

IMAGES

...OF TECHNOLOGY IN TEXAS SCHOOLS

WAGER


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

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

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

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

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Kids as Agents of Change

Project-Based Learning Supported by “Invisible” Technology

“Our real goal is project-based learning where technology is invisible, where it is so much a part of our every move that no one calls attention to it any more,” explained Dr. Carol Ann Bonds, superintendent of Rogers ISD, a small rural district near Temple. Cindy Gunn, elementary principal at Holland ISD, agrees. “Our goal is to embed technology into the curriculum so that teachers use it as a tool.”

Four years ago when Dr. Bonds was a principal in neighboring Holland and a friend

was superintendent in Rogers, the two districts began a collaboration that continues even after changes in administrators. Their first project, begun in January 1993, was to remove the physical and mental health obstacles for the two communities. “We have so many of the same demographics — free and reduced lunch, ethnicities, being in the bottom 10% of wealth in the state,” she explained. “We’re both rural, and we have a lot of the same Czech-German heritage and values in the community. We both needed nurses for the schools. So we wrote our first grant together, and in doing that, developed school-

based health centers at both schools.”

Dental Cares and Internet Wires

The two districts built a successful collaboration for the health center project with Dr. Mike Weir and other doctors at Scott and White Hospital in Temple. After the health centers had been in operation about a year, the districts received an Eisenhower grant, which allowed them to put in local area networks (LANs) and wide-area networks (WANs) for both districts. They also developed collaborative relationships with two professors from the University of Texas at Austin, Dr. Paul Resta, director of the Learning Technology Center; and Dr. Jim Barufaldi, director of Science Education. The local school leaders have been Rogers



Melany Cearly, middle and high school assistant principal; Dr. Carol Ann Bonds, superintendent; and Katie Ryan, elementary principal; review Dr. Bonds' pert chart related to the “Restructuring Learning through Technology” project.

“Our real goal is project-based learning where technology is invisible, where it is so much a part of our every move that no one calls attention to it any more.” — Dr. Carol Ann Bonds

Elementary School Principal Katie Ryan and Holland Elementary School Principal Cindy Gunn.

Soon the two trains — health centers and restructuring through technology — merged into one. They came together one day when Dr. Weir, medical director of both school-based health centers, was on the Holland campus.

“He knew we were wiring buildings, and he was coming every Friday to see sick kids. Dr. Weir came into my office and informed me there were significant dental problems in the district. “You’re wiring up all these buildings. What are you going to do with them?” he asked Dr. Bonds.

“In one sentence he made a statement about dental cares and then asked what we’re going to do with all these wires. He asked if I had ever thought about letting kids become the change agents for the school and community, utilizing technology as the primary tool for this change. I hadn’t. But what happened over the next two weeks has had a most profound and significant impact on these communities,” Dr. Bonds said.

Dr. Bonds immediately called a dentist at the Texas Department of Health who explained that the community water supply system that comes from the lakes in Belton has low fluoride levels. The eighteen communities have never jointly

agreed to adjust the fluoride level, according to Dr. Bonds. “Little towns, because of many factors, sometimes don’t work together with their neighbors,” she explained.

Dr. Weir suggested that perhaps kids could bring about change. “And that statement began our whole philosophy and vision of ‘Kids as Agents of Change.’ Everything we’re doing academically and socially here at the school is under that title,” Dr. Bonds said. “From that point on, we began to pull groups of kids together to try to solve problems,” she said.

Research-Based Projects

Rogers and Holland piloted for three semesters “Kids as Agents of Change” competition, where small groups of two to four students found a problem in their world, immediate or distant, and over a semester researched the problem on-line and off-line. The projects were student-based, and were outside the regular school day.

The teams received extra points if they had multiple ages on their team, if they had cross-campus membership, and if they had cross-district teams.

“Technology is one of the non-negotiables,” explained Dr. Bonds. The teams checked in weekly so students could learn how to take a big project and divide it into

manageable parts. Most participants had never used computers for anything except word processing or drill and practice. “We were asking them in twelve weeks to get e-mail addresses, learn how to research on the Internet, find expert mentors — non-negotiable — and come up with some kind of multimedia presentation,” she added.

Several area doctors are mentoring the Rogers and Holland students because so many of their projects are related to physical and mental health and quality of life. One of the research topics from last spring (1997) was asthma. Because Dr. Weir had read in professional journals about herbs that interact with asthma inhalers, he suggested that a group investigate whether there are some herbs that could naturally accelerate the effects of an asthma inhaler to make it faster and better.

“Dr. Weir, Dr. Resta, and Dr. Barufaldi are lead collaborators not only with mental and physical health issues, but also with academic issues and with improving the quality of life of the two communities,” Dr. Bonds explained. Texas A&M University’s Blackland Research Station in Temple became one of their collaborators under the leadership of Dr. Allen Jones, who was followed by current director Dr. Bill Dugas.

Information from the state

revealed some physical and mental health conditions in Bell County that are the highest incidence in the state. These problems include depression and suicide in 13-15 year-olds, tuberculosis in Hispanic males, heart, diabetes, breast cancer, and neurological birth defects. Several groups have studied neurological birth defects related to environmental issues.

A group of four Holland High School girls has researched the topic of fluoridation of the water for two years, with a pediatric dentist in Washington, D.C., as a primary mentor. Their research has drawn attention nationally, according to Dr. Bonds. Last year on CBS, the Osgood Files featured a story, which explained how this team of students was trained through Blackland Research Center to use handheld geosatellite units, which are powerful locators. When the students collected water samples all along the water supply over a two-year period, they used the devices to record the latitude and longitude of each location. The data were plugged into the center's computers for analysis.

Ms. Gunn said that the students have graduated, but the town council has hired someone to conduct water testing, and in October the newspaper carried an article about the levels of fluoride in the town's water. The students' project has raised the level of

awareness of the people in the community.

New York, New York

At a Tel-Ed conference (Telecommunication in Education), Dr. Bonds heard about an upcoming Youth CaN conference and started e-mailing Dr. Millard Clements, head of environmental studies at New York University and founder of Youth CaN. The whole philosophy of the conference was kids making a difference in their world through technology, according to Dr. Bonds. She took sixteen teachers to the Youth CaN conference in May of 1995. "We were blown away. We found out that we wanted to take our kids the next year, and we wanted them

presenting."

Rogers has an assembly every semester as an attention-getter. "That first semester, several coaches in Rockette outfits entered the gym to the music 'New York, New York.' The ultimate, top reward for that semester's competition was that I had grant funds to take the top twenty-seven kids to New York to present their projects at the International Youth CaN Conference," Dr. Bonds said. In January, the districts began their first pilot semester, and twenty-seven kids won the privilege of going to New York to demonstrate their projects.

There was a slight hitch: the teams sent in an application, but Dr. Bonds received an e-mail



Jennifer Ashcraft and Justin Michalka are two high school students who have been heavily involved in research-based projects and in leading the Texas Youth CaN Conference.

notice that their application was denied. The reason given was that the twenty-seven students wanted to present seven projects in one hour, which the organizers said couldn't be done.

Dr. Bonds and the students were understandably upset. "I couldn't accept that, because presenting in New York was the ultimate reward. We could take the kids to the conference, but that was not the issue." So Dr. Bonds started a campaign. Every day for the next two weeks, teams of Rogers and Holland students e-mailed the Youth CaN organizers and described their projects in five or six sentences. "And I wrote out this sentence, 'Please, please, please, let the poor children of Texas present at your conference,'" Dr. Bonds said. Two weeks later, she received an e-mail message that said, "OK, OK, OK. You're in. Quit begging." Youth CaN's Dr. Clements was impressed with the students' ability to describe the

Dr. Clements was impressed with the students' ability to describe the level of depth of real-world problems they were working on.

level of depth of real-world problems they were working on.

So the winners — approximately half from Rogers and half from Holland — presented their projects in New York, but every team that made it through the check-ins were winners also — they went to the Museum of Natural History in Houston for a whole day.

"God Bless Texas"

After that first semester of projects, Dr. Bonds asked Dr. Clements if he would consider letting the collaborative conduct a simultaneous Youth CaN conference in Texas. His reply was that he had been dreaming for someone who wanted to do this.

So the Rogers-Holland collaborative submitted a grant proposal to TEA and received funds to conduct the conference in the spring of 1997.

In July 1996, Dr. Bonds took the five high school students who had won the trip to the conference back to New York for three days to work with ten New York students to plan the Youth CaN Conference.

"I had learned, while trying to encourage collaboration among teachers from different schools, that I should have invested in periods of team-building before we tried to produce something," Dr. Bonds explained. So Dr. Bonds, Dr. Clements, and Jay Holmes, the collaborator for projects and grants



Rogers ISD fifth-grade students Christina Rodriguez, Lou Mandy Allison, and Stephen Skala check on the growth of their gourds in the Giving Garden. Students made birdhouses from the gourds they grew.

for the American Museum of Natural History, planned something different for the first day.

“I rented a New York public school bus and we took the fifteen kids up north of New York City to a private 4,000 acre research forest that’s very high-technology based,” she said. “The scientists were there, and all the kids learned together.” Then everyone hiked together until about ten o’clock that night. “When we went up the mountain, the New York kids were in the back of the bus and the Texas kids were at the front of the bus. When we came back into the city, all the kids were in the back of the bus, leaning out the windows and singing at the top of their lungs, ‘God Bless Texas.’”

For the next two days, the students worked at New York University and the American Museum of Natural History. When they returned home, the students met every other Wednesday via CU-SeeMe or conference calls to work out all the details. For the simultaneous conference, there were about 750 students at UT-Austin and about 1,500 students in New York. At the very end, the students in New York had arranged to flash all the way across the huge screen, “We love you Texas! God Bless Texas!”

International Studies Course

Dr. Bonds felt that since she’d been out of the classroom for

a number of years, she needed to try out the projects-based curriculum she was asking her teachers to do. She wanted to offer a class in which students research a third-world country, then go for a visit, not as tourists but as learners. The new technology teacher in Holland, Mark Hodges, had just spent much of the last seventeen years in Belize assisting archeologists from Boston University. Dr. Norman Hammond, professor at Boston University, and Dr. Fred Valdez from the University of Texas at Austin provided lectures during the course.

The class met on Saturdays at Holland ISD from ten until twelve, for twelve weeks. Mr. Hodges led the discussion for the first part of the class, and then the thirty-three Holland and Rogers students divided themselves into twelve mini-research groups on topics related to “Discovering the Genius of the Belizean Culture.” Topics included religion, archeology, current Mayan civilization, literature, recreation, history, rain forest, and coral reefs. While in Belize, the group spent two days on a research island on the coral reef and several other days doing community service in some of the schools.

At the end of the class, the students developed a polished PowerPoint multimedia presentation. “So what we

modeled through this course is how a teacher could take a large concept and divide it up according to interest to research on-line and off-line,” Dr. Bonds said.

The students earned their own money for the trip to Belize, doing such things as cleaning horse stalls, cleaning houses, holding bake sales, making snow cones for elementary kids, selling donuts and orange juice, running the concession stand at a softball tournament, and holding car washes.

Reaching Farther

During the first semester, 183 of about 850 Rogers students participated in research-based projects. At Holland, there were two elementary groups, one middle school, and one high school group involving about 80 students. In the fall of 1996 and spring of 1997, the districts continued to pilot the small groups, and Rogers and Holland had 300 students participate. The districts had obtained T1 lines, so students had improved access to the Internet and e-mail. The second semester of the pilot program, all 300 students went for an overnight at NASA. The third semester, more than 400 students spent a day at a camp in the Hill Country, where they enjoyed archery, canoeing, and horseback riding.

Last spring, teachers had the option of developing large-

“The students told me I needed to figure out a reward system and make it competitive, and that everybody who tried received some level of reward. .” -- Dr. Carol Ann Bonds

group, whole-class projects. For the fall of 1997, Dr. Bonds wanted to find a way to encourage all teachers to develop whole-class projects. She once again tapped the persuasive abilities of students to make a presentation for the faculty this past August. When she asked the students why they had participated in the project, one of the older students said, “There’s no way I would have worked this into my extracurricular schedule if you hadn’t dangled that huge carrot of New York.” She also said that if it hadn’t been competitive, she wouldn’t have spent the number of hours she did. “Competition elevated their projects to such a higher level of excellence,” Dr. Bonds said.

“The students told me I needed to figure out a reward system and make it competitive, and that everybody who tries receive some level of reward.” So the students made a presentation to the entire staff. “They had a very

polished PowerPoint presentation entitled, ‘The Learning Experiences That Have Given Us Great Joy.’ One of those was ‘Kids as Agents of Change,’ one was the International Studies class trip to Belize, and one was ‘Community Service.’ All of them had a significant technology piece.”

The incentives for the winning teachers are laptop computers for daily use in their classrooms and home use, for as long as they continue project-based instruction. Winners in the top category, which has several technology requirements, will take a day-long field trip related to their research. The second and third categories of winners will receive money for class supplies. All teams who complete all checkpoints will be winners.

More than half of the teachers at Rogers three campuses are participating during the 1997-98 year in projects involving more than three-fourths of the students. Participation by elementary teachers and students at Holland is one hundred per cent. At the middle school, every student is participating in a project in at least one class. At the high school, all ninth- and tenth-graders and all but a few eleventh- and twelfth-graders are participating in projects.

Don’t Forget the TAAS

The whole-class projects relate to curriculum topics in order

to develop subject area knowledge and skills. As teachers become involved in developing whole-class projects, they use their same curriculum (e.g. rock unit, Shakespeare unit, weather unit) but fashion it as a project-based learning experience with technology as a big part of it, Dr. Bonds explained. Teachers can expand their usual curriculum to relate to real-world problems, using technology for a large part of the research.

Rogers Elementary Principal Katie Ryan developed the materials for the weekly check-ins to make sure that TAAS objectives were incorporated into the project. For example, one TAAS objective is “summarization.” Students are required to read articles, highlight the main points, take notes, then write summaries. Another reading objective is “special terms.” When students conduct research on the Internet, they come across words they don’t know, so they create a “special terms dictionary” for their new vocabulary. Another TAAS skill is detecting propaganda, at which the students are getting very good, according to Ms. Ryan. They read carefully and question all sources.

Ms. Gunn explained that her teachers are “hitting the TEKS all the way through.” The projects require students to use the scientific method of identifying a problem, developing a plan,

visits to residents of a nursing home, where they set up an aquarium. A computer with Internet access was set up in the nursing home, and the elementary students are teaching the elderly residents how to surf the net.

The kindergarten and first-grade students are participating in the Global Art Project. Students produce artwork, then receive ten locations to mail their art. In return, they will receive art from ten sites. Students will locate the places on maps and globes and engage in e-mail correspondence with their new-found friends, bringing the world a little closer together.

Last year, Nissa Johnson's second-grade class researched beautification projects, then made a proposal to the town council to obtain permission to decorate and place twenty large trash cans on the school grounds and in town. They decorated the cans with colorful handprints and other images. Academic skills used in the project included art production, journal writing, spelling, use of complete sentences, reading skills for scanning and finding details, varying reading rates, technology skills (PowerPoint) and oral presentation skills.

Last year, Mrs. Donna Lynn's fifth-graders participated in a Global Art Project and exchanged art with students in Russia, Australia, and other countries. The

students chose a topic, wrote about it, and produced their art. Themes were "Habitat" and "Peacefulness." Holland teachers and students hosted an art show and invited the community to view art from around the world.

A middle school project is "Integrating Trees Back into the Farming Community." Students are working with mentor Don Miller of the Texas Forestry Service to develop a Saturday workshop, conducted by visiting experts, which will provide information to farmers on the best types of trees to plant to prevent soil erosion.

A major project with lasting effects was conducted by Jan Johnson's third-graders, who increased voter participation by seventy-five per cent. To fight voter apathy, the third-graders held voter registration contests, brought candidates to speak in Holland, decorated businesses, held mock elections, staged a rally on election day, and made T-shirts, buttons, and bumper stickers.

A project by a high school child development class involved conducting a reading inventory for each Head Start child, then taking books and reading to the children.

A fifth-grade group is studying "Multiculturalism," with the goal of developing a greater sense of understanding and acceptance of people with different backgrounds. The group has

typically participated in a business unit in which they "incorporated," then made and sold products at Christmas. Now they're combining this project with their multicultural studies.

Curriculum-Based Projects at Rogers

One high school advanced English class is studying a Shakespeare unit in which they read *Romeo and Juliet*. They are comparing and contrasting teen suicide in literature of Shakespeare's times and their own county's high incidence of teen suicide.

One way that teams can increase the number of earned points is to involve a senior citizen as an expert mentor. The middle school science class of Jo Naegeli has adopted the development of the second phase of the school's Outdoor Learning Center. Their senior citizen participant is one of the largest growers of bluebonnet seeds in America.

Coach Richie Cutrer is teaching two WINGS classes that involve almost every senior. The students clustered themselves into career interest groups to research further educational opportunities — at universities, technological schools, jobs or apprenticeships. The class will take a field trip to one school to investigate it further.

Karen Roberts is leading her sixth-grade band students to

conduct research on brain development and interaction with classical music. Lisa Hitt's trigonometry students are investigating math in careers. One of Joie McNabb's resource classes is studying the extinction of the eagles (Rogers' mascot). Elizabeth McDaniel, another special education teacher, is facilitating a project on "Cultural Exchange with Belgium." The kids were interested in bicycles, and doing Internet research, found a cyclist in Belgium who's agreed to be their expert mentor.

Marie Gantenbein is a middle school language arts teacher. Rogers has several deaf students, one of whom has been going to the school for the deaf. Because he came to Rogers this fall, his entire language arts class is researching needs of the deaf. The student and his aide/interpreter are teaching sign language to the whole class.

Last year (1996), third-grade teachers Tricia Begesse, Terri Fuchs, Genie Allison led a project on how weather impacts the Central Texas area, and how knowledge of weather and warnings is beneficial to farmers. Student Jessica Katrla explained, "Last year we worked on weather and tornadoes. We talked about people and how to protect ourselves when there's a tornado."

Connie Hicks, fifth-grade teacher, is leading a project called



Holland teacher Nissa Johnson works with third-graders Paul Spinn, Marah Rafay, and Melissa Morris as they research a classroom project.



Ms. Margaret Cutrer, sixth-grade math teacher, works with Rogers students Steven Kostrum, Ricky Hill, Jonathan Cabla, and Mike Mikeskaas they conduct on-line research for the "Stock Market Game" project.

“Intergenerational Fitness.” Her group has adopted the new Intergenerational Center and will organize a fitness class for the elderly, with the school nurse scheduling blood pressure checks.

Jayne Rose, fifth-grade teacher, is leading her students in “Hot Dog Hi,” a study of consumerism, advertising costs, and propaganda. Student Sascha Latimer explained, “I’m doing a class project on hot dogs. We’re going to be using the Internet and we will e-mail Oscar Meyer wieners. It’s important because we need to find out about the different kinds of hot dogs and what influences people to buy certain kinds.

Last year a group studying

the effect of UV rays made a PowerPoint presentation to the school board and received money to build a solar safety hut in the Giving Garden, an area between building wings where students have a variety of outdoor projects. Student Lou Mandy Allison explained, “Last year I did a project on ultraviolet rays. It taught me to cover up my skin when I go outside. We’re trying to get people to protect their skin so they won’t have skin cancer. I used PowerPoint and did a lot of off-line and on-line research.”

The pool in the Giving Garden is dedicated to the memory of three students who died in a car accident. Students raised money and brought their change to finance

the project. Science classes use the pond for such things as testing water and observing plants and animals. One group of elementary students studied organic farming, then made a PowerPoint presentation to the school board to convince them not to use any chemicals on the garden, only organic products. “We had so much data, they agreed,” explained the students.

Another student group made a presentation to the school board and city council to convince them to work together on a grant to build a school-community park. The district received the grant in September and work has begun on the project.

Fifth-grader Steven Skala commented, “I’ve used computers for a long time. I know quite a bit about computers. I like to mess around with PowerPoint. Someone just started showing me how to do stuff, and then my teacher told me stuff we could do. They have a page where you can go and look and find what you need to know.”

Emilie Tischler’s fourth-grade project is investigation into the most efficient and cost-effective lights to purchase for the school’s new stage.

Problem-solvers for Problem-solvers

Brenda Marek teaches Rogers pre-kindergarten students in the morning and works with



Students at the Giving Garden pool are (standing) Stephen Skala and Sascha Latimer; (kneeling) Jeffrey Prater, Christina Rodriguez, Jessica Katrla, Kelly Sellers, and Lou Mandy Allison.

teachers and students to facilitate their projects in the afternoons. "I've always been interested in technology," she said. "I've worked with getting 'Kids as Agents of Change' off the ground. I'm a resource person who can find Internet sites or be a mentor. It's so much fun because we're giving the kids the world."

One of the major requirements of the projects is that students find e-mail mentors and document their e-mail contacts. Students find expert mentors by going to web sites related to their research topic where they find e-mail address of experts in the field, reading a journal article which has an author's e-mail address, or obtaining addresses through their teachers who have attended conferences where presenters gave out their e-mail addresses.

The Internet mentors provide valuable assistance in the evaluation of data, allowing elimination of poor data and encouraging the development of specific problem definition. "As a result, most of the problems were substantive and solutions were very sophisticated," according to Dr. Weir.

"Sometimes a local mentor meets with the students," Mrs. Marek said. Dr. Bonds recalled that one of the groups developed a project on the dieting habits of rural adolescent girls. Two doctors at Scott and White Hospital were

both very interested in the topic, so they started a correspondence with the students. "We took the girls several times to have face-to-face meetings. It's not that so much more was accomplished face-to-face, but I wanted those girls to see these two doctors and feel comfortable with face-to-face interactions with successful women," Dr. Bonds explained.

Justin Michalka is a last year's graduate who remains involved in the problem-based curriculum. He works two hours each afternoon at the schools, assisting teachers and students in their research projects. "The neatest thing is going into an elementary classroom to teach about the Internet and those kids

One of the major requirements of the projects is that students find e-mail mentors and document their e-mail contacts. Students find expert mentors by going to web sites related to their research topic ...

end up teaching you," Justin said.

Justin understands why technology is so important in the schools. "We had an opportunity to take college courses at Temple College my senior year for dual credit. I took economics my first semester. The first day, the



Brenda Marek, Rogers pre-kindergarten teacher in the morning and projects assistant in the afternoons, talks with two first-grade students, Chase O'Brien and Shawn Anderson, who are learning to use computers.

professor asked everyone who could use e-mail to raise hands. The only people who raised their hands were people from Rogers. It came in handy because we had the choice of sending our homework over e-mail, or if we had questions, we could send questions by e-mail.”

Justin’s experiences with off-line and on-line research have given him an edge in college. “I know a professor’s vocabulary and terminology. When he talks about research, and all the other students are saying, ‘What is he talking about?’ I sit there and know what he wants. He wants me to do exactly what I did in my high school projects: find a topic, read about it, research it, and present it.”

Justin said that a major benefit of learning through technology is remembering more. “When I do something hands-on, I remember it. If I can teach it to someone else, that’s double — I

“Most of the problems were substantive and solutions were very sophisticated.” --
Dr. Mike Weir.

can remember even better.”

The Belarus Connection

Dr. Clements asked if he could send a friend to visit Rogers ISD. The United States was sponsoring a tour of several universities by Dr. Sergei Kritsky, of Minsk, Belarus, who is in charge of bringing technology to the public schools and universities of Belarus.

Dr. Kritsky visited Rogers at the beginning of his trip and stayed several days in the home of Dr. Bonds and her husband. “When we put him on the plane to go home, I said, ‘Sergei, we’re your first American women to be around, your first American school kids, and the only American children you are going to be around on your trip. What are you going to tell your wife about American women and American children?’ And he got this lovely smile on his face, and he said, ‘Pushy.’ I said, ‘I don’t like that word. Try again.’ And he said, ‘Fantastic pushy. Remember, I heard all about your e-mails to New York!’”

Investment in Teachers

All of the collaborative grants received by the two districts have included a large professional development component. Collaborators are hired to conduct monthly on-site professional development one day a month, either on-site or off-site, according

to Dr. Bonds.

A second avenue of professional development is trips to sites that have overcome great odds. Teams of teachers have been to inner city Chicago, New York City, Miami, and Boulder Valley. In almost every case, these schools had significant technology components.

The third piece is taking teachers to outstanding conferences. Teachers submit an application letter that tells why they want to go and how they think they would use the information in their classroom. They must attend three-fourths of the sessions and come back with a narrative of what they learned and how that will impact their students, instructional strategies, and learning strategies. They also present their information to the faculty. ❧

“When I do something hands-on, I remember it. If I can teach it to someone else, that’s double --I can remember even better.” --
Justin Michalka

TECHNICAL PROFILE OF Rogers ISD & Holland ISD

LOCATION AND DEMOGRAPHICS:

The Rogers and Holland ISDs are small central Texas school districts located in Bell County south of Belton and Temple. They are served by the Region XII Education Service Center in Waco. Both districts are rural and are in the bottom ten percent of wealth in the state. Both have the same Czech-German heritage and values.

NUMBER OF SCHOOLS AND STUDENTS:

Each district has three instructional campuses, an elementary school, a middle school, and a high school. The Rogers ISD has a combined enrollment of 865, and the Holland ISD serves 469.

TECHNOLOGY SUMMARY:

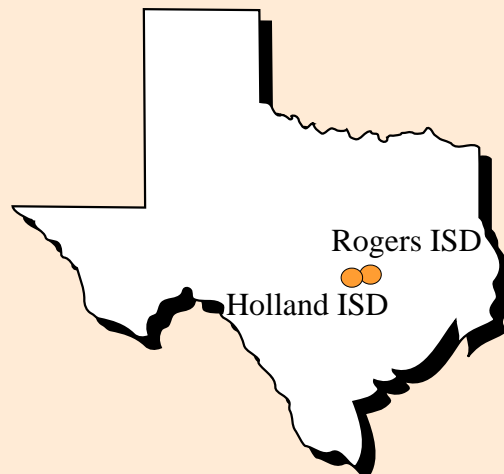
The Rogers and the Holland ISDs are fully networked. In each district, there are local area networks within buildings and wide area networks connecting buildings and campuses. Via T1 lines, the students have access to the Internet and to e-mail facilities. PowerPoint is one of their more popular software packages.

TECHNOLOGY CONTACTS:

Each district has a tenet website from which further technical information may be obtained.

<http://www.rogers.isd.tenet.edu>

<http://www.holland.isd.tenet.edu>





Texas Center for Educational Technology

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

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

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