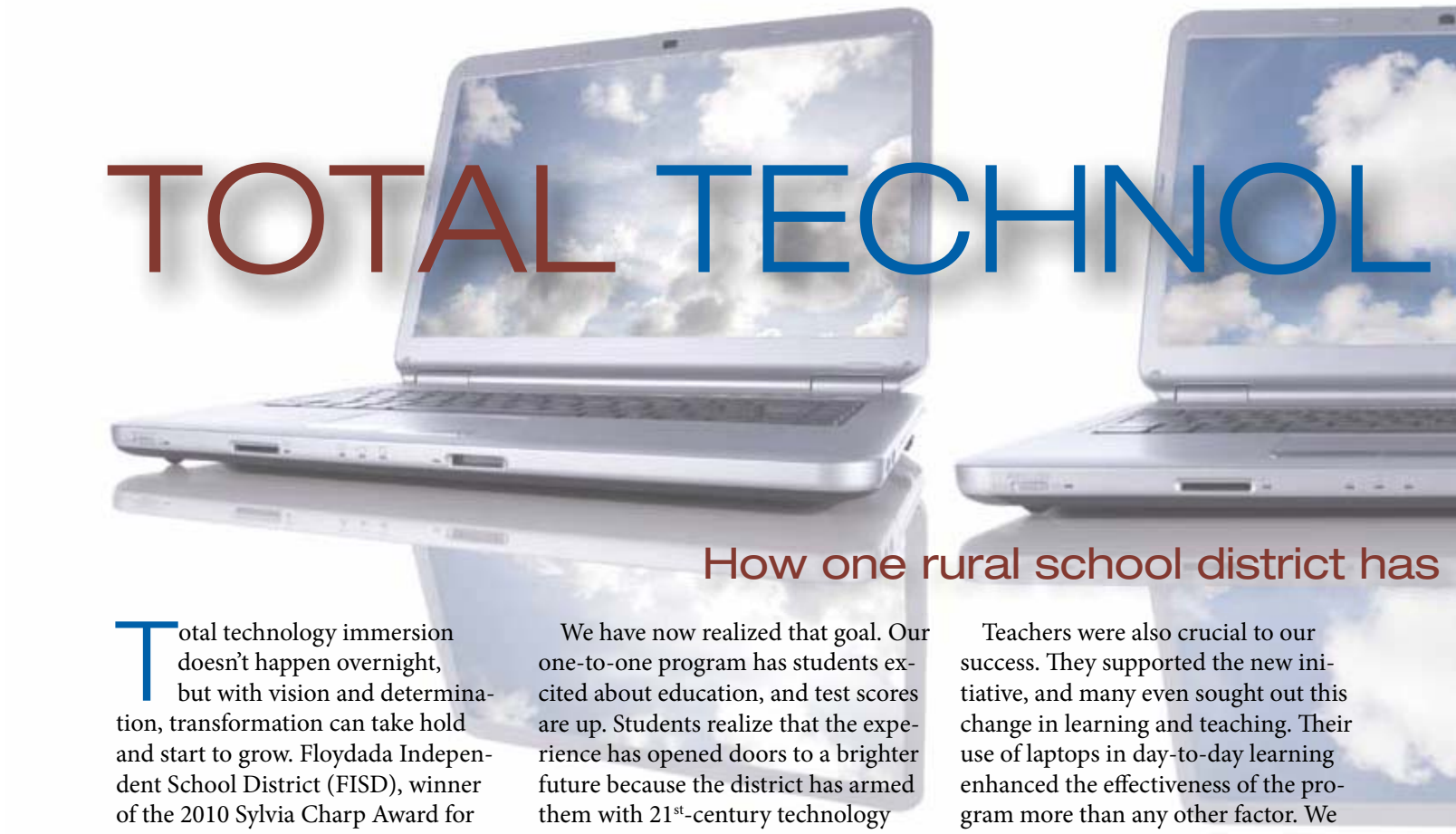
BY SANDY VAUGHN



TOTAL TECHNOL

How one rural school district has

Total technology immersion doesn't happen overnight, but with vision and determination, transformation can take hold and start to grow. Floydada Independent School District (FISD), winner of the 2010 Sylvia Charp Award for District Innovation in Technology, is a great example of what a district can achieve when starting with a modest tech initiative in a single school. FISD's one-to-one project has changed learning for nearly 900 students in a rural west Texas school system where minority students are the majority and those with low socioeconomic classification make up 85% of the student population.

Six years ago, our middle school became a Texas Technology Immersion Pilot (TIP) school. The purpose of the TIP program is to help schools step beyond typical one-to-one initiatives and completely envelop students and teachers in technology. From the beginning, our district administrators have been planning ways to extend the TIP concept to our high school and eventually to the rest of our district. Our vision is that all students in grades 6–12 have laptops to use for learning 24 hours a day, seven days a week.

We have now realized that goal. Our one-to-one program has students excited about education, and test scores are up. Students realize that the experience has opened doors to a brighter future because the district has armed them with 21st-century technology skills.

Visionary Leadership

It was important to develop a clear vision for the future of our initiative and get buy-in at all levels. Our superintendent, Jerry Vaughn, knew that the TIP program had potential and that extending it to the high school was crucial. He and other FISD administrators found a way to fund the one-to-one program with local money, and the school board approved the plan in a 7–0 vote.

Floydada High is now headed into its sixth year, and the initiative is spreading to our elementary school. Last fall, FISD opened a renovated elementary school with two computer labs and six 20-unit computers on wheels (COWs) carts available for classroom checkout in PK–4. The school issues each fifth grader a laptop to use during school hours, and that may become 24/7 before the end of the 2010–11 school year.

Teachers were also crucial to our success. They supported the new initiative, and many even sought out this change in learning and teaching. Their use of laptops in day-to-day learning enhanced the effectiveness of the program more than any other factor. We also provided teaching assistants with MacBooks. One aide commented that having the responsibility of using the technology made her feel as though she was an important part of the educational process.

Network Infrastructure and Hardware

An essential component in our success was an infrastructure that could support wireless access for more than 800 laptops. Each of our school buildings has a wireless network, which is also crucial for after-hours usage. Many times, we see students without home Internet access sitting outside school buildings using the network after hours.

Each classroom has its own projector, and all elementary classrooms, along with a growing number of middle and high school classrooms, have interactive whiteboards. Many also have document cameras, student response systems, interwrite pads, USB microscopes, and probeware.

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OGY IMMERSION

taken one-to-one to new heights

Digital cameras, video cams, and microphones are also available for teachers to check out.

Learning and Teaching

Our teachers enthusiastically took to teaching in a technology-immersed school, and students quickly adapted to learning in this environment. Students are becoming visual and kinesthetic learners, and teachers have transitioned from the traditional sage on the stage to the more favorable guide on the side as they incorporate learning through group and individual projects that require laptops.

Providing software and online programs is important for supporting teachers' educational needs. FISD widely uses AquaMinds' NoteTaker and Microsoft Office as well as Apple's iLife and iWork suites. Online and CD textbooks have allowed our students to rid their backpacks of heavy books.

We also use several online resources to enhance reading, writing, math, and science learning. Vantage Learning's My Access! writing program, for example, provides students with opportunities to edit their writing and improve their scores. NetTrekker and the Facts on File database allow for pertinent research. Explore Learning and AgileMind visualize concepts in math and science for students, and Discovery Education offers a host of video clips for instruction.

In art classes at the high school, students use Adobe Photoshop to create art projects with the same hardware and software that professionals use, and they have access to many works of art on the Web. Students use the built-in iSight camera for self-portraits or to capture images to draw. At the middle school, students use Photoshop Elements for projects in Computer Art and other classes.

The laptops make history come alive. Students can hear speeches, look at newspaper headlines, go on virtual tours, and watch videos of actual events. Seeing an event such as the bombing of Pearl Harbor gives far more meaning to the lessons.

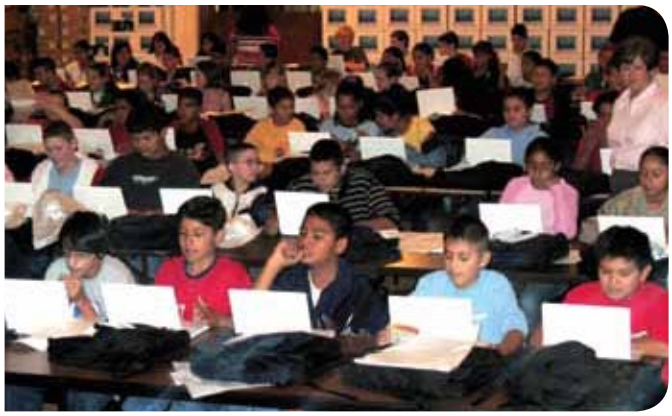
Although math is a difficult area for teachers to relinquish the use of paper, pencil, and calculator, they are finding many uses for the laptops. All notes and assignments are now in electronic format. Teachers conduct many quizzes online and include interactive applets to reinforce ideas from class.

In science, technology has enabled students to record scientific data and visualize processes more realistically than ever before. Using probes with the laptops provides added visual and kinesthetic elements to allow students to see how and why functions act the way they do.

English classes are much more multidisciplinary, as students use interactive writing and scoring programs as personal tutors; produce instructive and creative podcasts to share; investigate time-sensitive research for papers and presentations; and write, film, and edit iMovies based on literature or research. Books and study guides are often available online, and helpful video clips explain allusions to other works or demonstrate scenes.

Our computer education classes have always used computers, but even this has changed with the addition of laptops. Students in Business Image Management, Telecommunication & Networking, and Media Tech classes use Microsoft Office for Mac and Adobe Creative Suites along with the iLife and iWork applications on laptops to create projects. Students are gaining valuable job skills while they become computer proficient.

Many students have taken college-level coursework through online and instructional television courses offered through South Plains College in



Floydada Junior High School first rolled out laptops to its students in October 2004 as part of the TIP Grant.

A Floydada science student uses probeware to measure cellular respiration in a germinating pea.

Sandy Vaughn, Floydada's technology immersion coordinator, assists a high school student during an introductory laptop session designed to teach the basics of use and care.

SYLVIA CHARP AWARD

T.H.E. Journal and ISTE present the Sylvia Charp Award for District Innovation in Technology jointly at ISTE's annual conference and exposition. The award recognizes U.S. school districts that exhibit effectiveness and innovation in the application of technology.

Winners demonstrate consistent district effectiveness, use of the NETS or a local or statewide derivative of ISTE's standards, effective and innovative technology implementation, and commitment to participate in dissemination to and support of other districts.

For more information and to apply for this award, visit www.iste.org/awards.

Levelland, Texas. These classes, taken during junior and senior years, allow students to get a head start on a college degree while saving their families money in tuition and fees. Through a Rural Technology Grant awarded in the summer of 2008, Floydada was able to pay tuition for seniors who take at least one college course as long as they receive a C or better. Students have earned as many as 60 college hours by the time they graduate.

One-to-One Access for All

Students realize that we have leveled the playing field. One student testified at the State Education Technology Directors Association conference that she is a first-generation American who feels her work now has the same value as any other student. She went on to say that she is truly living the American dream.

We have even issued laptops to the FISD board to allow for paperless meetings. Each member has access to pertinent information as well as an e-mail account provided by the school for communication between the board and administration.

FISD also uses social applications, such as e-mail, instant messaging, and wikis, to allow for instant access to office assistance and communication throughout the school district.

Sustaining the Funding

Finding ways to sustain the cost of an immersion program is daunting, especially in a low socioeconomic school

district. In January 2007, Superintendent Vaughn asked the school board to commit 33% of the interest earned on the school's fund balance toward sustaining the laptop learning program at FISD. This allowed administrators to have a predictable revenue stream for the TIP program. The T3 Grant (another Texas Education Agency grant) helped fund laptops and whiteboards for the elementary school.

Evaluation and Assessment

Our Technology Evaluation Committee began an evaluation process a few years ago using an Apple walkthrough document. We asked teachers to observe technology use in other classrooms to reinforce the standard that all educators use technology in learning and teaching. The process was a nonjudgmental way for teachers to give and receive ideas for technology use.

During the summer of 2009, administrators and teachers created a guide for best practices in technology use for teachers. Educators can review this guide when planning technology integration.

Administrators are evaluating and assessing the technology immersion program. The superintendent and principals are constantly gathering data on its benefits. They have seen increases in reading levels and writing scores. They have also documented increases in standardized test scores, including increases in the number of students receiving "commended performance" on Texas Assessment of Knowledge and Skills tests across all subject areas and the number of students passing the Advanced Placement exams. This data will also provide support for the program's sustainment.

FISD has seen a general resurgence of interest in school from students, and teachers don't want to go back to their old methods of teaching. The lessons we teach now and the unique types of projects that are part of the learning process excite students and teachers. This renewed interest in education is a big reason for the success of our laptop initiative in Floydada.

Sandy Vaughn is the technology immersion coordinator for Floydada Independent School District, 50 miles northeast of Lubbock, Texas. Vaughn manages 800 student and staff laptops in Floydada ISD.