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# Irving ISD *Cooks Up* a *Hot, New* E-Learning Paradigm

by Jennifer Anderson and Ryan Sanders

In his culinary wisdom, chef Emeril Lagasse has written, “To cook great food, you have to have great ingredients.” Certainly, Emeril knows his way around a kitchen, but he might also know something about technology in education, because cooking up a world-class instructional technology program starts with world-class ingredients.

Over the last three years, Irving ISD has been busy mixing one of the premiere e-learning programs in the world. The ingredients for that program are laid out in a document called the Long-Range Technology Plan (LRP), which has been a reliable recipe for success—not just in making technology available but in making it useful and meaningful in a student’s education. The 10 most critical ingredients are listed here.

## FUNDING

One of Dallas' largest neighbors, Irving ISD is a property-poor district with 31,000 students—58 percent of whom are Hispanic. Irving ISD is among an elite number of Recognized districts in Texas that are large (25,000 students or more) and diverse (majority non-white), with a significant number of economically disadvantaged students (more than half on free- or reduced-lunch programs.)

With a tax rate at \$1.815 per \$100 valuation, Irving ISD, like many other Texas districts, has reached the maximum tax cap, endangering technology spending and implementation of the LRP. But in 2001, Irving voters approved a \$249 million bond package—the largest in the district's history. Despite a slowing economy and a stalled legislature, the district's visionary trustees saw the importance of technology's role in modern education. Wisely, they included almost \$55 million for instructional technology on that bond issue—seed money that is now blossoming into successful, confident students equipped for the challenges of college and work.

Thanks to a talented and dedicated grant-writing team, the district also has received more than \$8.6 million through TIF and E-Rate grants.

## INFRASTRUCTURE

Before the district was able to add the garnish and toppings of community involvement and digital awards, it had to mix in a healthy amount of the most basic techno-ingredients. Irving ISD schools and departments are connected by a state-of-the-art ATM network (soon to be upgraded to GigE) that allows the transmission of audio, video, and data over the same lines. This network stretches to every building in a district that is more than eight miles across. And that's just the wires. Currently, the administration building and six of the district's schools (including all four high schools) also have wireless networks, allowing students to access Internet and intranet databases at any moment during the instructional day. Eventually, all of the district's 38 campuses will offer wireless Internet.

The network has to be robust enough to host traffic from 3,900 employees and 31,000 students every day. Of course, with a network of that size, security is an essential ingredient. Irving ISD uses Websense, a leading Internet filtering service, to ensure the protection of district networks, proprietary information, and impressionable young minds.

## FACILITIES

Just as the LRP provides the framework for all of the district's technology use, another document lays out expectations for how facilities will integrate technology. It's called the Facilities Planning Document, and it specifies the technology requirements for each room in each building in the district. For example, elementary classrooms should have a projection unit, a teacher laptop, a shared printer, and at least three student computers. While these specifications may seem demanding, they set important benchmarks for architects, contractors, and district facilities planners.

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One school in Irving ISD has set the model for the Facilities Planning Document. It is the pinnacle of e-learning accessibility and usability—a showcase of what can happen when educators think like innovators—when a learning facility is designed to facilitate learning, not house it. That school is The Academy of Irving ISD.

From the land-swap deal trustees made with the local community college district for a place to build it to the decision not to install school bells, The Academy was the vanguard that ushered in the next paradigm of technology in education in Irving ISD and across the country. The school has won national awards—both architectural and educational—for its design and usefulness, including AASA's 2003 Walter Taylor Award. It has been toured and praised by leaders from Microsoft, Nokia, the U.S. Department of Education, and numerous other school districts. It was the first school in Irving ISD to offer a laptop for every student, the first to



offer wireless Internet, and the first to so deeply integrate technology into everyday classroom instruction.

The Academy does more than make technology available. It makes it useful and relevant to learning. The curriculum is infused with the expectations that students will develop skills in technology and in employability. There are no school bells because students are expected to know when they should be in class. After all, in college or the business world, they will be expected to get themselves to the next class or meeting. Likewise, there are no chalkboards. In the career world, presentations are made with multimedia software, and research is done via online resources. The Academy is preparing students for success, not just a diploma.

Since The Academy opened in 2001, the district has added other facilities—deZavala Middle School, Townsell Elementary, and a new Administration Building—all based on the Facilities Planning Document.

### ONE-TO-ONE ACCESS

When it comes to technology access, Irving ISD leaders have set the bar high. Emeril might say they've "kicked it up a notch." The most visible ingredient in Irving ISD's aggressive recipe for success is the one-to-one ratio. As of 2002, every high school student in Irving ISD carries his or her own laptop computer. Students scurrying to class with computer bags on their shoulders can be a new and, frankly, unsettling sight for many educators. But district leaders have chosen to give the responsibility of using and caring for laptops to those students who are more capable and sooner likely to use the skills gained by having a computer. The reason is simple.

"No student should graduate from Irving schools without the skills he'll need in the world of work," Superintendent Jack Singley says.

In lower grades, too, the student-to-computing-device ratio is high with middle school students using portable laptop labs and classroom desktop computers, and elementary students learning keyboarding, spelling, and writing on smaller devices called AlphaSmarts.



Academy of Irving ISD courtesy of Irving ISD



Academy of Irving ISD Photo ©Michael Lyon

Of course there are risks involved. Last year, just less than 4 percent of the computers issued were lost or stolen. Each student is required to provide insurance on his or her laptop so that lost or damaged computers can be replaced and issued to the next class of students.

### INCREASED STUDENT USE

Giving students access to technology is not enough. Irving ISD planners know that. So the LRP includes dozens of ways to direct student use of technology to ensure that hi-tech tools are being used to support education. In elementary and middle school classrooms, this can be as simple as deciding where to put desktop computers. Instead of lining a wall with them, district instructional technology officials developed something called the "Inspired Classroom" where computer workstations are scattered throughout the room so that their use becomes a seamless part of everyday lessons, not a scheduled seclusion to the corner of the room. So far, only a few classrooms follow the "inspired" design, but action follows vision, and the vision has been cast.

Every school in the district has a distance learning room or mobile distance learning cart so that teachers and students can collaborate with their peers in other schools, districts, and even countries to discover best practices for research and learning. Teachers attend national training conferences without leaving their campus. And students gain insight when they discuss their latest reading assignment face to face with students of other cultures.

There is measurable evidence that students are using technology for learning more. The district's annual media fair—a competition for photography, visual arts, graphics arts and animation, presentations, and other projects—used to draw about 600 entries from all grade levels across the district. Within the last three years, the number of entries has skyrocketed. Now, campuses hold their own

media fairs and send only the winners to the district fair, which still gets more than 900 entries. Students are more comfortable creating, displaying, and sharing their work than ever before.

More evidence comes in the form of statistics. Irving is the number-one user of streaming video from United Learning, Inc., and the district uses 40 megabytes of the Internet conduit provided by Dallas County—more than any other district in North Texas.

Thanks to the LRP recipe, Irving ISD students are learning more and learning faster than ever before.

#### INCREASED STAFF USE

Students use technology more because staff use it more. There are no paper records of grades or attendance in Irving ISD. Teachers track student progress, share teaching ideas, and complete administrative tasks all via the district's extensive intranet.

Of course, the most important area of technology use is in the classroom, and here, again, the district shows its muscle. Based on the StarChart state technology assessment, the average teacher in Irving ISD is an advanced user of technology. The district is one of the top K-12 users in the nation of Blackboard—the system most U.S. universities use to offer courses online.

And staff use is growing quickly. On average, Blackboard records 140,000 hits per day from district users. That's up from 14,000 per day last year. Teachers in the district stored and accessed more than 1,200 classes in the first three months of this school year. Last year, they accessed 600 for the entire year.

One of the most promising aspects of classroom technology integration is the interdepartmental use of student data. Using a system called Pentamation, the district can track student data for PIEMS, and then use that data for other solutions like food service or facilities planning. But with a new software called EdSoft, teachers in the district are learning to use student data to customize curriculum day-by-day. Eventually, teachers will be able to teach an objective, give a benchmark test, and then choose custom exercises for the next day's class to address weaknesses revealed in each student's understanding of the subject matter.

From districtwide demographics to student-by-student lessons, technology is allowing Irving ISD teachers and administrators to become more efficient and more effective.

#### STAFF DEVELOPMENT

Teachers have to learn before they can teach. The district's technology planners know that tech-savvy teachers without access to the latest tools are a waste of talent. But teachers who have access to all the latest tools but no skills to use them are a waste of taxpayer money. Both are to be avoided.

## New World Wide Web

Think kids like to be challenged? Ms. Garrison's science class was given the task of saving the world. Students were told to imagine that overcrowding and pollution were making planet Earth unlivable and that it was up to them to design a planet capable of supporting life. The students researched, designed, and created a model of such a planet using the Internet and online databases. Then they posted a multimedia presentation of their findings on the Planet Pac Web site for other science classes across the nation to study.

## Distance Learning

To improve the language skills of both middle school and elementary students, seventh and eighth graders from Austin Middle School read books to English as a Second Language classes in kindergarten through third grades at other schools. Each reading was "attended" via distance learning equipment by as many as nine classes at a time.

Two other Irving ISD schools used distance learning technology to sharpen their literary prowess with a quiz show. Students from both schools were given the same book to read. Then a classroom of students from each school competed against one another to answer questions about the reading. The winning class enjoyed a pizza party.

## Community Development

When hi-tech tools meet hi-energy students, the outcome benefits can reach far beyond the walls of a classroom. In an effort to serve their community, a team of middle-schoolers created brochures about the stages of child development as a project in health class. The brochures were then printed and distributed to local child care centers where they help parents and providers understand the needs of young bodies and minds.

Staff development in Irving ISD is moving beyond how to work computer applications towards how to use them in effective teaching. High school teachers are required to undergo 24 hours of training on integrating computers into teaching. The district is the leading user of Voyager instructional technology training in Texas. And every campus in the district has at least two full-time staff members dedicated to making technology work in the classroom. Campus technicians (CTs) keep things running—repairing and installing equipment. Instructional technology specialists (ITSS) help with specifics of technology-integrated teaching, providing just-in-time training for teachers specific to their students' needs.

### COMMUNITY NETWORK

Students and teachers aren't the only ingredients in a successful instructional technology recipe. Parents, taxpayers, political leaders, and business partners must buy into the e-learning paradigm. In Irving, that collaboration has been evidenced in the creation of a community Web portal known as Irving.net. Originally funded with a TIF grant, Irving.net has been so successful in combining the efforts of school, city, chamber of commerce, and higher education officials that it recently won a \$500,000 continuation grant from the U.S. Department of Education. More than a Web site, Irving.net provides a dual-language Internet portal for city, school, and business services in Irving. It also provides computer literacy training for Irving residents. It is establishing wireless Internet "hot spots" in local libraries, recreation centers, and apartment complexes. And it has created community sites at storefronts and churches where residents can access online services at no charge.

Irving ISD has established partnership agreements with more than 100 local businesses, churches, and civic organizations. One such partner, Nissan Corporation, donated more than 150 used computers to the district. The machines were cleaned and refurbished by high school students and then

donated to families in the district's HIPPY (Home Instruction for Parents of Preschool Youngsters) Program, which is designed to start children learning at home and make the parent a child's first and primary teacher. Parents were required to attend computer literacy training, facilitated by the district's teachers and students, to receive the machines.

Every facet of the community holds a stake in the education of tomorrow's generation—schools, businesses, civic and religious organizations, and the city itself. As Emeril would say, a savory dish is only guaranteed when great care is taken in combining its ingredients.

### WEB SITE

As Irving's teachers, students, and parents have become more tech-savvy, they've also become more Web-savvy, and they are demanding more content and more usefulness from the district's Web presence. The Technology Department has responded. The district Web site, [www.irvingisd.net](http://www.irvingisd.net), has won several awards, including third place among all U.S. education-related Web sites in the 2003 Center for Digital Education Best of the Web Awards; 2001 and 2002 Gold Star Awards from the Texas School Public Relations Association; and a top-notch review from *The Dallas Morning News* Editorial Board in its column "Sites to Behold."

"A school district has to communicate with several parts of the public, and the Irving site wastes no time or space reaching out to all of its stakeholders," the editors wrote. "The site does more than just inform, though. For example, it recently was used for community members to sound off on the calendar proposals."

Besides the district's site, each campus maintains its own Web presence, many of which also are award-winning. Irving High School's Web site ([www.irvinghigh.com](http://www.irvinghigh.com)) has won a Golden Web Award from the International Association of



Web Masters and Developers. And the Good Elementary Web site ([www.irvingisd.net/good](http://www.irvingisd.net/good)) has been recognized by *Education World* and *PC Teach It* magazines.

Attractive. Informative. Extensive. Interactive. All describe Irving's district and school Web sites.

#### RECOGNITION

Nothing fosters success like a little success. When accolades started rolling in for Irving's efforts to foster quality hi-tech education, teachers, parents, and IT employees knew their efforts were not in vain. Though there have been dozens of awards and anecdotes of success, two are worthy of mention.

In 2002, Irving ISD was named the first Microsoft Center of Excellence in the world. Seven other sites were so recognized later that year. This year, former Irving ISD Executive Director of Technology Jennifer Anderson will co-chair the panel to choose eight more Centers of Excellence.

Anderson has been recognized by leaders not only in technology but in education as well. In March, she represented all of America's K-12 schools on a two-week speaking tour of Japan. Organized by the U.S. State Department, Anderson and a speaker from the U.S. Department of Education were invited to share their insights into e-learning with teachers, professors, ministers of education, and other leaders in the field in every Japanese state.

#### MIX AND LET RISE

The contents of a successful, modern education are changing. Added to books and tablets are search engines and tablet computers. Adjoining lecture and literature are multimedia and megabytes. And as the lives for which we educate our children change, educational content and delivery must change.

The ingredients in the recipe for a modern, successful student are many and sometimes hard to mix. The students must think critically—not trusting every source of information like yesterday's student could trust an encyclopedia. She must think quickly—understanding that customs, communication, ideas, and the very sum of all knowledge changes daily. And she must think progressively—storing wisdom and skills for the career ahead of her.

Irving ISD is working hard to include those ingredients in each one of its 31,000 students because district leaders believe in a new paradigm of e-learning, and they believe that Emeril Lagasse is right: to cook great food, you have to have great ingredients. ■

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