

# SEDL Letter

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Building Knowledge to Support Learning

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# Have High Schools Changed?

By Leslie Blair, Editor

In 1998 my oldest son entered high school. My husband and I dutifully attended freshman orientation. To our surprise, it seemed high school had not changed a bit! The principal was still in his office trying to work out a fall class schedule. The football team and cheerleaders were there, front and center. The vice principals jokingly warned they were going to maintain a police state on campus, and two overworked counselors let us know that our students probably would not see the counseling staff until the next millennium.

Since then, my oldest has graduated and is an electrical engineering major at the University of Texas. During his high school experience, I found out high schools had changed—somehow he seems to have gotten a better education than I did 30 years ago. I've also had the opportunity to visit other schools and meet many educators. Although some things essential to the high school experience remain—homeroom, pep rallies, football, the yearbook, detention, and the popular kids—schools around the country are working hard to become high-achieving schools that meet the diverse needs of students. This issue of *SEDL Letter* discusses ways high schools can become better and are becoming better.

We begin with an article by Mike Schmoker, author of *The Results Fieldbook*. Schmoker offers practical advice for school improvement, presenting changes that are not costly or disruptive to high schools. The second article in this issue takes us to Irving, Texas, where Irving ISD has established successful smaller learning communities that are making a difference for students in this largely working-class community. Irving's SLC program has a strong vocational component, which is also present at another school we visit—Garza Independence High School in Austin, Texas. Garza is an alternative high school that is not a holding tank for troublemakers, as is often the perception for alternative schools. It is a school that accommodates individual differences and learning styles, a school where most of its graduates go on to college.

Other articles in this issue examine SEDL's work in helping schools integrate technology into the curriculum and in making schools safer. We also discuss how parents can play a role in their children's high school education and how SEDL has helped Louisiana science teachers cover chemistry and physics in greater depth with more engaging lessons.

We hope all of our readers are off to a great start for the fall semester, especially those who are at high schools—we hope you meet your achievement goals *and* make it to the playoffs.

# High School as It Could Be

## *From Cacophony to Continuous Improvement*

By Mike Schmoker

With even a few common-sense changes, great things await the American high school. These changes, which are neither expensive nor particularly disruptive, could transform an institution that continues to creak along under the weight of traditions and practices that make it far less effective than it could be.

In Ted Sizer's book, *Horace's School: Redesigning the American High School*, his brave but frustrated high school teacher, Horace, reflects on the fact that his high school is a place whose soul and structures are if nothing else, unexamined. Like most high schools, it rolls on, fettered by routines of long standing. The result is a cacophony of jumbled practices, orchestrated only by a complex computer-driven schedule whose instrument is a bell system and whose ushers are assistant principals (1992, p. 3).

Sizer is not alone among critics of the American high school, which is a victim of institutional inertia, of structures that haven't been adequately examined against what we ostensibly want most for students and teachers: the highest possible quality of teaching and learning. How can these twin priorities be achieved, realistically and affordably?

### Curricular Chaos and Its Consequences

First and most important, we have to take on the relative incoherence of the high school instructional program. We know that when it comes to what gets taught in high schools—to the actual, *taught* curriculum vs. the *written* curriculum—chaos reigns. Sizer and others have noted that there is enormous divergence, even among teachers of the same course in the same school, about what they should teach (Berliner, 1979; Jacobs, 1997; Little, 1990; Parker, 1991; Rosenholtz, 1991; Schmoker & Marzano, 1999). There is something very wrong, writes Sizer, when English teachers “can't agree on what English is” (Sizer, 1992, p. 7).

We only know such things because researchers have occasionally peered into classrooms in a way that no one in the system itself typically does—certainly not the average administrator (Marzano, 2003, p. 23; Smith & Andrews, 1989). To do so



would violate the ethos of privacy and autonomy so carefully protected by the unwritten code of the school (Elmore, 2000; Smith & Andrews, 1989). And teacher evaluation procedures have never given us an accurate picture of what or how well teachers are teaching. This incoherence explains why, historically, “school change” has had such a negligible impact on actual teaching—on its content and quality (Tyack & Cuban, 1995).

It's this simple: without accurate information about what is being taught, much less how well, we can't even begin to efficiently manage or improve the delivery of instruction. The need for a coherent, consistent curriculum is among the most important in ensuring improvements in teaching and learning (Marzano, 2003, p. 22; Rosenholtz, 1991, p. 30).

### Assessment: The Coherence Maker

How do we overcome such incoherence, what Sizer calls “a cacophony of jumbled practices” in high schools? It begins with a recognition that appreciable portions of teachers' work will be evaluated against common standards and criteria (Marzano, 2003). As Michael Fullan explains, “assessment is the coherence maker” (1999, vii-viii).

Common assessments, even state or standardized exams, can create the conditions for legitimate improvement. These assessments, warts and all, represent a powerful opportunity for collective commitment and improvement—that is, for coherence.

Why? Because common assessments urge a common instructional focus, which in turn allows teachers to focus their collective—as opposed to individual—intelligence on the improvement of instruction. These factors, in combination, may be the most incontrovertible elements of improvement, with the best chance of increasing student performance (Darling-Hammond, 1997; DuFour, 2002; Elmore, 2000; Glickman, 2002; Little, 1990; Reeves, 2002; Stigler & Hiebert, 1999).

Such common assessments make it possible to review common results; data from common assessments can reveal how well we're doing, as well as those areas in which students are and aren't learning. They can reveal what is perhaps being slighted or taught inadequately.

Schools are only beginning to realize that improvement is made or broken on the basis of such simple mechanisms. Therefore it should disturb us that too many teachers, when asked, don't know the success rates for the courses they teach; very few know the specific standards on which students perform poorly (Schmoker, 2003).

But there are exceptions. In the Glendale Union High School District near Phoenix, and in the Adlai Stevenson High School District near Chicago, there is a common, teacher-built end-of-course assessment for every course in the curriculum, from physics to physical education.

But there's more. Teachers in these schools also use common, formative assessments—topical and quarterly assessments that inform instruction and hence adjustment to instruction (Schmoker, 2001; DuFour, 2002). At these schools, teachers know their measurable achievement goals—to the number. And they know exactly in which specific skills and standards students perform poorly. Teachers in such schools don't just teach, test, and then collate grades. Instead, teacher teams do something simple but radical: they frequently—not just annually—"assess to learn," to identify those skills and areas where they can improve their teaching toward ever-better results (Stiggins, 2002).

All of these improvement processes are a function of common assessments.

It is important to note that these teacher-made assessments are built only after a careful, collective review of state and district standards and assessments. At Adlai Stevenson and Glendale Union, these teacher-made, teacher-refined assessments include essays, projects, and performance assessments that go beyond the requirements of their respective state exams.



Common assessments create the opportunity for frequent, collective evaluation and adjustment of instruction. Without these simple cycles, we can't expect to consistently improve teaching quality or student performance.

This is doubly true if we hope to make high school a more thoughtful, intellectually vibrant place, where students see the connections between what they learn and what matters most to their lives and careers.

## A Thoughtful Place: Intellectual Stimulation in the High School

We have real work to do here. Sizer's Horace laments that high school is not "a thoughtful place" (p. 3). In *Jefferson's Children*, Leon Botstein warns that for many students, including our brightest, high school is boring and repellent. He writes trenchantly of how we fail today's students intellectually—at our peril:

The failure to challenge the critical faculties of young adolescents can be dangerous... What we have traditionally associated with the intellectual awakening during the college years must now occur in the high school (1997, p. 86).

Here too, assessment is the coherence maker. By failing to charge teachers to collectively share and create interesting, provocative "essential questions" as pillars of our curriculum and assessments, we ensure that school is only haphazardly an intellectual experience for them (Wiggins & McTighe, 1998). This despite the evidence, as many high school teachers know, that intellectual rigor promotes the very school success required by accountability, the looming demands of NCLB (Allington, 2002, p. 742; Newmann, 1992; Wiggins, 1998).

The missing elements in the daily learning life of students are reading and writing assignments and assessments built around questions like these:

- How has geography affected Japan's history and development?
- Who were the least and most (effective/admirable/underrated) presidents of the 20th century?
- What applications are there for what we just learned about mean, median, and mode? How can these and other statistics be abused?

I recently visited a charter school, Tempe Preparatory Academy near Phoenix. On a daily and extended basis, every student there reads challenging, substantive texts to answer questions like these:

- Is Zeus just?
- Is there a parallel to Jesus in Melville's *Billy Budd*?

Teachers in every course at Tempe Preparatory Academy make every effort to teach course content

inductively, using controversy and questions wherever possible, in every course, to teach both thinking skills and content.

Tempe was one of the first two public schools with the highest ranking and scores on the state assessment. And the school has an exceedingly good record working with special education students.

The importance of such thoughtful engagement with ideas and content resonates strongly with most high school teachers. They know that there are vital intellectual capacities that state and standardized exams don't assess—and never will.

All of this is contingent on the simple structures described above—where teams of teachers regularly and systematically review their performance against results—which themselves reflect standards of mastery, excellence, and thoughtfulness. The shift toward such a system will almost certainly require a kind of leadership, which few principals, by themselves, can be expected to provide.

## Leadership for Coherence: Redefining the "Department Head"

Once the infrastructure for improvement includes common standards and assessments, the opportunity for effective leadership emerges.

Among the most simple, powerful actions we can take is to redefine the typical duties—perhaps even the title—of the traditional department head. Both Adlai Stevenson and Glendale Union have done this with impressive results (Schmoker, 2001). The department head's new role should be focused on simple routines that ensure instructional improvement in their respective areas, where they have demonstrated skill and competence as teachers and as members of effective teams. If instructional focus and improvement is the goal, no principal, by herself, can match the impact of such "distributive" leadership (Elmore, 2000).

Imagine a high school where the department leader's primary role is to ensure that assessment data are reviewed by each course team to set goals and identify specific standards and areas where instruction needs to be improved. They merely monitor and coach teams in their collaborative work as they develop strategies, lessons, and assessments that address learning priorities and, as they "assess to learn," to continuously evaluate and improve lessons and units toward success on formative assessments.

They then regularly share, showcase, and celebrate every team's success on these formative assessments.

This is effective, distributive leadership. And it will, if we let it, substantively change the culture of schooling.

*Success begins with clarity and coherence about what we want for students.*

## SEDL Institute Builds Leadership to Support Instructional Coherence



**Math/science supervisor Carey Laviolette and curriculum director Opal Broussard of Iberia Parish, Louisiana, study the Professional Teaching and Learning Cycle.**

SEDL's Regional Educational Laboratory (REL) has been working with selected districts and schools throughout the region to improve student achievement in reading and math by working systemically. "Leadership has long been recognized as a critical element in educational improvement; however, unless that leadership at all levels is focused on the right things, little improvement will be seen in student learning," says SEDL program associate D'Ette Cowan. For that reason, SEDL's annual REL Summer Leadership Institute focused on "Improving Student Achievement: Instructional Coherence in Every Classroom."

Fifty-one administrators from 14 schools and districts in Arkansas, Louisiana, New Mexico, and Oklahoma participated in sessions that highlighted achieving instructional coherence in Mathematics and Reading by using SEDL's Professional Teaching and Learning Cycle (PTLC). The PTLC is a process of collaboration and job-embedded professional development designed to improve teacher efficacy and instructional coherence. Through PTLC, teachers

- study standards and agree on expectations,
- select instructional strategies and resources that meet the standards and expectations,
- plan lessons that include a common assessment,
- implement the plan and analyze student work, and
- intervene to ensure that all students are proficient in the standards.

The administrators actually worked through the cycle, as a group of teachers would. Then they met in sessions that examined three specific leadership roles to support PTLC. These roles include communicating clear expectations, building capacity, and monitoring and reviewing progress.

### Culture and Coherence: We Are What We Celebrate

What other profound if unexamined factors do or don't promote coherence—that is, sustain the school's focus on instructional improvement?

In the average high school, is better teaching and learning regularly celebrated and talked about in animated terms? Hardly.

How often over the PA or at an assembly or faculty meeting, do we honor and celebrate such things as:

- Teachers or teams who have increased student success in algebra or world history
- Students who met quarterly achievement or improvement goals
- Successful tutoring or remediation efforts that have helped struggling students to catch up with their classmates
- A decrease in the gap between socioeconomic groups in core or college-prep completion rates
- Finding more effective, time-efficient ways to grade written work
- An engaging, effective lesson that produced high levels of success on a complex, intellectually engaging standard

This is the stuff of school culture. It hinges on our continuous efforts to celebrate and elevate teacher teams and their accomplishments—your R&D (research and development) teams, who are continuously finding better ways to help more students succeed.

And then picture this: a school where teachers have the chance to share—and be compensated for sharing—their most effective lessons, units, and strategies. Such "lesson fairs" are typical activities in some countries (Stigler & Hiebert, 1999).

To truly institutionalize such a culture, perhaps our goal should be to turn an increasing proportion of professional development over to our effective teachers and teams, creating the kind of "internal university" so common in the corporate world (Collins, 2001).

Virtually every study of effective organizations reveals that its real, as opposed to purported culture and priorities, turns on just such things.

## Conclusion— The Magic of Momentum

None of these new roles or structures is expensive, time-consuming, or particularly difficult to initiate. Success begins with clarity and coherence about what we want for students. We can build on this by recruiting even a few teams whose success can be cited as evidence of what teams of professionals can accomplish. As successive teams succeed and as their

success is honored and celebrated, what Jim Collins (2001) calls the magic of momentum is created.

Sizer is convinced that current structures and practices hobble high schools in their effort to become all they can be, that until we make changes, “we do not know the half of what these kids can do” (1992, p. 2). Through such simple, focused efforts, our high schools, which have already accomplished so much, could be poised to become more productive and interesting places than ever.

## References and Suggested Readings

- Allington, R. L. (2002, June). What I've learned about effective reading instruction. *Phi Delta Kappan*, 83(10), 740–747.
- Berliner, D. C. (1979). *Tempus educare*. In P. I. Peterson and H. J. Walberg (Eds.), *Research on teaching*. Berkeley, CA: McCutchan.
- Botstein, L. (1997). *Jefferson's children: Education and the promise of American culture*. New York: Doubleday.
- Collins, J. (2001, October). Good to great. *Fast Company*, 50(1), 90–104.
- Darling-Hammond, L. (1997). *The right to learn*. San Francisco: Jossey-Bass.
- DuFour, R. (2002, May). The learning-centered principal. *Educational Leadership*, 59(8), 12–15.
- Elmore, R. F. (2000). *Building a new structure for school leadership*. Washington, DC: The Albert Shanker Institute.
- Fullan, M. (1999). Foreword. In M. Schmoker, *Results: The key to continuous school improvement* (pp. vii–viii). Alexandria, VA: Association for Supervision and Curriculum Development.
- Glickman, C. D. (2002). *Leadership for learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Jacobs, H. H. (1997). *Mapping the big picture*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teacher's professional relations. *Teachers College Record*, 91(4), 509–536.
- Marzano, R. J. (2003). *What works in schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Newmann, F. M. (Ed.). (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College Press.
- Parker, W. C. (1991). *Renewing the social studies curriculum*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Reeves, D. B. (2002). *The leader's guide to standards: A blueprint for educational equity and excellence*. San Francisco: Jossey-Bass.
- Rosenholtz, S. J. (1991). *Teacher's workplace: The social organization of schools*. New York: Teachers College Press.
- Schmoker, M. (2001). *The results fieldbook: Practical strategies from dramatically-improved schools*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Schmoker, M. (2003, February). First things first: Demystifying data analysis. *Educational Leadership*, 60(5), 22–25.
- Schmoker, M., & Marzano, R. J. (1999, March). Realizing the promise of standards-based education. *Educational Leadership*, 56(6): 17–21.
- Sizer, T. (1992). *Horace's school: Redesigning the American high school*. Boston: Houghton Mifflin.
- Smith, W. F., & Andrews, R. F. (1989). *Instructional leadership*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Stiggins, R. J. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10), 758–765.
- Stigler, J. W., & Hiebert, J. (1999). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom*. New York: Free Press.
- Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge: Harvard University Press.
- Wiggins, G. (1998). *Educative assessment*. San Francisco: Jossey-Bass.
- Wiggins, G., & McTighe, J. (1998). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

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# Making the Connection

## *A Look at the Irving Independent School District's Success With Smaller Learning Communities*

By Leslie Belt



Adults are driving the success of Irving ISD's Smaller Learning Communities Initiative. From left to right: Irving High School principal Carolyn Dowler, The Academy of Irving High School principal Dr. John Brown, and Irving ISD's Smaller Learning Communities Initiative district coordinator Robin Shrode.

### The Seeds of Change

According to the National School Safety Center, shooting deaths accounted for 39 school-related homicides between 1993 and 1994. Across the nation anguished parents, community leaders, and school administrators could be seen on the evening news wrestling with a single question: "What's happening to our children?" But in the aftermath of the May 1994 on-campus murder of a high school youth in Irving, Texas, the Irving Independent School District responded by asking an entirely different question: "How are we failing to serve our students?"

Robin Shrode, district coordinator for Irving ISD's Smaller Learning Communities Initiative sums up the challenges and subsequent opportunities engendered by this tragic incident: "It was devastating for this district. We formed the High School Task Force to help us take a hard look at ourselves, and frankly we didn't like what we saw. The culture, demographics, and socioeconomic situation of our community had changed, but the way we ran our business had not."

Like most school districts in Texas, Irving ISD has undergone a significant demographic shift in the last three decades. Irving's metamorphosis as a

city began in the mid-1970s when the Dallas/Fort Worth International Airport, then the world's fourth largest, was located nearby. By the 1990s, the small, once solidly middle-class town of 5,000 had grown to a sprawling inner-ring suburb of 180,000. The percentages of minority, economically disadvantaged, and at-risk students enrolled in Irving schools had all surpassed 50 percent. Like many school districts across the nation, Irving ISD had not been quick to respond to these changes. And nowhere was the evidence of this neglect more apparent than on the district's three high school campuses. "There was no mistaking the warning signs," Shrode adds with regret. "Kids were disconnecting. They were not taking responsibility for their own education. They felt like they had no adult advocate to talk to."

Following months of rigorous self-examination, the High School Task Force found that the size of these campuses presented a significant barrier to academic excellence. With nearly 7,000 students housed at three comprehensive high schools, each campus had grown large and impersonal. All had alarming failure rates. As a result, the majority of task force recommendations were related to creating Smaller Learning Communities (SLCs). While the cost associated with implementing these recommendations was significant, Irving ISD voters felt they could no longer afford to pay the price for continuing to sweep this problem under the rug. Over the next few years the community overwhelmingly passed several bond packages. This investment in the future financed the construction of a fourth high school to relieve overcrowding as well as extensive remodeling at each of the existing campuses. In an effort to address the community's growing digital divide, funds were also earmarked to provide every high school student with his or her own laptop computer.

The Academy of Irving ISD (as the new campus is called) is a school of choice whose students are drawn from the district's three comprehensive high schools. The high school from which an Academy student comes remains the student's home school. From its inception, the Academy was envisioned

as a collaborative learning setting. Devised with input from community business leaders, its innovative instructional model incorporates six career specialty areas offering students the opportunity to pursue a diploma major that includes in-depth learning, an integrated curriculum, and real-world experiences.

Since opening its doors in 2001, the Academy has received national recognition for its effective blend of business, community, and education resources. While Irving ISD's legacy high schools—Irving, MacArthur, and Nimitz—have retained more traditional settings and curriculums, their commitment to innovative teaming strategies, extensive professional development, and personalized learning for all students has enabled each campus to earn the coveted status of Recognized School in the Texas Education Agency's accountability system.

An understandably proud Robin Shrode puts these achievements into perspective: "I think we do a great job now of really seeing our students, parents, and community," she says. "Leveraging the power of Smaller Learning Communities has really paid off for us. We're hanging on to more students beyond that crucial ninth-grade year. Parent involvement and teacher satisfaction have both increased significantly. I truly believe that's why we've also been honored as a Recognized District for the past four years."

There is no question that district leadership and community support have played an important role in turning around Irving's high schools. Yet it is on the campuses themselves where the day-to-day work of creating, nurturing, and guiding Smaller Learning Communities occurs. As a result, a remarkable and rare synergy has begun to permeate all four of Irving ISD's secondary-learning institutions. John Brown, principal of the Academy at Irving ISD, describes it this way: "I think that there's a mutual respect among all of the professionals. It's just a function of who we are as a community. We communicate very well, talk through things if there are issues, and work them out. It's a very solid relationship and I think it results in a certain feeling in all of our schools. Kids feel wanted. They feel important. They feel like adults are on their side, because we are. Our only interest is student success. And I don't mean academic success as defined by test scores. I mean future success."

A closer look at the people and places that make up the Smaller Learning Communities at the oldest and the newest of these remarkable campuses—Irving High School and the Academy—reveals a variety of strategies and tactics behind Irving ISD's success.



**With six career specialty areas contained on three floors, The Academy of Irving ISD campus has the feel of a busy office building throughout the school day.**

## Irving High School—A Tradition of Transformation

### The People

Irving High School principal Carolyn Dowler knows what she's talking about when it comes to change. In fact, she's made a career out of it, serving as both a middle school teacher and principal before assuming the Irving High helm six years ago. This hands-on experience has given Dowler a unique perspective on what young people need and want from their educational experience: "Kids don't care what you know or what you can teach them. They want to first know that you care. It's our job as educators to build relationships first."

To foster this culture of caring, Irving High School has adopted a full complement of SLC methodologies. Academic teaming is employed to deliver a core curriculum of English, social studies, math, and science instruction to 9th- and 10th-grade students. In addition, all Irving High School students are assigned to advisers with whom they meet several times a month until graduation. Every member of the Irving High School faculty and administration, including Ms. Dowler, serves as an adviser and assumes personal responsibility for guiding the success of each student in his or her group.

These randomly assembled SLCs are called STRIPES groups. The acronym stands for Students Taking Responsibility and Planning Educational Success—and that's precisely what the groups are all about, according to algebra instructor Phillip Hubbard: "It's a real human connection. Teachers work with their kids for four years, handing out report cards saying, variously, 'Let's get those grades up.' 'You need two more math credits.' 'Good job! I knew you could do it.' As educators we are getting to know our students as people. It's sparked a big change in the way that we do things around here."

In another important break from business as usual, Dowler formed a Leadership Cadre tapping into the creativity and commitment of teachers to drive the school's Smaller Learning Communities Initiative. "I've always understood the importance of relationships with students, teacher interaction, teacher conversation, and so forth," Dowler elaborates. "But giving these teachers an opportunity to step into leadership roles has changed the school." It's a role that Hubbard, the current leader of the Leadership Cadre, and his colleagues on this eight-member advisory panel take very seriously: "We feel like we are the link between the administration and the faculty. We meet every week and look at the needs of the school. If there are things that we can make better here, that's what we're going to try to do."

Ultimately it is the students of Irving High who experience the greatest benefit from the school's SLC success. Sally Spann, now a junior, has had Carolyn Dowler as her STRIPES adviser since her freshman year: "Over the years we've talked about everything from peer pressure and drugs to how to read a transcript. Ms. Dowler is my friend and I feel very lucky to have her."

### The Place

Irving High School is a Texas Education Agency Recognized 5-A comprehensive high school serving grades 9–12. Established in the early 1990s, today Irving High School offers a varied and extensive instructional program designed to meet the needs of students with different learning abilities and interests. In addition to regular courses, there are a variety of advanced placement, honors, gifted and talented, special education, and English as a second language courses. With an approximate enrollment of 2,100, Irving High School has a student-to-professional staff ratio of 14:1.



**Top Photo:** Irving High School principal and STRIPES adviser Carolyn Dowler meets with junior Sally Spann.

**Middle Photo:** Irving High School students take time out for a hug on their way to class. From left to right: Chris Smith, Kristen Stephenson, and Shameika Williams.

**Bottom Photo:** Irving High School's Leadership Cadre serves as a liaison between the administration and the faculty. From left to right: Harold Bradley, Phillip Hubbard, Richard Johnson, and Cheneka Bradford.

## The Academy of Irving ISD—Learning by Design

### The People

If Principal John Brown gives the impression that he would be equally at home in a corporate boardroom as he is in his office at the Academy of Irving ISD, it is not entirely by accident. Like many members of the Academy team, Brown has strong roots in the business community. It's an obvious asset for an educational institution that was built to support an innovative instructional model that incorporates rigorous academic expectations with an awareness of student career goals, according to Brown. "Because we've started from scratch," he observes, "we brought people together who, as a group, want education to be meaningful, to be relevant, and to focus on what the kids really need once they leave here."

Eleventh-grade computer science, multimedia, and robotics instructor Gary Sheph has been teaching in Irving schools for nearly a quarter of a century. He notes that the differences between the Academy students and other young people are apparent the moment you enter the building. "The main entrance is on the third floor, which is home to our visual arts specialties. Here you see a wide range of creativity in the students' dress and hairstyles. When you move to the second floor, which houses the both our medical and legal specialties, you'll find lots of students in scrubs and sometimes even business suits when mock trials are in session. The students on the first floor are technologically inclined and are much more likely to be seen hanging out with their laptop computers than with each other. It's like three different worlds in one building united by a shared sense of purpose."

While the Academy is organized around specific career specialties, Brown is quick to point out the academic rigor inherent in every aspect of the curriculum: "Walk into any class and you're very likely to see kids doing research and kids standing up making presentations—in other words, kids engaged in building the core competency skills of communication, technology, problem solving, information management, and employability. With these five competencies in hand, our kids will be in a really good place when they graduate."

It's a point not lost on senior Mikael Canales: "Before I came to the Academy, I had a lot of problems with my classes because I didn't understand the teachers and I didn't grasp the concept of learning. The way I learn is more hands-on, one-on-one, person-to-person. I'd always wanted to be involved in television so when I heard about the visual arts and communications classes I thought I'd give it a try. From day one it was really cool. We had first-rate technology and teachers who actually worked in the field. I really didn't think about grades at all until report cards came out and I saw I had done a lot better. The learning experience at the Academy has been a whole lot better for me. Actually, I'm interning now at the district's cable station. I produce 3-minute, 8-minute, 30-second, and 60-second segments that air on Channel 75."

### The Place

The Academy serves 1,500 students. As a school of choice, it is designed to serve as an elite school for all students rather than a school for an elite class of students. Enrollment is open to any Irving ISD student in grades 9–12. Academy students maintain a relationship with their home high schools where they can be involved in clubs, athletics, and other extracurricular activities. Constructed on a 23-acre site on the southeast corner of the North Lake College campus, the Academy is housed in a single 193,000-square-foot, three-story building.



**Top Photo:** Academy of Irving ISD students Bryant Greer (foreground) and Anthony Little, hard at work on laptop computers issued to every high school student by the Irving Independent School District.

**Middle Photo:** Senior Mikael Canales gains hands-on production experience at The Academy of Irving ISD's on-campus television studio.

**Bottom Photo:** Students Ricardo Vega (left) and Pedro Facundo take an anatomy test in the fitness center at The Academy of Irving ISD.

## A Blueprint for the Future

In her capacity as program coordinator of SEDL's Smaller Learning Communities project, Melanie Morrissey has been actively involved in helping Irving ISD achieve its goals. She offers an insight into the district's considerable success and what it might mean for those who wish to embark on a similar path of school change: "All of our research points to the fact that the institutions that make significant progress are those that continuously ask themselves why they are making the changes they are making. In the case of Irving, they did a very thorough job of giving all the stakeholders—community, students, parents, teachers, and administrators—the opportunity to identify their specific *why*'s. What Irving ISD should be very, very proud of is that they did not take the easy way out. They never said, 'Oh, it's the kids. What are we going to do about those darn kids?' Instead they encouraged each campus to acknowledge that the needs of its students were changing and then empowered them to ask, 'What can we, as the adults in education here, do to address those needs?'"

## SLC Resources

For more information about the Smaller Learning Communities grant program, visit the U.S. Department of Education Web site at <http://www.ed.gov/programs/slcp/index.html>.

For information about SLC programs being implemented by other schools visit <http://www.sedl.org/slc>. This Web site, developed and maintained by SEDL in conjunction with the U.S. Department of Education, has information about strategies and components of different smaller learning communities. It also includes a searchable database of schools around the United States that are implementing SLCs.

**SEDL**



**Gary Shepf, computer science instructor at The Academy of Irving ISD, looks on as technology intern Matt Maiden tackles a laptop repair.**

*Leslie Belt is a freelance writer who lives in Austin. She writes frequently on education and health issues and has been actively involved in Austin public schools as a parent and volunteer.*

# United's Low Budget Approach

## *Leads to Active Learning With Technology*

By Jill Dodge

**Photo: Active Learning with Technology is a "uniting" activity for teachers in Laredo, Texas.**

With budgets shrinking at district and state levels, it is often up to teachers to create rich classroom environments using available resources. That's what has happened at four high schools along the U.S.-Mexico border in Laredo, Texas. Teachers in Laredo's United ISD began creating engaging classroom environments that integrated technology with limited technology resources. However, United teachers had an advantage that many teachers don't have—professional development that helped them change their approach to using technology as a tool in the classroom.

Located on the border with Mexico, Laredo has seen its population double since 1990. United ISD now has a student population of over 27,000 students, nearly three-fourths of them economically disadvantaged. Due to limited district resources there is typically just one computer for each classroom. But with an offer from SEDL's SouthCentral Regional Technology in Education Consortium (SCRTEC) to participate in the Master Teachers Project, United was able to secure professional development to help teachers apply creative strategies to use their available technology resources effectively.

The district was also able to get assistance from the Texas Telecommunications Infrastructure Fund to obtain additional equipment and pay stipends to their own professional development providers, allowing the providers to shadow SEDL staff during the SCRTEC training. In this way, United ISD began to build its capacity to provide such training in the future.

### **Introducing an Active Learning Environment**

SEDL's SCRTEC staff worked with 87 teachers from the four United high schools, using the Active Learning with Technology (ALT) professional development model. Because ALT is focused on creating a classroom environment where learners are engaged in self-directed, collaborative activities, SEDL staff first wanted to determine the teachers' feelings towards the type of learning supported by ALT and find out about their previous experiences using technology as an instructional tool. SEDL staff and



United ISD's technology staff used classroom observations, teacher interviews, and a technology skills survey to gather information for this initial assessment.

SEDL program associate Danny Martinez said, "Most of the teachers had very little experience using technology and learner-centered approaches to teaching, and they were very skeptical about incorporating them into their classrooms."

Until two years ago, most of the teachers only used their computers to organize student grades or to check their e-mail. One teacher admitted she had "computer phobia" and expressed an anxiety echoed by many: "I knew I had to change, but I was afraid to."

The teachers had been using traditional methods of teaching in their classrooms—lecturing while using an overhead projector to explain curriculum concepts or allowing students to work individually on projects without access to classroom computers. These practices would soon change due to the ALT professional development model.

ALT was designed to help teachers create classroom environments that support how students learn, while integrating technology into their lesson plans. It does not focus on the actual skills of using technology, but on using technology as a tool within curriculum. As Martinez explained, "ALT takes teachers through short, small projects, teaching three or four things about a software and then immediately uses that new knowledge in an activity."

Throughout the 2002–2003 school year, SEDL presented 36 hours of professional development and

## ALT Around the World

Whereas the name “Southwest Educational Development Laboratory” implies a regional focus, SEDL in fact reaches educators on a global scale. A group in Nigeria contacted the SEDL staff recently to praise the *Active Learning with Technology* portfolio.



“We are a group that works with teachers and educators in Africa, helping to redefine education in our classrooms in order to make learning more engaging. We have been working with the *Active Learning with Technology* module and have seen amazing results,” said Akindeji Coker. “Thanks so much for the wonderful work you are doing.”

Developed for educators who work with K–12 teachers, the materials and activities in the *Active Learning with Technology* portfolio were field tested and carried out in a variety of settings by more than 1,000 teachers. In December 2001, the portfolio earned the Exemplary Use of Technology Award from the National Staff Development Council.

*Active Learning with Technology* includes 18 modules that range from 1 to 6 hours in length, a series of 10 videos (including 8 classroom episode videos showing real teachers in their classrooms, the *Engaged Discoverers* video, and the *Classrooms Under Construction* video), six issues of the *TAP Into Learning* newsletter, a CD-ROM version of the ALT materials, and additional print and Web resources. The modules focus on helping teachers learn to develop and implement learner-centered environments supported by technology. Additional resources in the portfolio include *Connecting Student Learning with Technology* and *Constructing Knowledge with Technology: A Review of the Literature*.

**Photo: Participants from the workshop in Nigeria praised the effectiveness of the *Active Learning with Technology* portfolio.**

conducted monthly follow-up sessions. The first sessions were held at each of the four high schools during the summer of 2002. Sessions took place not in a computer lab but in a library or a classroom. There were two computers set up for each group of about 25 teachers, with one facilitator. This first session guided teachers through an activity called Active Learning Environments, which laid the groundwork for the principles discussed in the following sessions, including the active engagement of learners, the use of technology for problem solving, and learners’ collaborating in small groups.

Groups of teachers worked together on an activity that required them to gather data and plan exhibits for a community museum, rotating through three learning stations. Each station contained different resources such as community brochures and other print material, a computer connected to the Internet, and a digital camera. As the teachers completed this activity, they began to see how incorporating technology could work in their own classrooms. They created knowledge in multiple ways, reflecting, collaborating, and negotiating with other group members. “The teachers really enjoyed this; they saw that it was more fun and exciting than sitting and listening to one person lecture,” said Martinez. With few technology skills needed, the teachers put

together PowerPoint presentations from the data they had collected for their digital community museum.

Subsequent ALT sessions were similarly structured, but the tasks became increasingly complex. Rather than concentrating on specific technologies, the facilitator focused on stimulating ideas about how teachers could use similar activities and technology to enhance content and curriculum in their own classrooms. As one teacher put it: “The training is an example of how we should teach; I love it.”

## Creativity Is Key

As the year progressed, teachers began sharing ideas and planning project-based activities. They were changing the way they taught, and the bumps along the way helped them become more creative.

When the math teachers at United South High School tried to incorporate this type of learner-centered teaching into their classrooms, they found that one computer in their classroom wasn’t adequate for students to carry out the activities given the limited class time. Intent on successfully implementing the new instructional strategies they were learning, the teachers decided to put each of their individual classroom computers together onto a cart that they could move between classrooms. Each class could then use up to four computers at a time. “Getting your hands on computers and equipment was a recurring problem,” explained Martinez, “but teachers became creative in their solutions—sharing computers between classrooms, creating more activities that used only one computer, and even using their own personal equipment in the classrooms.”

With improved access to computers, the math teachers could focus on content and help their students understand math concepts using real-world applications. Over the course of the semester, students became more comfortable with both the technology and the new method of learning. Working in groups, they steadily gained mastery of different kinds of software and learned how to actively explore and better articulate the algebra concepts they were studying. One teacher explained, “Students seem to be more engaged with the lessons than they were when I used them last year, when students sometimes appeared to be bored. They also seem more excited and feel more investment or ownership in their work; they feel good about being able to apply technology skills they have learned outside my class and use them here.”

**SEDL**

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# Beyond the Booster Club

## *Connecting Schools, Families, and Communities at the Secondary Level*

By Debbie Ritenour

**I**t seems to happen in the blink of an eye. One day a child is begging her mother to read her a goodnight story, and the next she's asking her to drop her off a block away from her friend's house so no one sees them together. Many parents roll with the punches, understanding that it's part of growing up and declaring one's independence. They don't ask as many questions, they don't expect as much of their children's time—and they don't stay as involved with their children's education. Unfortunately, this is not the time for parent involvement to decline.

“Parents need to be involved at the secondary level because soon their children will be transitioning to the real world of work or higher education,” says SEDL program associate Deborah Donnelly. “This is the last time parents can be of real help in guiding students in their decision making about potentially life-changing issues.”

Researchers have suggested many reasons why parent involvement declines as children reach high school. Some parents may not feel welcomed at the school or may believe the school does not want them to be involved. Others may think their own children do not want them to be involved (despite numerous research studies that demonstrate the opposite is true). Still others may feel intimidated due to their personal educational experiences or inability to speak English very well. The organizational structure of the high school, where students have multiple teachers who are responsible for a large number of students, changes the nature of the teacher-parent relationship and may make it more difficult for teachers and parents to communicate.

Whatever the reasons, the lack of parent involvement continues to be an issue at high schools. As many studies have demonstrated, parent involvement in schools has been tied to student

achievement. When parents and communities team up with schools, students receive better grades, have better attendance, and more often finish school. Developing a school-family-community program and giving parents the boost they need to move beyond the booster club into more complex forms of involvement may be key to improving students' success in—and beyond—school.

### What Does It Mean to Be Involved?

SEDL's National Center for Family and Community Connections with Schools was established to bridge research and practice by finding and sharing research-based information and resources people can use to connect schools, families, and communities. This information goes beyond simply describing what family and community involvement in schools looks like to making recommendations to help schools, families, and communities focus their efforts to improve student success. Much of this research reveals a variety of interpretations of the term “parent involvement.” What, exactly, does this term mean?

The National Center has developed a framework of family and community connections that presents a broad interpretation of “parent involvement,” encouraging the involvement of families and communities—not just parents. It also encourages development of relationships among families, communities, and schools and includes the following components:

- Fostering parenting skills
- Promoting shared decision making
- Expanding family, community, and school communication
- Coordinating resources and services
- Fostering volunteer support
- Supporting youth development
- Supporting learning outside school
- Expanding community development

SEDL's framework draws on a parent involvement framework developed by Joyce Epstein, director of the Center on Family, School, and Community Partnerships at Johns Hopkins University and a steering committee member for the National Center. Epstein's framework incorporates six types of parent





Joyce Epstein is the director of the Center on Family, School, and Community Partnerships at Johns Hopkins University and a steering committee member for SEDL's National Center for Family and Community Connections with Schools.

involvement: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. Both frameworks demonstrate the myriad of ways parents can be involved with their children's education. A school-family-community program designed to incorporate these different types of parent, family, and community involvement will be more successful than programs centered around only one aspect, such as volunteering at the school.

Epstein explains that by incorporating multiple approaches, "you end up with a more balanced program that doesn't expect parents to only come to the school building in order to be involved. The types balance each other out. Some things might happen at home, and they're perfectly valid, good involvement activities. They mean the parent is indeed involved, and that parent doesn't have to show up at the

school building in order to get a pat on the back for being involved."

Contrary to popular belief, students don't want their parents to stay far, far away from their high school. In fact, recent research suggests that students would like their parents to remain involved in their education. What changes as children get older is the *kind* of involvement. It's no longer about walking to the bus stop together, or sending cupcakes for the whole class on their birthdays, or reading aloud with them at night to help improve their vocabulary. As children grow and mature, the way their parents interact with their schools changes as well.

"We've heard parents say, 'Gee, I wish the high school could still pin notes on the kids' collars they way they did when they were younger.' Sometimes that may be the only way to get a note home, but that's not age-appropriate," says Epstein. "It's still necessary, however, for the school to communicate with the home. They're just not going to pin notes on the kids' collars."

## Types of Family & Community Connections

Defined by SEDL's National Center for Family and Community Connections with Schools has identified a framework of eight components that foster strong family and community connections with schools.

### Fostering Parenting Skills

strategies that assist families with parenting skills and help create home conditions to support student academic achievement.

### Promoting Shared Decision Making

strategies that include families and community members as partners in school decisions.

### Expanding Family, Community, and School Communication

strategies that help to promote effective two-way communications among schools, families, and community members or groups.

### Coordinating Resources and Services

strategies that unite efforts and programs to provide services for families, students, school, and community.

### Fostering Volunteer Support

strategies that organize and support family and community members in their efforts to support the school and its students.

### Supporting Youth Development

strategies that provide services for students, such as health and physical development, creative expression, and leadership development.

### Supporting Learning Outside School

strategies that involve families and partner organizations to support learning in a variety of settings other than the classroom.

### Expanding Community Development

strategies that involve the school in community planning and decision making as a community institution, as well as create opportunities for the community to utilize the school's resources.

## What Can Schools Do?

Establishing a successful school-family-community program at the secondary level is a little trickier than at other levels. It's more difficult to reach all families due to the larger size and more diverse populations of high schools. However, it's not impossible. In fact, research has shown that parent involvement increases with support from the school. If families are going to become more involved with their children's education, schools are going to have to lead the way.

"Schools need to develop a partnership program that allows its leaders to reach all families every year," Epstein says. "If you try to reach them one at a time, that's going to be difficult because by the time you turn around, some students have graduated and a new set is coming in."

Epstein believes schools should create a team made up of teachers, parents, administrators, community members, and students to focus on developing a school-family-community program. This team should formulate a written annual plan that states what activities will occur, when they will happen, who is responsible for them, and how parents will be informed and involved. The plan should include all types of involvement in an effort to reach out to as many people as possible.

By offering a variety of involvement opportunities, the school takes "responsibility for providing a balanced program that lets parents become engaged as they can and as they will," Epstein says.

The activities don't have to be elaborate or particularly innovative to be successful. Schools may videotape parent meetings and broadcast them in the gymnasium on a Saturday afternoon to make them

available to parents who could not attend the original meeting. They may assign staff members to each student's family to serve as a contact person whenever the family has a question. They may invite alumni of the school who are attending local universities or working in the community to come give a speech to students and parents. The important thing is to plan such activities and to create an atmosphere that welcomes parent involvement.

One important area schools could address is high school course selection and postsecondary planning (see page 18). When parents encourage their children to plan for and attend college, students are more likely to do so, regardless of family background. Unfortunately, it's not always easy for parents to know everything that is involved. Schools can serve as the intermediary in this respect in many ways, such as hosting postsecondary workshops or posting course requirements of local universities on their Web sites. They can offer guidance on financial planning so parents can be prepared for tuition and other college-related costs.

"There simply aren't enough counselors to reach every student, so parents play a particularly important role here. If parents aren't involved, students may be left without the guidance they need, thus leading to a lack of higher education or otherwise gainful training or employment opportunities," says Donnelly.

Regardless of the kind of involvement, increased parent involvement can benefit the school, the family, the community, and perhaps most important, the student. Besides improving student achievement, strong school-family-community programs can establish safer school environments, expand parenting skills, and promote community service. The first step is getting started.

"Begin by asking parents and students what kinds of involvement they would like. One size doesn't fit all, but we tend to make assumptions that one kind of parent involvement meets everyone's needs," says Donnelly. "Relationships are built one person at a time, and word of mouth is the most effective dissemination strategy. Remember, if you're doing well, everyone will know it—but the inverse is also true."



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## Accessible Information Technology

*Continued from page 28*



- A school policy that addresses Web site accessibility.
- Professional development training for teachers, IT coordinators, and general staff members that addresses accessibility methods, including use of IT to include students with disabilities more effectively in classroom activities.
- A school's practice that reflects a more collaborative effort among school personnel (including special education, general education, IT coordinators, accessible technology specialists, and administration) to address accessibility in IT purchasing decisions.

### What Are the Benefits for Participating as a Promising Practices Project?

- The promotion of your school and its promising practices in a variety of venues. This will include various Web site postings, publications and other venues that schools access for information and technical assistance.
- Enhancing the capacity of teachers to use available accessibility IT features to better meet the individualized learning styles of all students through provision of resources and technical assistance.

Schools already engaging in promising practices can be nominated by their principals, superintendents, or state agencies to be identified as a Promising Practices site. For more information, contact SEDL communications assistant Stephanie Weaver at 800-476-6861 or by e-mailing [sweaver@sedl.org](mailto:sweaver@sedl.org)

## The Course Selection Process—A Meaningful Way to Involve Parents

By Victor Rodriguez

**One way to involve parents at the high school level is to engage them in their child's course selection process. Parents of high school students should be informed about high school options and the impact high school courses have on their child's postsecondary opportunities and future career.**

### What schools can do to help parents

Here is a list of ways schools can actively engage parents in their child's course selection process:

- Communicate to parents the requirements for high school graduation. One important element of parental involvement at the high school level is communicating to parents the state, district, or local school's graduation requirements. While most schools offer a basic graduation plan, schools should share with students and their parents the benefits of taking courses under a recommended or distinguished graduation plan, especially if their children plan to continue their education after high school.
- Provide brief workshops on specific areas of study for students and parents. Topics might include new information on a particular curriculum area such as math or science, or college and career planning. Have students and parent participate in hands-on learning activities and provide detailed information to help both parents and students practice new skills.
- Involve parents in setting student goals each year and in planning for postsecondary education and careers. Encourage the development of a personalized education plan for each student and include parents as full partners in the process. If the student is to attend an institution of higher learning after high school graduation, inform parents of courses that should be considered such as honors courses, pre-advanced placement (pre-AP) and advanced placement courses, and dual-credit enrollment.

#### References

National PTA  
<http://www.pta.org>

Center for Social Organization of Schools  
<http://www.csos.jhu.edu/>

The College Board  
<http://www.collegeboard.com>

American School Counselor Association  
<http://www.schoolcounselor.org>

U.S. Dept. Of Education  
<http://www.ed.gov/parents>

### What parents can do to help their children

Here are ways parents can be involved in helping their children decide which courses to take in high school:

- Learn about your child's school. The more you know, the easier your job as a parent will be. Ask for a school handbook. This will answer many questions that may arise over the year. If your school doesn't have a handbook, ask questions—for example, ask the principal and teachers, "What classes does the school offer?" and "Which classes are required?"
- Help your child make smart choices now to start on an education and career track that match your child's skills and preferences. Learn about all the options—and how your child can achieve them. Parents should stay in touch with their children's teachers and school counselors to help students stay on track. Staying visible will enable educators to communicate openly and regularly with you. Attend parent-teacher conferences.
- Select high school courses and programs carefully. The selection process should actively involve both the student and the parent. Consider your child's study habits and interests. Good courses for college-bound students include the sciences (biology, chemistry, earth science, and physics), social sciences (history and geography), and mathematics (algebra and geometry). Many colleges also require applicants to study a foreign language for at least two years and some prefer three or four years of one language. Basic computer skills are essential. Many colleges also view participation in the arts and music as valuable.
- Go over your child's schedule together to see if she's got too much going on at once. Talk with her about setting priorities and dropping certain activities if necessary or rearranging the times of some activities as needed. Electives should be chosen with future goals in mind. Parents should listen carefully to their teens and resist imposing their own interests on them while remaining supportive and objective. Students need to take and pass a state test as part of graduation requirements. The days of just serving time sitting in class and then being socially promoted are over. Parents play an important role in helping students take more responsibility for their learning.

# Garza Independence High

## *An Alternative to One-Size-Fits-All*

By Leslie Belt

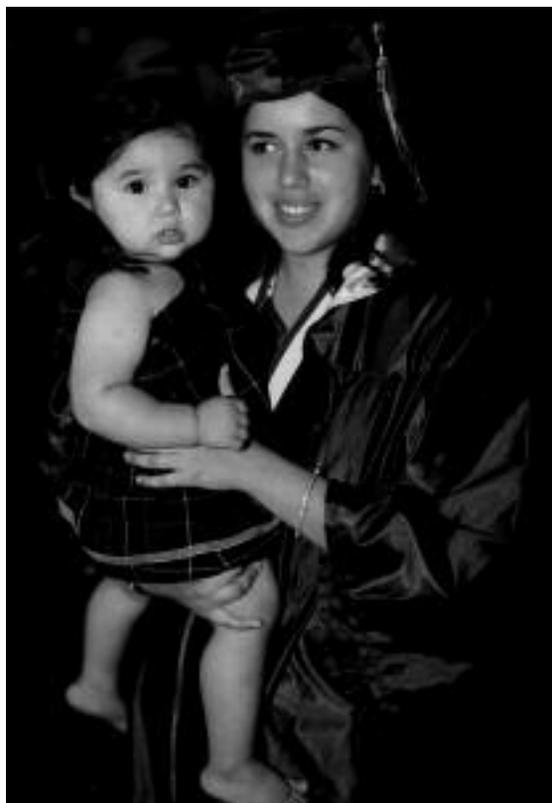
**A**t 17, the future couldn't look much brighter for Austin, Texas, high school graduate Angelica De Los Santos. Fifth in her graduating class, Angelica applied to and was accepted by The University of Texas at Austin where she will begin her studies in criminal justice in the fall of 2004. It's a future few would have imagined was within her grasp two years ago when she married and became pregnant during the 10th grade. "People in my family marry young, I guess I always knew that I would too, even though I had been an honor student since middle school. So there I was married and pregnant and having to ask permission to leave the classroom several times a day because I did not feel well."

Unfortunately there was little room for Angelica's special needs given the highly regimented routines of the large, urban high school she attended. Yet the physical demands of her pregnancy frequently put Angelica in violation of school policy. Angelica's lifestyle—while perfectly acceptable among those just a few years older—was seemingly forcing her to choose between ending her academic career and enduring physical discomfort. Fortunately, there was another alternative.

### **An Academic Alternative**

Garza Independence High is a public high school of choice open to any student in the Austin Independent School District who has 10 or more credits. Students may apply at any time, whether they are presently enrolled in school or not. Instead of two semesters per school year, Garza has five semesters. Students attend school year round in 8-week class sessions followed by 2 weeks off. An open enrollment policy and self-paced curriculum enable students to start or complete course work at any time in the year.

Garza Independence High is a rigorous academic alternative that Garza's principal and founder, Victoria Baldwin works hard to distinguish from the persistent stereotype of a facility devoted to alternative discipline. "The very name 'alternative' evokes a stepchild vision." She insists, "It's interesting. If punishing people worked, don't you think we'd be seeing some results? Because God knows that we do it better than anybody. This school is the direct opposite. When a kid walks into this school we say, 'How may we help you?'"



**Garza Independence High School student Angelica De Los Santos and her 2-year-old daughter Andrea celebrate on graduation night.**

It's a distinction Angelica herself had trouble grasping before she attended Garza. "I had always heard that Garza was a school for drug addicts and people who couldn't keep up. I was a little afraid, but it was either that or drop out and I was getting a lot of pressure from my Mom and Dad and my husband to stay in school. When my baby qualified for on-campus childcare, I enrolled. I found out that there are a lot of really smart kids at Garza. Maybe we seem different because our lives are different, harder. A lot of kids at Garza have kids. Some have nobody supporting them. I was lucky because I have my husband. Nights and weekends he watched the baby so I could study."





Garza's principal and founder Victoria Baldwin gives Angelica one last encouraging hug.

## Meeting the Needs of All Students

As flexible as it is nurturing, Garza is specifically designed to remove learning barriers for urban students who are have multiple social, psychological, and learning challenges. Garza facilitators, as teachers are known, partner with a diverse range of community organizations—such as the School of Social Work at The University of Texas at Austin and Communities in Schools, a Central Texas dropout prevention program—to meet the needs of the student body as well as the expectations of Austin Independent School District and the exit-level standardized, Texas Assessment of Knowledge and Skills (TAKS) test. In addition, Garza prepares students for citizenship, employment, and future education by engaging them in real work in businesses and community agencies. For example, since mid-June officers from the Austin Police Department have joined with Garza facilitators to teach students the latest forensic science techniques. The program's four-course curriculum includes chemistry, integrated physics and chemistry, desktop publishing, and a criminal justice elective. It's an experience that ignited Angelica's long-standing interest in forensics into a passion for crime scene investigation. "We got to interact with the police department and the crime scene people. I think what made the class so exciting for me was that it was completely outside of my experience, like no class I had ever had before. Everything I learned, I was learning for the first time. My favorite lecturer was the blood splatter expert. That was really interesting to me. All of the professionals were really there for us, always making sure that we really understood what we were hearing," she says.

Ultimately, Garza gave Angelica more than a future—it gave her self-confidence. In 3 short years, Angelica learned that her destiny lies in her own

hands and that it is safe in her keeping. "I would wish for every person the opportunity to understand that no matter how hard your life might be, you can do it if you really want to succeed in life. I want to be somebody for my daughter and for myself and I am going to make that happen. If I wouldn't have stuck with school I would probably end up working in some fast food restaurant, probably the highest I would get to is a manager. I want to be doing what I like to do. I like knowing that I am going to be able to help people with my work."

Ms. Baldwin could not be prouder of Angelica or any of the more than 75 percent of Garza's graduates who go on to college. But she has some harsh words for the many adults in their lives, including educators, who have let them down. "These were the kids that most people thought would never finish high school. All these kids want, all any kid wants, is a sense of belonging. We as adults have failed many times to give them that. The fact is that too many educators out there are playing the 'if only game' as an excuse. 'If only the parents would do a better job, if only the students were more responsible, if only the administrators gave me more support.' I say we ought to be ashamed of ourselves for making excuses and passing the buck. Parents, students, and administrators: everybody is doing the best job they know how to do. Get over it. In order to be effective professionals, we must be able to reach and teach every kid."

After more than three decades in public education, Ms. Baldwin laments the fact that educators face greater challenges today than ever before: "It shouldn't be this hard. It's not the kids. It's all the stipulations and regulations that are killing us. And the thing that makes me the saddest is that I believe we brought this on ourselves by not dealing with the changing reality for all of these years. Now the decision-making power has been taken out of educators' hands and put in the hands of business. Business people don't understand why education can't mirror business. Well, the factory model may very well work for many kids; it worked for me. But I grew up in a different time in a very sheltered, naïve, protected, segregated environment. And that is not what this world is about today. More and more souls are being fractured. These kids are not products. . . . Not all schools can be assembly lines."

Baldwin continues, "Frankly I am insulted by the notion that if public education had more competition it would rise to the occasion. Believe you me, I've got plenty of competition—from drugs, gangs, pregnancy, abusive boyfriends, parents, and poverty."

Where Angelica's story is a celebration in independence, Garza High School and its staff of caring facilitators under the leadership of Ms. Baldwin is a study in the triumph of interdependence.

*To be effective professionals, we must be able to reach and teach every kid.*

## Alternative Education Could Be an Exemplary Education

According to long-time educator John Loflin, all too often alternative school serves as an introduction to the criminal justice system. He laments the fact that because many alternative programs are “off campus” or at a separate location, alternative schools too often promote segregation. Indeed, Edna Olive, Ed.D. (2003), observes that students sent off to alternative school have been identified as “delinquent, disordered, diseased, and dysfunctional,” and Richard Sagor (1999) notes that public alternative schools have become “the exclusive preserve for public education’s outcasts.”

In theory, alternative education should not be this way. It should not punish or segregate but should be “based on the belief that there are many ways to become educated, as well as many types of environments and structures within which this may occur” (Morley 1991). This definition suggests that schools should meet students’ differing needs rather than expect them to conform to a particular educational environment.

Loflin (2003) and others (Butchart, 1986; Conrath, 2001; Glines, 2002; Morley, 1991; Raywid, 2001) believe that effective alternative schools should be different from regular school. As Raywid writes, “What’s needed is a school with a different sort of ‘personality.’” A successful alternative program:

- offers open enrollment to any student on a voluntary basis,
- allows students to stay in the alternative setting until graduation (as opposed to being put in the alternative setting for a short time, then forced to reenter the traditional high school setting),
- remains small,
- fosters supportive learning communities,
- has personalized curriculum,
- emphasizes different learning styles while building on each student’s strengths and interests,
- combines high expectations with shared decision making on the part of the students,
- allows alternative assessments, and
- allows site-based management.

It is ironic—most of these characteristics are associated with schools considered exemplary. All students would benefit from schools structured in these ways. If all schools met these characteristics, perhaps there wouldn’t be much need for alternative schools.

## References

- Butchart, R. E. (1986). *Dropout prevention through alternative high schools: A study of the national experience*. New York: Elmira Board of Cooperative Educational Services. (ERIC Document Reproduction Service No. ED 273 872).
- Conrath, J. (2001). Changing the odds for young people: Next steps for alternative education. *Phi Delta Kappan*, 82(8), 585–587.
- Glines, D. (2003, June). *Educational alternatives for everyone*. Keynote presentation at the conference of the International Association for Learning Alternatives, King of Prussia, PA. Available from the IALA Web site at <http://www.learningalternatives.net/html/alternatives.html>.
- Loflin, J. H. (March, 2003). *A response to “Making a Difference: Alternative Education in Indiana.”* Presentation at the Indiana Alternative Conference, Indianapolis, IN. May be downloaded at <http://www.learningalternatives.net/html/alternatives.html>
- Morley, R. E. (1991). *Alternative education: Dropout prevention research reports*. Clemson, S.C.: National Dropout Prevention Center. (ERIC Document Reproduction Service No. 349 652).
- Olive, E. (2003). Real alternatives. *Reclaiming Children and Youth*, 12(2), 66–67.
- Raywid, M. A. (2001). What to do with students who are not succeeding. *Phi Delta Kappan*, 82(8), 582–584.
- Sagor, R. (1999). Equity and excellence in public schools: The role of the alternative school. *Clearing House*, 73(2), 72–75.
- Southwest Educational Development Laboratory. (1995). *Alternative learning environments. Insight... on education policy and practice*, 6.

“I am amazed that I have been at this job for seven years, it seems like yesterday,” Baldwin muses. “Since 1998 we have watched close to 1,000 young people graduate. We’ve had a pretty phenomenal impact on the community and I’m proud of that. I think what this school has proven is that you can have a public school of choice that has very high academic standards but opens the door to all and the kids rise to that occasion. So this is a school that builds self-confidence, restores individuals’ faith in themselves and their abilities. It was built on one simple truth: Everybody wants to be somebody. I never met anyone who didn’t want to be somebody. The question has always got to be what does that somebody look like in you?”



# SECAC Team Helps *McDonogh Principal See Potential Safety Concerns*

By Darryl Ewing

**F**or John McDonogh Senior High School principal Walter Goodwin, visionary leadership has taken on a whole new meaning this year.

Of course, as the leader of the 1,300-student school near the French Quarter in New Orleans, Goodwin sets the educational tone and direction for McDonogh, manages its day-to-day operations, motivates his faculty, and inspires student achievement. But these days, Goodwin finds himself using his vision in a more literal way: walking the halls and the campus, watching and looking for signs of simmering tensions that might erupt into violence of the kind that occurred April 14, 2003.

That's when authorities believe four assailants in a red Oldsmobile pulled up to the school around 10 a.m., carrying a 9-mm handgun and an assault rifle. At least two gunmen reportedly made their way into the gymnasium and opened fire, killing a 15-year-old boy. They also wounded three female bystanders who survived. Police speculate that the gunmen apparently believed the teenager was involved in the slaying of another New Orleans teenager earlier in the week. Authorities also believe four others might have been involved in the incident, making sure the 15-year-old boy was in the gym at the right time. Even more frustrating for prosecutors, parents, faculty, and students eager to see justice done, not a single suspect has gone to trial more than a year later.

"The tragedy is indelible in the minds of the teachers and students here," said Goodwin, who became McDonogh's principal in July 2003. That summer, New Orleans Public Schools (NOPS) began working with SEDL's Southeast Comprehensive Assistance Center (SECAC), including program manager Marie Kaigler and program associate Phil Gapinski participating on a violence prevention task force. Last fall, NOPS asked SECAC to work specifically with the McDonogh safety planning committee.

The school safety recommendations SECAC made were "right on target," Goodwin said. "Marie Kaigler and the SECAC team were basically another pair of eyes for me. They validated a number of things we already knew and pointed out some

safety issues that we didn't know about."

SECAC, which had worked with NOPS in developing a crisis communications grant, had instant credibility at McDonogh according to Rose Drill-Peterson, a NOPS Area I director focused on "signature schools," which are specialized high schools offering career training.

"When SECAC came in, we knew of their work," said Drill-Peterson. "Our people had worked with them and they brought to the safety committee a vast understanding of our school system. When they walked into John McDonogh, people trusted them. When Dr. Kaigler came to the table, she was able to speak as a former principal, a teacher, and certainly as a safety expert."

The SECAC team—including Kaigler and Gapinski and SEDL program associates Dallas Picou and Moselle Dearbone—began its work by gathering data through (1) student and parent survey and assessment, (2) observation, and (3) review and analysis of existing safety and security procedures. Eight SECAC staff members had been trained as safety assessors, using the Safe Schools America, Inc., protocol (see sidebar).

"Depending on the school setting and the nature of the schools' concerns, we choose the protocol that best fits the situation," Dr. Kaigler said.

During the survey and assessment, the SECAC team interviewed school administrators, school nurses and counselors, as well as teachers to glean their opinions on McDonogh safety and what should be done to enhance it. Students and parents were also surveyed. Results were compiled into an executive report for school officials, which served as a foundation for the team's work.

SECAC completed a comprehensive safety audit of McDonogh, observing, for example, how students converged on the school in the morning, what they did when they arrived on campus, where they entered the school, and what procedures they used to enter the school. The team examined the perimeter fence and exterior entryways and whether classroom doors could be locked from the inside without creating a fire hazard. It also considered the adequacy of signage directing visitors to the parking lots and to

the office for check-in. Inside, the team observed whether classrooms could be locked from the inside, thus preventing staff from being in harm's way, whether students loitered in the halls between classes, and how they behaved in the classroom.

SECAC staff reviewed McDonogh's existing safety plan and used their observations to make more than 100 safety recommendations, all of which have been adopted. These included:

- Establishing a student hotline for reporting potential school safety concerns
- Improving the school's perimeter fence
- Shoring up procedures at check-in points at metal detectors
- Limiting the number of entry points into the school
- Providing violence prevention and intervention professional development to staff
- Improving hallway supervision by staff

Today, you can't miss the new 10-foot fence, cameras focused on the school's entrances, and new signage reminding visitors that weapons and drugs are prohibited. Workers also cut down trees behind the school near the gymnasium, which could serve as hiding places for intruders when the trees were in bloom, Goodwin said.

The school also upgraded metal detectors at the major entrance and three other entrances and reduced number of school entry points. Goodwin has placed extra emphasis on students carrying valid ID cards and the school has added a full-time security counselor and a "crime stoppers" hotline, allowing students to report suspicious activity. Students have been exposed to conflict resolution techniques through school assemblies and McDonogh sent six students to a NOPS-hosted teen summit at Xavier University in New Orleans last spring, where high school and middle school students discussed conflict resolution.

Goodwin also routinely checks the bus stop near the school to discourage out-of-school disputes, and he has set expectations that faculty will use at least 10 minutes of their break time to keep students from loitering in halls or hiding out in bathrooms and help him quell any "flashpoints" that might arise throughout the campus.

The focus on school safety also resulted in the formation of a 15-member student safety committee, which periodically meets with Goodwin and other school officials to discuss potential violence or safety concerns. He points proudly to the fact that—despite last year's violence—enrollment actually increased at McDonogh this school year.

"There's still some buzz about what happened, but I think the faculty and students have handled it well,"

Goodwin said. "It's big transformation from what it was last year. I think the overall impression most people get is that school is more structured and there's not as much chaos."

## Safety Assessment Protocol Available Online

During the past five years SEDL's Southeast Comprehensive Assistance Center has provided technical assistance to more than 150 districts requesting school safety assessments. A school safety assessment is an examination of the school environment for safe and secure conditions, and is the first step to developing a comprehensive safety plan.

You may download a copy of the School Safety Assessment Protocol by visiting SECAC's Web site at <http://www.sedl.org/secac/sdfsc.html>.

The protocol combines 276 standards identified by the Virginia and Mississippi Departments of Education and Safe Schools America, Inc. It is organized into 12 sections including

- Safety and Security of Grounds and Buildings
- Development and Enforcement of Policies
- Procedures for Data Collection
- Development of Intervention and Prevention Plans
- Level of Staff Development
- Opportunities for Student Involvement
- Level of Parent and Community Involvement
- Role of Law Enforcement
- Development of Crisis Management Plans
- Standards for Safety and Security Personnel
- Americans With Disabilities Act
- Emergency Response Plans

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# Fulbright Memorial Fund

## *Offers U.S. Teachers a Chance to Visit Japan*

*My experience in Japan was beyond what I ever dreamed, and has had a powerful impact on my life, both personally and professionally. This opportunity for American teachers is a huge step toward encouraging our students to gain a better understanding of the world.*

— Janet Tift, FMF 2002  
Teacher Program  
participant

To date, more than 4,000 American primary and secondary school teachers and administrators have been selected to participate in a three-week study-visit to Japan called the Fulbright Memorial Fund (FMF) Teacher Program. This year, the program will identify up to 600 educators to participate in the 2005 program who will return home to integrate their international experiences into their classrooms.

The FMF program, sponsored by the Government of Japan, provides U.S. educators with fully funded study tours of Japan. The program is designed to increase understanding between the people of Japan and the United States by inviting U.S. elementary and secondary educators to visit Japan and share their experiences with fellow Americans upon their return. FMF participants travel with other outstanding educators, learn about Japanese culture and education, and return home to implement a self-designed plan to share their knowledge and experience with their students, colleagues, and community.

Primary and secondary school teachers and administrators from across the United States are encouraged to submit applications for the 2005 FMF study visits which will take place in June, October, and November. Interested individuals may apply online at [www.iie.org/fmf](http://www.iie.org/fmf) or request further information by calling the Institute of International Education (IIE) at 888-527-2636. **The application deadline is Friday, December 10, 2004.**

The program begins in Tokyo with an orientation and introduction to Japanese life and culture. Participants attend seminars hosted by government and educational leaders and visit cultural sites. Participants then travel in small groups to different cities, where they visit local schools and teachers' colleges and meet with teachers and students. Participants also meet with local and regional educational, government, and industry officials, and spend a weekend home stay with a Japanese family. The program concludes with debriefing sessions in Tokyo before traveling home to the United States.

Upon returning to the United States, teachers will implement and integrate lessons on Japanese culture

and values into their classrooms. The continued success of the FMF program has encouraged a wide range of teachers and administrators to apply for the award. In 2003 over 2,000 applicants from every state and the District of Columbia competed for 600 FMF Teacher Program awards.

The program is sponsored by the Government of Japan and was launched to commemorate the 50th anniversary of the U.S. government Fulbright Program, which has enabled more than 6,000 Japanese citizens to come to the United States on Fulbright scholarships for graduate education and research. Many of them later became leaders in government, business, and education, and have contributed to building Japan into a successful global economic power.

The FMF program is administered by the Japan-United States Educational Commission (JUSEC). The Institute of International Education (IIE), the nation's largest nonprofit educational and cultural exchange agency, serves as the contracting agency for coordinating FMF activities in the United States.

**SEDL**

# In the Calculator-Based Laboratory

## *Mr Do's Flaming Life Saver® and the Day We Boiled Water in Our Hands*

By James P. Louviere

**S**on Q. Do's smile is infectious as he hands us test tubes and waves us toward the bottles of clear liquid on the table. I pour about two fingers of the silver nitrate solution into my test tube, and then I pour in the potassium hydroxide solution. A small fuzzy flat

cloud forms, maybe as thick as a nickel, where the two liquids meet. It seems to want to precipitate, but it does not. The cloud is gray, with a hint of brown. With a flimsy plastic medicine dropper, I draw ammonia water from the stock bottle and begin dropping the smelly liquid into the mixture in my test tube. Sooner or later, I know, the liquid will cloud and turn murky brown. When that happens, I must shake the mixture so that any

silver atoms released by the chemicals will cling to the walls of my test tube. Nothing happens, and my test tube is nearly full. I reach for the brown glass bottle of silver nitrate and pour a thimbleful of the liquid into my test tube. It nearly overflows. A sudden darkening appears where I poured the last liquid in, and the darkness slowly moves downward. I screw the black plastic cap onto the test tube, and shake it. A flash of silver brightens the part of the test tube nearest my thumb, and I think, "Heat from my hand must be making the silver cling there!" I join three other science teachers around a wide-mouth gas burner, heating the test tubes ever so gently, ever so slightly. "Wow!" shouts Amy. "Looka' that!" someone else cries, as her test tube becomes totally silvered in just a heartbeat. "This is great."

Son smiles, delighted that we are excited. This class is made up of experienced teachers. Some have taught two or three years. The more senior teachers like me have been teaching for decades, but with Son Do, we find ourselves reacting like little kids. That's

the kind of wonder Son Do brings to his students at the University of Louisiana at Lafayette (ULL).

In one short week, at a Teachers as Leaders Summer Academy, Son Q. Do has covered the essential concepts of general chemistry, linking them all to one core concept, the molecular nature of matter.

The Teachers as Leaders Academy is a project of the Southwest Educational Development Laboratory's Eisenhower Southwest Consortium for the Improvement of Mathematics and Science Teaching (SCIMAST). The academy is called "Less Chemistry Is More, Plus CBLs." CBLs stands for calculator-based laboratories. Teachers as Leaders reverses the common practice, deplored by many experts, of "spreading science a mile wide and an inch deep." Instead, the weeklong professional development concentrates on a handful of key concepts but teaches them intensely in laboratory exercises so they have a chance to "sink in" and effect real changes in the way we handle our science teaching. Not only do we do several kinds of experiments each day—experiments that cover the law of gases, the structure of atoms, and the effects of atomic structure on chemical activity—but we gather a great deal of data using electronic probes that measure the conduction of light through various concentrations of a colored solution, air pressure at various temperatures, and the electrical potential between metals in electrolytes.

The Teachers as Leaders Academy ran from Monday through Friday. By Thursday, we were holding ordinary Florence flasks in our hands, perhaps 10 percent full of colored water and closed with a stopper. As we held them, the water began to boil, due to the heat of our hands! This led right into a laboratory exercise covering the behavior of ideal gases at various temperatures and pressures.

That afternoon, in another spellbinding activity, Do heated up three scoops of potassium chlorate in a test tube. When he dropped a Life Saver® candy into it, it flared like a rocket and shot out brilliant white fire for perhaps 20 seconds or more. "That's the reaction of sugar and oxygen that goes on in your body, only much more slowly, as you burn calories!"



**University of Louisiana instructor Son Q. Do demonstrates an inquiry-oriented experiment for participants in SCIMAST's Teachers as Leaders Summer Academy.**

*James "Pete" Louviere recently retired from teaching at New Iberia Senior High School in New Iberia, Louisiana. He is now working as a freelance writer and composer.*

## Technology and Collaboration—Hallmarks of the Teachers as Leaders Summer Science Academies

**Below: Participants in the Teachers as Leaders Summer Academy learn how to gather data in a physics lab using a graphing calculator and create inquiry-oriented activities for their students.**



SEDL's Eisenhower Southwest Consortium for the Improvement of Mathematics and Science Teaching (SCIMAST) sponsors the Teachers as Leaders Summer Academies as a way to help science and math teachers develop content knowledge, become more reflective about their practice, and have the opportunity to create and refine lessons in a collaborative, supportive setting.

SEDL program specialist Phillip Eaglin developed two calculator-based laboratory (CBL) academies with follow-up sessions: one for chemistry and one for physics. Both academies and follow-up sessions focused on increasing content knowledge of a few conceptually linked science topics and incorporated the use of scientific calculators and probe ware for data collection and analysis. Eaglin's goal was to encourage teachers to integrate calculator-based laboratory technology for several reasons. "Technology is a motivating factor for children and adults," he said. "We also wanted to help teachers develop original laboratory activities instead of using only those prescribed in a manual and to make the activities more inquiry-oriented and authentic."

The academies and follow-up sessions were held at two Louisiana universities. "Less Chemistry Is More +CBLs" was held at the University of Louisiana at Lafayette and "Less Physics Is More + CBLs" was held at Grambling State University. Eaglin and two instructors from UL and Grambling led the sessions. Through the Benjamin Banneker Association, SCIMAST procured graphing calculators at a discount for the teachers who attended. Participants also received probes and laboratory manuals. The academies provided an introduction to the inquiry process and built skills around the process. The teacher participants were learning just as their students would in a classroom setting.



The academies also covered other topics—grant writing, closing the achievement gap, and how to collaborate with other teachers, especially math teachers. Eaglin says they encouraged participants to work with other science teachers to form reflective groups to redesign their lab activities. Collaboration with math teachers was promoted to help make math subject matter more meaningful and to help students studying science develop the math skills needed to solve science problems. "We often say in the physical sciences that math is the language of much of our knowledge and that it helps us answer many of our questions, so we tried promoting that idea in the academies by encouraging participants to reach down the hall and work with a math teacher to develop integrated lessons."

The follow-up sessions provided an opportunity for teachers to share what worked well in their classrooms and refine their activities. The participants kept in touch throughout the year with an e-mail forum. "To be a good, effective teacher, make it fun, make it creative. That's what the academies were about," said Eaglin.

said Do. "Like metabolism, it produces heat energy, and carbon dioxide, and water. This was about 10 calories. The average person's diet contains over 2,000 calories. That's a lot of energy!"

It was this sort of dramatic demonstration that fired the enthusiasm of the teachers this summer at ULL.

A major feature of the academy was the extensive use, in nearly every activity, of CBL technology: a scientific calculator and a digital interface are used to take samples of heat, light, pressure, and acidity and voltage from chemicals as they are reacting. These battery-powered devices are small enough to roll up in a magazine but powerful enough to emulate desktop computers. If linked to a printer, they can print out long, precise tables of data and convert them to hard-copy graphs. These small marvels are available at less than half the cost of a modest personal computer, and more and more high schools are distributing them to science classes. Colleges are requiring students to purchase and learn to use them.

But Do told us he doesn't let his undergraduate students use the computers to draw their graphs, just to gather data as an experiment is performed. He thinks students learn more by making graphs with regular graph paper at this stage. Later, they can print them out with the computer. Then, he says, "they will understand what the computer is doing, and they will know how the human and the digital world handle data. Without this, they will not really see what all that data means, and how they have to interpret what the computer-generated graphs are really saying."

Son Do is a man with a mission. He is not only willing to train science teachers, but he is also willing to visit their schools and spend a day delivering exciting science shows for students. He reported, "One principal told me, 'I don't think this will work, but I'll let you try it.' Then, when I was finished with my

presentation, having performed for over an hour to a hushed crowd, he said, 'Man, these kids loved it! That's never happened before!'"

"It's not me," Do explained. "It's the chemicals themselves. I just let them react, and the kids watch it. I pass these things around. I have the kids hold them and shake them. Then I put them on a table, and as I talk, the chemicals change color, or expand, or react. That's what keeps the kids fascinated. I don't try to explain anything. I want them to think, 'Why did that happen?' That's how they really learn, when they try to construct their own explanation of how things happen."

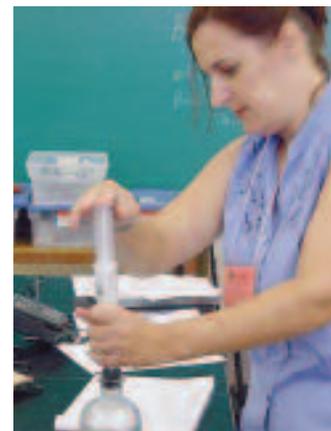
It's not all altruism, of course. Do knows he'll have a lot more success if the students enter the university with a good grounding in oxidation, reduction, balancing equations, using CBL technology, and problem solving. He's only too glad to know that fewer teachers will be forcing rote learning on students and more will be teaching the scientific way of knowing. More kids will be familiar with the "methods of science" instead of being able to recite "the Scientific Method" found in some colorfully illustrated but superficial commercial textbook.

Will Do publish his 1,400 pages of exciting, intriguing, and profoundly affecting presentations and explorations? There is no doubt. But when it is published, you can bet it will not be full of blank space, colorful cartoons, photos, and artwork. It will be chemistry. It will be pithy. It will be solidly scientific. His book won't entertain anyone. "It's not me they'll love. It's the chemicals," he says. It will be Son Q. Do's masterpiece, elegant in its simplicity and profundity and eloquent in its elegance. It will be, in the tradition of Zen and Tao, "less = MORE, with CBLs."

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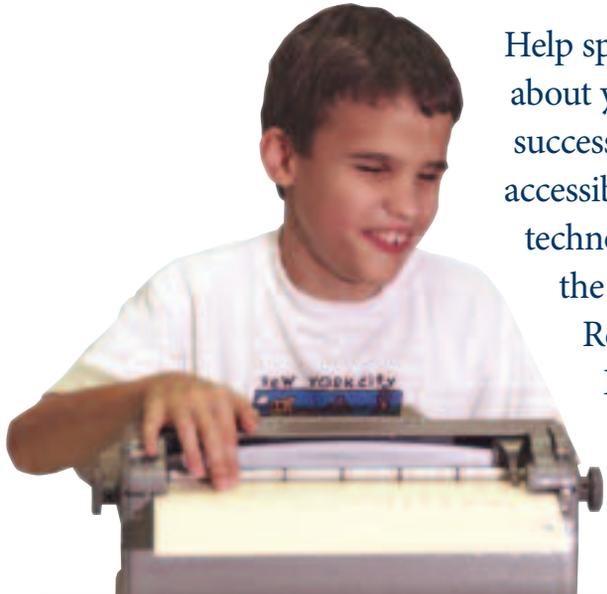


**Above: Son Q. Do and the flaming Lifesaver®**  
**Below: Louisiana teachers get a hands-on lesson in the chemistry lab at the University of Louisiana.**



# Accessible Information Technology

## *Means Never Leaving a Child Behind*



Help spread the word about your school's successful use of accessible information technology by joining the Disability Law Resource Project's Promising Practices project.

The Disability Law Research Project (DLRP) educates schools about accessible information technology (IT) and disability-related laws. Through its Promising Practices project, DLRP can help promote your school and your unique work providing access for all students, while educating other schools and districts about the importance of accessible IT. DLRP partners in this initiative are the Southwest Educational Development Laboratory (SEDL) and the New Mexico Technology Assistance Program (NMTAP).

### What Is the Disability Law Resource Project?

The Disability Law Resource Project (DLRP) receives federal funding to educate schools about accessible IT and other disability-related laws. The Promising Practices Project is a key component of this mission. DLRP is one of ten Disability and Business Technical Assistance Centers funded by the National Institute on Disability Research & Rehabilitation (NIDRR) and is a project of ILRU, a program of TIRR in Houston, Texas. For additional information about the DLRP or ILRU, please visit: <http://www.dlrp.org>

### What Are Promising Practices in Accessible IT?

- Designing universally accessible school computer labs, classrooms, and facilities.
- A method or practice of increasing students' awareness of basic computer operating system accessibility options that will transfer as they transition to work or to a post secondary entity.
- Development and adoption of a policy that includes accessible IT specifications.
- A teacher's use of technology that addresses the needs of students with disabilities.
- Intraschool collaboration on providing curriculum in accessible formats.

*Continued on page 17*

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