassigning, or dismissing of faculty and staff members who work with children;
- (5) enrollment and assignment of students without discrimination on the basis of race, color, or national origin;
- (6) nondiscriminatory practices relating to the use of a student's first language; and
- (7) evidence of published procedures for hearing complaints and grievances.

In addition to conducting reviews, the Texas Education Agency staff representatives check complaints of discrimination made by a citizen or citizens residing in a school district where it is alleged discriminatory practices have occurred or are occurring.

Where a violation of Title VI of the Civil Rights Act is found, the findings are reported to the Office for Civil Rights, U.S. Department of Education.

If there is a direct violation of the Court Order in Civil Action No. 5281 that cannot be cleared through negotiation, the sanctions required by the Court Order are applied.

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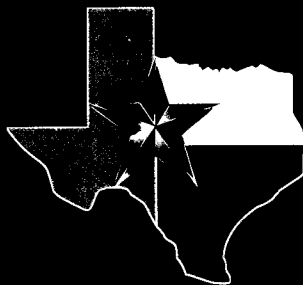
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