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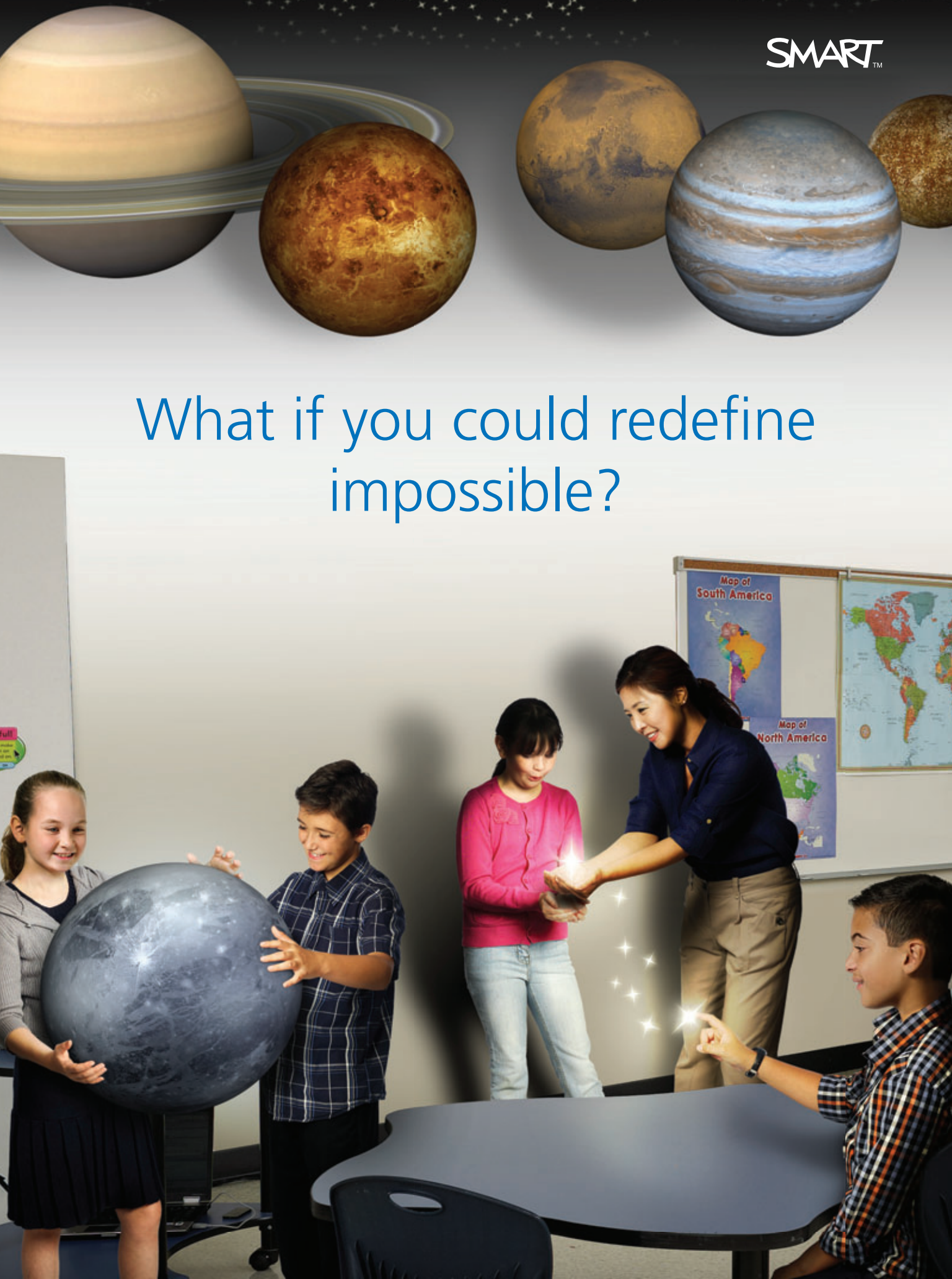
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Therese Mageau, Editorial Director

Fair Trade Electronics

The recent, promising events around working conditions in Apple's factories are hopefully leading toward a new definition of "shareholder value."

EARLIER THIS YEAR, Apple Inc. made an announcement that has potentially significant ramifications for the technology marketplace.

No, I am not referring to the iBooks 2/iBooks Author announcement. I'm talking about the Apple decision to enlist the Fair Labor Association (FLA) to inspect the foreign factories where their products are made, specifically the Foxconn factories in Shenzhen, China, that have been the focus of much criticism of late (including my editorial on the topic last November, *thejournal.com/tco*).

Not that the FLA decision didn't meet with its own criticism. Almost as soon as Apple made the announcement, there were new voices of concern about the impartiality of the president of the FLA, Auret van Heerden, who, according to several news reports including *The New York Times*, said Foxconn's "facilities are first class" and "Foxconn is really not a sweatshop." As Scott Nova, executive director of the Worker Rights Consortium, said in the same *Times* article, "Generally, in a labor rights investigation, the findings come after the evidence is gathered, not the other way around."

In spite of, or maybe because of, the inappropriateness of van Heerden's remark, within a week or so, Foxconn announced that it was raising worker wages between 16 and 25 percent.

Do I think that these events are promising? I actually do. Even though Apple is by no means the only company that uses factories with working conditions that we would find unconscionable in this country, it is the only company, to my mind, that can lead the way toward some measure of justice for the people who build our electronics products. And even though the criticisms leveled against Apple and the FLA may be correct, and caution is warranted, I do think that what is happening is movement in the right direction.

To me, that direction is leading us toward an expanded definition of "shareholder value" that goes beyond dollars and cents to include other things of value, like the health and welfare of workers, or the protection of the environment, or strong communities with good schools. I think Apple shareholders—who are enjoying huge profit margins right now—could certainly agree to a small bite out of the company's bank account in exchange for these other kinds of value.

But we, as consumers, have our part to play as well, because we are going to be asked to pay more for our products—as well we should. I'm mindful that not everyone can afford top-tier prices. But I believe there are people and institutions—especially mission-driven institutions like schools, colleges, and universities—for whom price is not the only concern when they consider a product's true value. After all, many of us pay more for fair trade coffee because we don't think a cheap cup of coffee in the morning is more important than the safety and welfare of the people who grow the beans. Likewise for the people who build our computing devices: Isn't the world ready for a Fair Trade Electronics organization?

Continue the conversation. E-mail me at *tmageau@1105media.com*.

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REACHING THE STAFF
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[news]

Smithsonian Provides Digital Lessons on Water Conservation

FOR THE SECOND YEAR, the Smithsonian Institution is joining **Microsoft Partners in Learning** and **TakingITGlobal** to provide educators with Shout, a free resource for developing lessons on environmental science. This year's series, "Water Matters," looks at issues of water quality and quantity, and includes three interdisciplinary webinars, plus comprehensive lesson-planning materials and hands-on activities for students.

The first of the three webinars, designed for classroom participation and professional development for educators, "Water Questions: When We Want to Learn More," features seven sessions led by Smithsonian experts. Participants will gain not only a global view but also a broad perspective, from the art world to the zoo, from underwater to outer space, from current problems to future solutions.

Additionally, a new digital-recognition program for students, Smithsonian Badges, encourages and rewards student participation via challenges centered on global environment issues. Students can earn specific badges by demonstrating their understanding of ecological, social, and economic systems affecting water; the human impact on the environment; and civic responsibility in sustaining water resources. Educators, too, can receive recognition for helping to facilitate student learning.

"Last year, Shout had more than 11,000 participants from 94 countries," says Stephanie Norby, executive director of the Smithsonian Center for Education and Museum Studies, which leads the Shout program at the Smithsonian. "We expect participation to increase even more this year. With the addition of Smithsonian Badges, Shout gives educators tangible and practical ways to recognize and promote student learning with standards-aligned content and activities."

All of the live, interactive sessions will be archived and available online at *shoutlearning.org.*

Finalists Named for National Online Teacher of the Year

THREE FINALISTS for the National Online Teacher of the Year Award for K-12 online learning were announced by the Southern Regional Education Board (SREB) and the International Association for K-12 Online Learning (iNACOL).

Leslie Fetzer from **North Carolina Virtual Public School**, Tracy Seiler from the **South Carolina Virtual School Program**, and Asherrie Yisrael from **Georgia Virtual School** were all recognized for exceptional contributions to online K-12 education. The judging committee evaluated 39 nominations of online educators in public schools and state virtual schools from 26 states before making the selections.

The winner will be announced at the Excellence Awards Gala during the SREB Educational Technology Cooperative (ETC)'s Symposium on Virtual Teaching and Learning in Atlanta in March. The 2012 National Online Teacher of the Year will receive a crystal Flame of Excellence and a trip to iNACOL's Virtual School Symposium in October.

"This award was created to recognize that online teaching is different. It's innovative—and it's growing," says Myk Garn, director of the ETC. He noted that course enrollment in America's state virtual schools topped 500,000 in the last school year, up 19 percent from the year before. "These teachers excel at connecting, challenging, and guiding students, using new tools and new teaching styles that go beyond the traditional classroom."

[industry update]

Shmoop, a free online study resource, is revisiting middle school literature with the introduction of several new study guides written for young readers. The guides will cover summaries, themes, analyses, quizzes, and prompts for writing essays. New titles include classics like *Charlie and the Chocolate Factory* and *The Call of the Wild* as well as newer releases like Neil Gaiman's *Coraline*. The site also offers study materials in algebra, biology, and other subjects, created mainly by teachers and graduate students. To learn more, visit *shmoop.com*.

To mark Digital Learning Day (Feb. 1), the **International Association for K-12 Online Learning** (iNACOL) highlighted several policy reforms it believes will help ensure K-12 students have access to online and blended learning models. In particular, iNACOL has advocated for:

- Increasing access
- Moving toward competency-based approaches and away from concepts like "seat time"
- Providing fair and sustainable funding for online and blended learning
- Embracing new models of accountability and assessment that break away from one-size-fits-all models

"With new learning models, we can overcome achievement gaps, level the playing field, and ensure America's kids rise to meet the demands of a world that is increasingly globally competitive," said iNACOL President and CEO Susan Patrick.

Vernier will host 30 free workshops at locations throughout the United States for science, technology, engineering, and mathematics educators this year. The four-hour hands-on workshops will teach attendees how to integrate data-collection technology into their science curricula. Attendees can earn two (quarter) graduate science credit hours through the Portland State University Center for Science Education. For dates and locations, visit *vernier.com/training.*

So many have paid too much.

(Don’t join them.)

On the brink of paying too much.

An interview with Wendi Aumann

"She had a purchase order in her hand for one of the big-name classroom response systems, and she just tore it up when we finished talking…"

Wendi Aumann is a 2Know! Specialist with Renaissance Learning. Register for a free webinar with Wendi at www.renlearn.com/2Know/freedemo.aspx

Q. "What did you say that changed your customer's mind?"

A. "I was honest with her. We're not the biggest name in classroom responders, but educators trust us. They know and love Accelerated Reader, STAR Assessments, Accelerated Math, and others, and they know we make top-quality products and stand behind them. She honestly didn't know that Renaissance Learning had its own classroom response system. We just haven't spent gazillions marketing the 2Know! system like other companies do."

Q. "Tell me about the moment she tore up the purchase order."

A. "It was pretty funny. She was about to spend almost twice as much on a system that wasn't as technologically advanced as ours, and when she saw that 2Know! did everything she wanted and more, she pulled out the P.O. and tore it up. We both laughed."

Q. "Does it drive you crazy that educators are spending almost twice as much for less capable systems?"

A. "Well, I want to save as many of them as I can from making that mistake. Budgets are tight, educators need all the help they can get to make sure every child is getting the personalized, differentiated instruction they need. 2Know! gives them the immediate feedback they need, frees up so much time on testing and assessments, and gets kids excited and engaged in learning. I could tell you so many stories."

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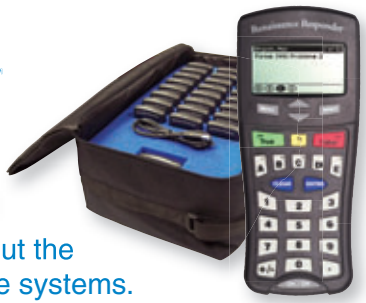

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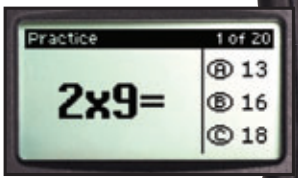

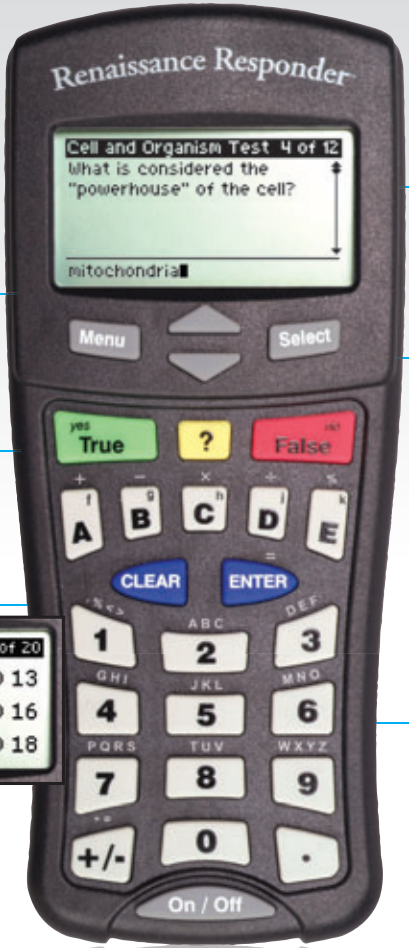

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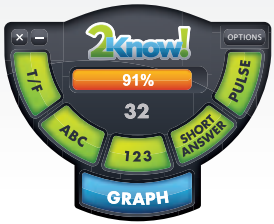

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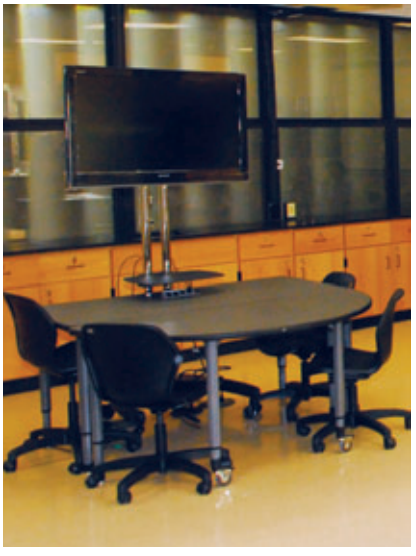
At thejournal.com: The Classroom Evolved

thejournal.com has launched a new series of articles concerning the shifting dynamics of classroom design, focusing on innovative schools that seamlessly integrate technology



and learning in the classroom. Read the first installment, which explores a private high school in Florida that has borrowed ideas from two major universities to create classrooms that support interactive, hands-on learning, at *thejournal.com/ce.*

{win big!}

SanDisk to Award $1 Million in STEM Scholarships

Scholarships totaling $1 million will be offered to students with disadvantaged backgrounds by the SanDisk Scholars Fund to pursue studies in science, technology, engineering, and mathematics. The need-based scholarships are aimed at women, Latinos, and African-Americans who want to pursue careers in STEM-related fields, with up to $10,000 available per student.

Applications and information about eligibility requirements and required documents can be found at *sandisk.com/scholars_fund*.

For One School, a $50,000 Tech Makeover

Lenovo will award one K-8 school a technology makeover valued at $50,000 in its 2012 Dream To Do contest.

The contest calls on students in kindergarten through eighth grade to submit drawings that illustrate what they want to do when they grow up, along with a short sentence explaining what he or she wants to do. Submissions will undergo judging and a public vote.

The contest runs until April 16. Learn more at *lenovodreamtodo.com/technologymakeover.*

[you told us]

The Cost of Human Life

Thank you for the eye-opening article you recently wrote titled "The TCO of the Best and the Brightest" (*thejournal.com/tco*). It saddens my heart to know the cost of human life that is involved in feeding our frenzy of the merry-go-round of self-indulgence in the latest and best that technology can provide. As a middle school teacher, I want to make a difference in the way our students and the world view the tools of technology.

My group of middle school students would be appalled at the cost of human life and permanent disabilities that result from the production of the devices they use every day. The students would love to become involved in a project that would make the world aware of what happens behind the scene, in these factories. Change has to start somewhere, why not at the middle school level where minds are still impressionable and passionate about what they believe?

My middle school students participate in the regional and state Alabama Council for Technology in Education Technology Fairs, where students can present projects in various categories using technology. In doing so, these students acquire a hands-on experience of how they can make a difference, not only at this level, but in the future as they become citizens who give back to society and influence the world in a positive way.

Doris Stephenson
Middle School Technology Teacher
North Mobile Christian School (AL)

[in development]

New Tool Will Support Online Assessment

Pearson will develop a new tool to support states as they move to online assessments in a contract with the SMARTER Balanced Assessment Consortium and the Partnership for Assessment of Readiness for College and Careers (PARCC).

The open source tool would help state education agencies as they work with local districts to evaluate and determine needed technology and infrastructure upgrades for the assessments to be launched by the two consortia in the 2014-2015 school year.

Use of the tool will allow local schools to capture and report key readiness indicators, including number and type of computers, local network and bandwidth infrastructure, local staff resources, and other information needed to evaluate overall technology readiness for the coming transition to digital delivery of assessments. The consortia are collaborating with the State Educational Technology Directors Association to help Pearson in its deployment by providing states and school districts with multiple training resources and a communications campaign.

[findings]

Gartner Finds Districts Not Making the Most of SIS/LMS Implementations

DURING THE SELECTION and implementation process of student information systems (SIS) and learning management systems (LMS), districts do not emphasize the use of data in the classroom, according to a new report from **Gartner**, called "Implementation and Selection Approaches Toward SIS/LMS Solutions." Additionally, the report found that teachers were not fully using all the functions of the LMS available to them.

The report was compiled as part of a broader series of publications focused on SIS and LMS in K-12 education, called "Closing the Gap: Turning Data Into Action," which solicited input from a broad group of educators, including district leaders, school leaders, technology and IT leaders, and teachers, on how data housed in SIS and LMS can be used to improve teaching and learning. The report was compiled in collaboration with the American Association of School Administrators and the Consortium for School Networking with funding from the Bill & Melinda Gates Foundation.

Gartner plans to explore these findings with school districts to get a better understanding of their experience using data in the classroom to achieve desired education results. "Data-driven instruction is key to the success of students in today's schools," says AASA Executive Director Daniel Domenech.

For more information, you can visit *turningdataintoaction.org*.

Dan Gordon


Carol Ann Tomlinson


Meg Ormiston


Robert J. Marzano

Off Book

Educators today have more access than ever before to the authors and thought leaders they have come to rely on in their work for advice and inspiration.

AN ACTIVE TWEETER, Steven Anderson regularly exchanges ideas on how to enhance K-12 classroom instruction with educators from all over the country—including some of the best-known thought leaders in the field.

Last November, Anderson, district instructional technologist at **Winston-Salem/Forsyth County Schools** in Winston-Salem, NC, mingled with many of those experts at Authorspeak, a three-day conference in Indianapolis that brought together 99 of the nation's top authors and experts in education for presentations, panels, and networking sessions. In addition to attending sessions, Anderson spoke informally with leading thinkers like Will Richardson and Sheryl Nussbaum-Beach—both of whom he already was interacting with regularly on Twitter.

"To be able to sit down and chat with the author of a book that has great meaning to you is huge," Anderson says. "They were so accessible, and the fact that I had relationships with so many of them through social media made those face-to-face meetings much easier and more meaningful. We already knew where each other was coming from, so we could just dive right into those deeper discussions."

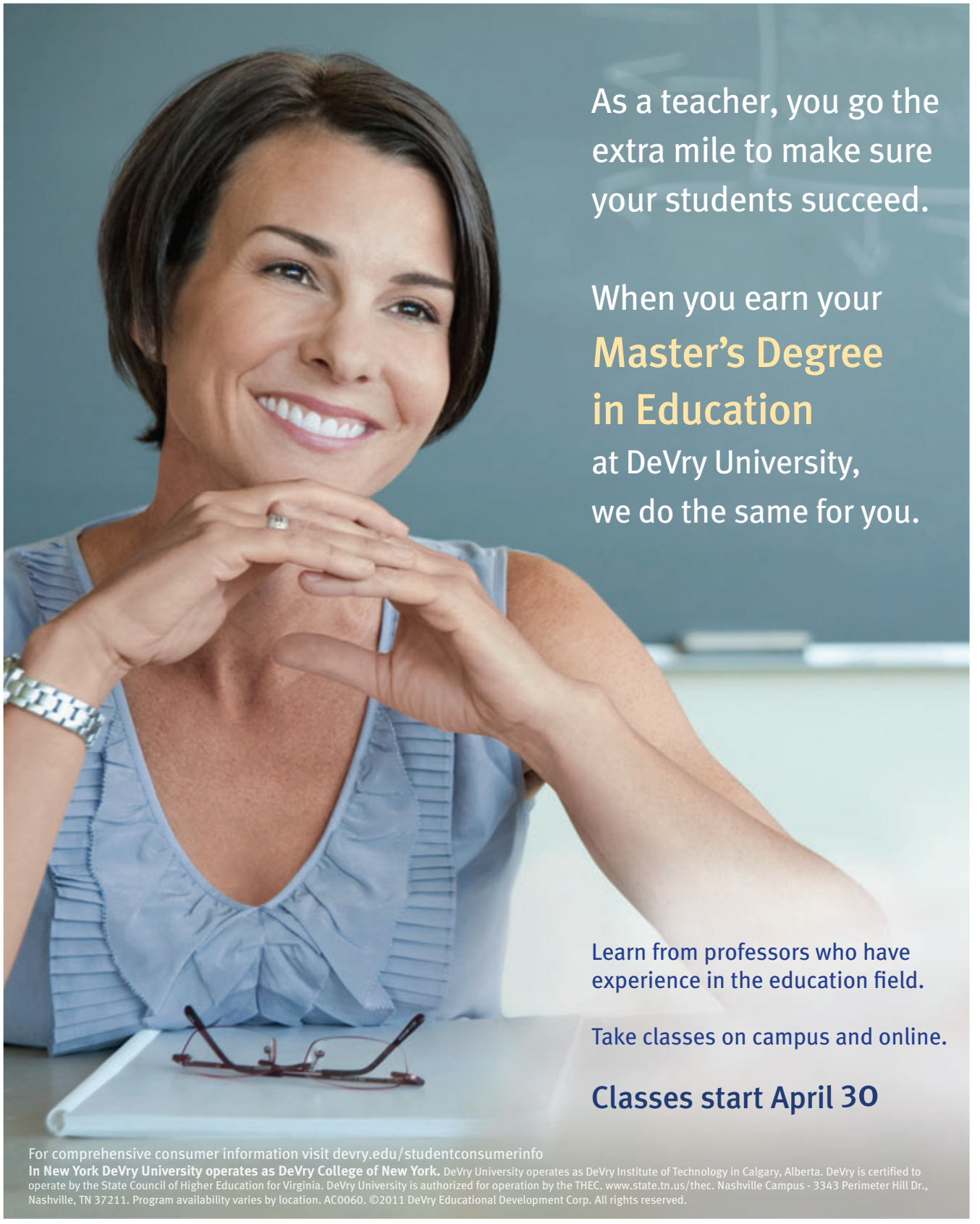
In a not-so-long-ago era—before the proliferation of social media, Skype, and high-speed internet technology that made multimedia presentations and real-time, travel-free communications seamless and inexpensive—a typical educator looking for ideas from some of the nation's leading thinkers on education was mostly limited to their published works. That has changed dramatically. Through informal social media channels as well as more formal formats like online courses and webinars, today many of the best-known authors and speakers are easily accessible, even when they are geographically remote.

"Before, we just had books and articles," says Robert J. Marzano, a leading education researcher whose more than 30 books and 150 articles cover everything from instruction, assessment, writing, and standards implementation to cognition, effective leadership, and school intervention. "Now we have a number of gradations in how much depth we go into, ranging from a 140-character tweet to the in-depth treatment of a book."

Along with the more traditional mediums, Marzano has Twitter, Facebook, and e-mail to communicate with educators. He leads online courses and webinars, and he participates in live conferences such as Authorspeak, where his readers are quite comfortable approaching him, often because they have been in touch with him through these other means. "Social media has added to the flow of information," Marzano says. "It's much more of an ongoing dialogue now."

Nicholas Provenzano, an English teacher at **Grosse Pointe South High School** in Grosse Pointe Farms, MI, says, "Ten years ago when I started teaching, if you wanted information from a leading author you had to read the book and then write a letter or, if you could find an e-mail address, send an e-mail that you might get a response to."

At Authorspeak, Provenzano conversed with many of his favorite educational thought leaders, people he knew about not only through their books but through their tweets. Barely a month earlier, Provenzano and a student met with US Secretary of Education Arne Duncan. After Provenzano tweeted a link to a post on his blog in which he opined that the Department of Education was coming up short in its use of social media, he was contacted by Duncan's office, sparking an ongoing conversation that led



to a meeting with the education secretary when he was in nearby Detroit.

Meg Ormiston is an author and former classroom teacher who is actively involved in professional development and focused on changing instructional practice in the classroom, with a particular emphasis on technology. She says, "I'm always looking for ways to continue professional development beyond the face-to-face session."

A self-described "Twitter freak," Ormiston regularly tweeted her observations at Authorspeak as a way of interacting with followers who weren't there. Even when not at a conference, she watches to see who mentions her and responds to inquiries. She tunes in to education-related threads, often participating and getting input for her next writing project.

Ormiston is one of many authors who offer online courses and webinars through Knowledge Delivery Systems, a professional development provider for educators. She is creating an online professional development library with modules aligned with her book *Digital Storytelling With PowerPoint*, housed within a social media community called SchoolTown. "People need access to information 24 hours a day, seven days a week," Ormiston says. "I'm putting my library into a social media environment where there can be discussions and ways to chat with me. Things change so quickly with technology that you have to constantly communicate and update to keep things fresh."

This new era of eager learners with considerable access to their mentors couldn't have come at a better time. With so many districts working with constrained budgets, there is little or no money for professional development. For educators in these districts, travel-free access to thought leaders and peers through webinars, social media, and other outlets is a major benefit. "In so many schools, there are one or two teachers at a grade level, and you need a bigger pond to get your ideas from," Ormiston says.

"It's great that authors are making it a point to be available online," says Kyle Pace, an instructional technology specialist for the **Lee's Summit School District** in a suburb of Kansas City, MO. "They realize what an impact social media and social networking are having for teachers, and they're putting themselves out there to answer questions and make observations beyond the pages of their book." Pace follows and sometimes participates in regular conversations on Twitter based on hashtags such as #edleader and #edchat. He also "attends" webinars and online conferences.

All of these developments are expanding the reach and potential influence of people like Carol Ann Tomlinson, an author and expert on differentiated instruction who is now the William Clay Parrish Jr. professor and chair of educational leadership, foundations, and policy at the University of Virginia (UVa). "I'm sure I'm reaching a lot more people now, although it's less evident than seeing the number of people sitting in a crowd in front of you," Tomlinson says. "It is certainly the case that more people have access to me through e-mail." Typical was an e-mail Tomlinson had received that day from a man who had come across her name in a blog, found her e-mail address, and posed a question.

In addition to traditional communication methods such as writing books and presenting at conferences, Tomlinson regularly uses Skype to hold professional-development webinars with individuals or small groups of teachers and district administrators. Her online courses are offered through Knowledge Delivery Systems and ASCD. With colleagues at UVa's Institutes on Academic Diversity, Tomlinson developed a website (*differentiationcentral.com*) that provides ideas on differentiated instruction.

The vastly increased interaction with her audience is beneficial in two major ways, Tomlinson says. "When people write you and share their stories, it reminds you that you're not just putting words on a page but affecting lives, and that's great encouragement to keep at it," she says.

The feedback also helps Tomlinson hone her message. "When readers provide their thoughts or criticisms, particularly those that come from an experience that is different from the one I've been writing about, it leads me to try to address a broader world the next time," she says.

For in-demand authors and popular educational thought leaders, there is a potential downside to the increased accessibility. Tomlinson says she often receives more solicitations for her input than she has time for, ranging from students writing papers with long lists of broad questions they'd like answered to parents embroiled in school controversies and seeking advice.

"I have the great fortune of being able to participate in conversations on education and to share ideas with people, and I don't take that lightly," she says. "So when somebody makes an inquiry, I feel the need to answer it. But I would need more hours in the day to be able to handle all of the requests."

And Tomlinson hasn't even ventured into social media yet. Marzano has, and while he sees plenty of benefit to the increased contact, it also creates expectations that he is often unable to fulfill. "I could not answer every question I get asked," he says.

Not that Marzano is yearning for a return to the days when authors worked in relative anonymity, sometimes going weeks or months without interacting with their audiences. "It's much more dynamic today," he says. "There is a lot more to think about and, when information is more frequent and free-flowing, you have more ideas." the

Dan Gordon is a technology writer based in Agoura Hills, CA.

LINKS

- **ASCD**
  ascd.org
- **Authorspeak**
  authorspeak.com
- **DifferentiationCentral**
  differentiationcentral.com
- **Knowledge Delivery Systems**
  kdsi.org
- **SchoolTown**
  schooltown.net

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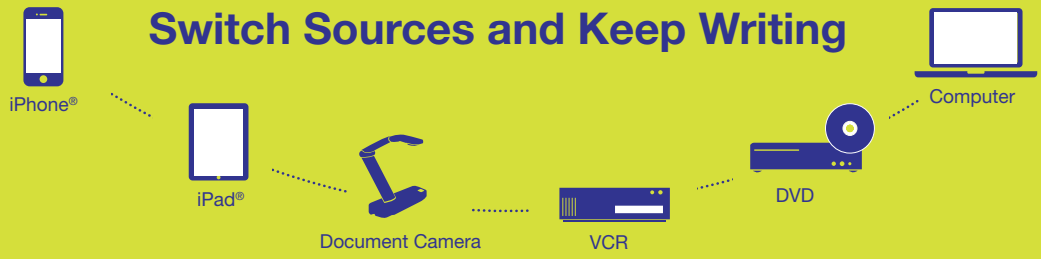

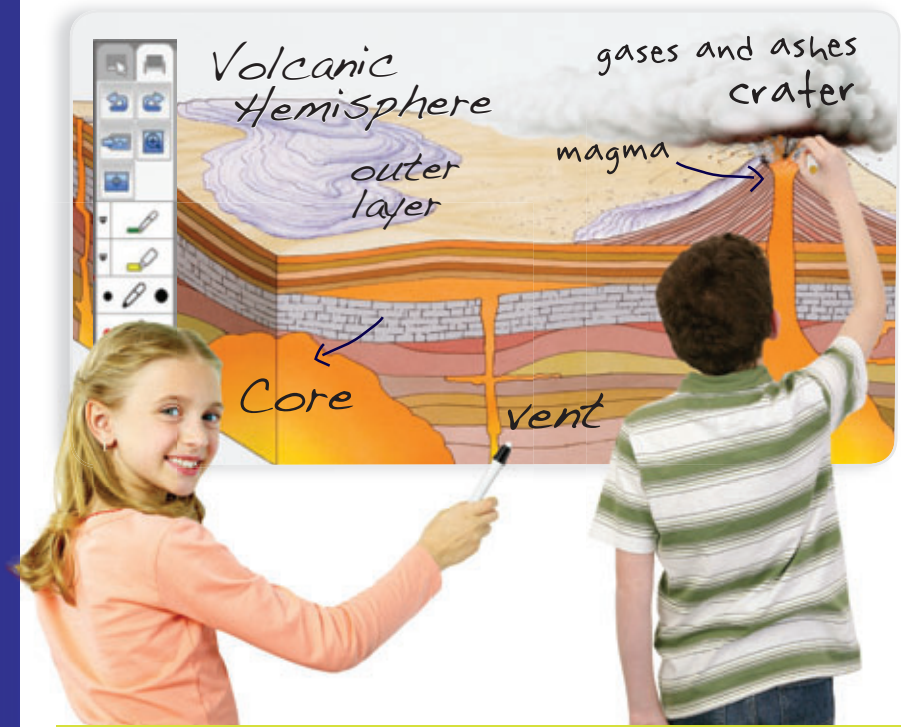

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Early Warning Systems: It's Never Too Early

Researchers from Edvance Research understand that longitudinal data must be available at the school and district level in order to be useful and effective.

*(**Editor's note:** From time to time, educational researchers from throughout the United States share their work with T.H.E. Journal readers.)*

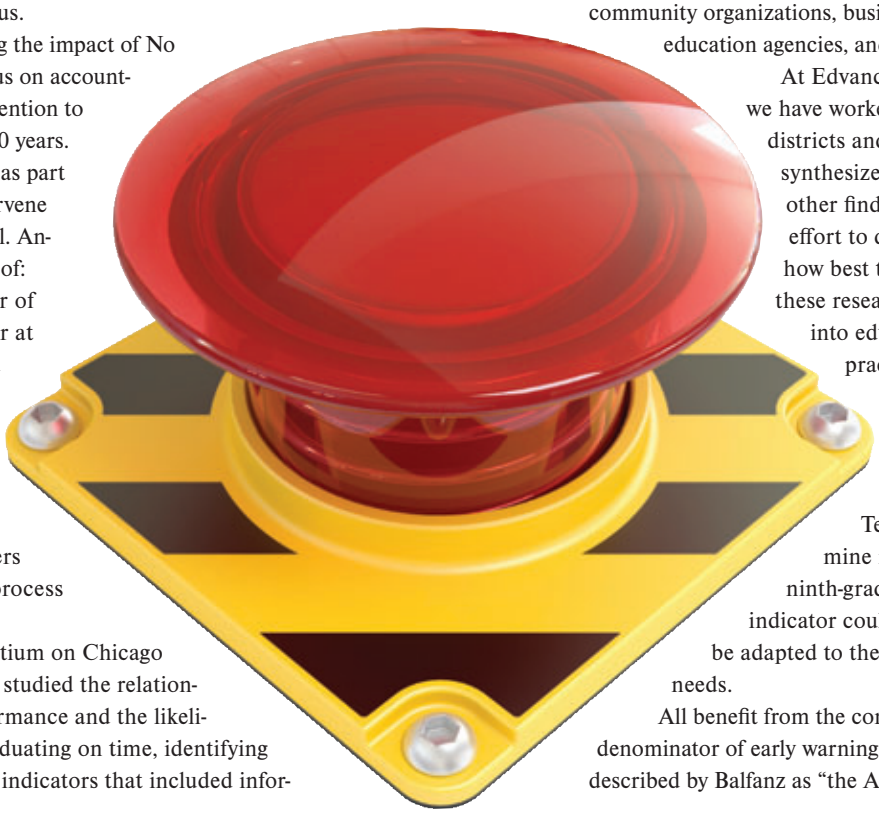
Historically, about 25 to 30 percent of a ninth-grade high school class will quit before graduating. While the current high school dropout rate is not the highest it has ever been, many believe the United States is indeed facing a dropout crisis. Why is that?

Two factors make it a crisis today. First, the dropout rate for minority students is as high as 45 to 50 percent in some states. Second, the skills necessary for many 21st century jobs are expected to be much higher-level than in the past. Unlike previous generations, for whom unskilled jobs were plentiful, young people who drop out today will be unable to find sustainable employment without additional skills.

As a nation, we will be unable to sustain our economy and society without an educated workforce. Staying in school and graduating is the most important primary student outcome on which we must focus.

For all the debate surrounding the impact of No Child Left Behind, NCLB's focus on accountability has brought sustained attention to student-level data over the last 10 years. The question is how to use data as part of early warning systems to intervene and help keep students in school. Answers are coming from the likes of:

- Robert Balfanz, codirector of the Everyone Graduates Center at Johns Hopkins University, and a team of researchers from the University of Chicago, who worked with the **School District of Philadelphia** in an effort to understand how early in their educational careers students begin the prolonged process of dropping out
- Researchers at the Consortium on Chicago School Research (CCSR), who studied the relationship between ninth-grade performance and the likelihood of students eventually graduating on time, identifying a series of ninth-grade on-track indicators that included information about credits earned and failure in core subject areas
- Researchers at Edvance Research, who adapted the CCSR study in Texas for other districts in an effort to determine how well the ninth-grade on-track indicator identified on- and off-track students across five districts, and
- Researchers at the RAND Corp, who described "actionable indicators" that they believe can inform intervention on student progress before the dropout stage, rather than merely report on outcomes.



Converging efforts are now under way in several parts of the country to establish early warning systems with the help of the growing body of knowledge about how best to put data to work in education. A recent report by Civic Enterprises, funded by the AT&T Foundation, describes efforts in 12 locations to use early warning systems to reduce student dropout rates. Such efforts are varied, involving a wide variety of schools, districts, community organizations, business, state education agencies, and researchers.

At Edvance Research, we have worked with districts and states to synthesize these and other findings in an effort to determine how best to incorporate these research findings into educators' daily practice. For example, we worked with districts in Texas to determine if the CCSR ninth-grade on-track indicator could and should be adapted to these districts' needs.

All benefit from the common denominator of early warning indicators, described by Balfanz as "the ABC's of

dropping out": attendance, behavior, and course grades. His efforts to focus on these seemingly simple indicators—which educators ought to have much easier access to than they currently do—are yielding outstanding results for schools that use them.

Scan the QR code above to view a list of article references.

The problem is that most educators, in fact, do not have ready access to these data. Although plenty of data is entered into student information systems (SIS) by school and central office staff, most data systems were not designed to provide reports or analyses to school-level staff.

Until recently, reporting of student and school outcomes by states only occurred annually, based on data submitted by districts and aggregated at the district and school levels. While annual results are important for accountability purposes, such indicators are of little value to school site staff, other than as historical markers. Such information is sometimes referred to as autopsy data: It tells you why the patient died, but what you really needed was information to keep him alive.

Annual attendance, for example, is not as helpful in keeping students in class as knowing the percentage of chronically absent students in a given reporting period (i.e., week, month, or grading period). Similarly, teachers who monitor the percentage of students failing, or near failing, in math or reading each reporting period then can work together to intervene as needed to keep students on track for graduation.

What is needed is timely access to the ABC data captured by all SIS, in formats that enable school staff to see trends and patterns that negatively impact the district's achievement goals. How many absences are too many? What constitutes "poor behavior"? Which course grades matter the most? Schools and districts must work together to make these data available to the educators who are responsible for making decisions that impact students. Your SIS vendor can help by adding reporting features to their systems that will allow users to more easily create and access reports.

In our experience at Edvance Research, just providing access to data, even to early warning indicators, does little to improve student outcomes.

With the help of a Michael and Susan Dell Foundation grant, in working with districts we found that educators spend a lot of time searching for effective interventions by sorting through research, talking to colleagues, attending conferences, and making site visits. But tools that could compile this information and make it easily accessible will shorten this process and enable quicker responses to student needs.

The work does not end there, however. Frequent monitoring of implementation results and adjustments as needed are the keys to continuous improvement.

How can your school or district build the right system to ensure that indicator data and interventions make it into the hands of teachers working with individual students? We offer these few suggestions that that we believe are both practical and evidence-based.

1. Understand early warning indicators. There is value in manually compiling early warning indicator data yourself so you see how they are constructed, and to get a glimpse of how useful this data would be. Make sure the indicators you use are research-based and that they can effectively identify at-risk students in your school or district.

2. Replicate early warning indicator studies. If your school or district has the time and resources for such an effort, or can work with a university or regional educational laboratory to do this, you can try to replicate studies done elsewhere to determine how well they would describe the students in your district. The results may provide powerful justification for a broader buy-in by your colleagues.

3. Identify a data coach in each school. Great demands are placed on teachers' time, so many are unable to make effective use of data, even when it is readily available to them. A campus data coach can work with teachers to identify individual student needs, and help teachers see patterns and trends in performance.

4. Provide professional development for teachers. Make sure all teachers are trained to recognize the early signs of dropping out and that they review their student data on a frequent basis to identify students at risk before situations get more serious.

Implementing an early warning system is a tangible, doable, high-yield strategy that will allow you to take advantage of data available when you make important decisions in your school or district. From that experience, you will be able to identify early warning indicators for other aspects of student success. It's never too late to get started on such an important task. You can have a real impact on the life of a child starting right now. the

Kathleen A. Barfield is chief information officer, **Jenifer Hartman** is director of practice-based research, and **Dixie Knight** is development manager at Edvance Research.

LINKS

- **Civic Enterprises**
  civicenterprises.net
- **Consortium on Chicago School Research**
  ccsr.uchicago.edu
- **Edvance Research**
  pmvillage.org
- **Johns Hopkins University Everyone Graduates Center**
  every1graduates.org
- **Michael & Susan Dell Foundation**
  msdf.org
- **National High School Center**
  betterhighschools.org/pubs/ews_guide.asp
- **Pearson School Systems**
  pearsonschoolsystems.com

Lisa Plummer

Assuring a Virtual Second Chance

In an effort to stem high school dropout rates, some districts are turning to blended credit recovery models that combine online learning with in-person support. But how do they work?

THE ALLIANCE FOR Excellent Education estimates 1.3 million American students fail to graduate from high school each year. That's why a growing number of districts are going virtual in their search for effective ways to help at-risk students make up academic credits. Enter online credit recovery, a 21st century technology-based approach that gives kids get a second chance—and a diploma.

Credit recovery isn't new (think summer school, weekend, or after-school classes), but the online versions of these programs are more flexible alternatives that can allow students to make their own schedules, work at their own pace, complete courses in shorter periods of time, benefit from a more customized educational experience, and learn independent study skills. And while online credit recovery is typically used for ninth- to 12th-grade students, many districts tend to target 11th- and 12th-graders most at risk for not graduating, including those who have dropped out and returned to school.

"We wouldn't be able to offer enough courses for every student who needs to recover a credit without an online program," says Keisha Kidan, virtual learning program coordinator of online courses for **Chicago Public Schools**, which now offers blended online credit recovery at more than half of its 122 high schools.

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The Virtual Classroom

The surge of virtual credit recovery is a recent phenomenon. "We probably began seeing online credit recovery become a bigger focus about four years ago," says Matt Wicks, vice president of the International Association for K-12 Online Learning (iNACOL). "Schools noticed how online learning could be utilized for students who were unsuccessful."

Whether in a computer lab, library, classroom, or home setting, students enrolled in credit recovery programs typically log in to their school's learning management system from a computer and move through the course, which often includes interactive multimedia learning objects such as video lessons and audio podcasts. Through pretests and assessments, the program software analyzes strengths and weaknesses in the student's understanding of the material and customizes lessons until mastery is achieved.

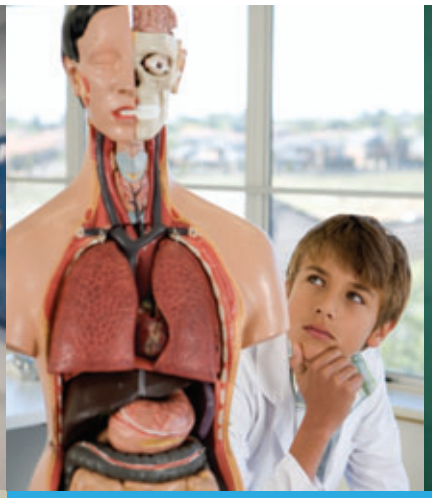
Many programs also include online instructors who give assignment feedback via e-mail, blogs, or discussion forums.

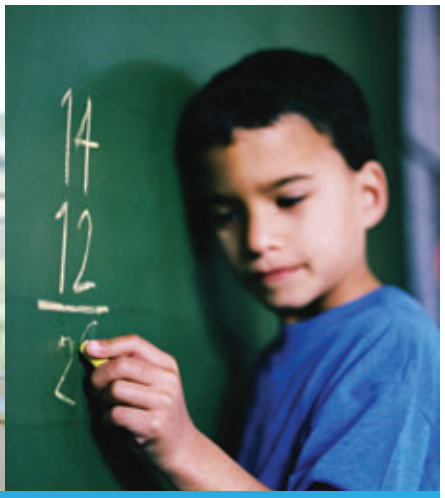
Although most online credit recovery programs can be used independently and without adult supervision, the most successful programs are those that follow the hybrid or blended classroom model that combines face-to-face learning with online curriculum, says Wicks. In-person teachers help hold students accountable while providing support, answering questions, and assisting with coursework when necessary.

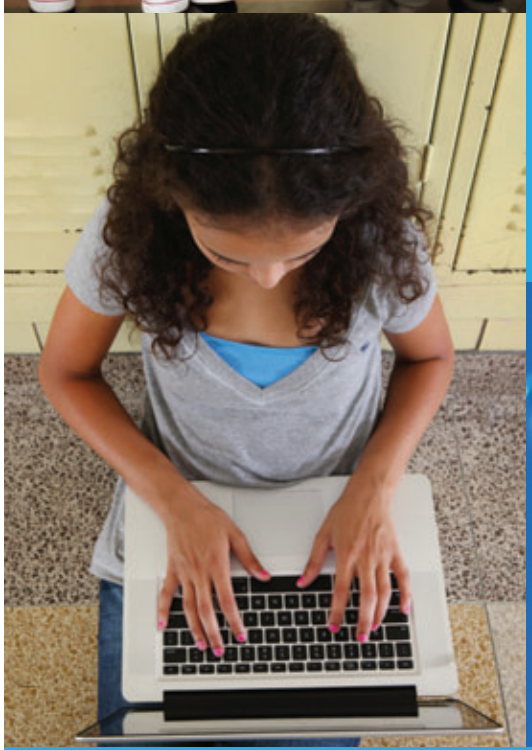
"A blended environment would imply that there's a combination of classroom and online instruction," says Wicks. "If you don't have that educator involvement, then the programs are not likely to be successful and the educational experience not that great."

Models and Providers

Districts can purchase educational content or services from a third-party curriculum provider, contract with a state virtual school, or develop a program on their own by using open educational resources. There is no "one size fits all" approach.







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Offered by a host of education curriculum providers, including Apex Learning, Plato, and Pearson, commercial credit recovery software is often seen as a viable choice for districts with an immediate need.

Depending on a district's requirements and budget, acquiring a program can be as simple as purchasing content or as complicated as setting up a turnkey solution that includes a learning management system, customized content, and teachers.

Four years ago, Chicago Public Schools turned to K12's Aventa credit recovery solution for the approximately 200 students each semester who need to make up an additional credit or more to graduate.

"With an online program we don't have limitations in terms of hosting a site, having to staff security or instructors, or worry about the logistics of setting up courses after school and on weekends," says Kidan.

K12's credit recovery course with online teacher support can run $425 per student per semester. In Chicago, individual schools administer the program differently. Some let students use computers in classrooms or the library during their free time throughout the day to complete courses. Others set up computer labs before and after school for students and encourage them to log on and complete work at home as well.

Regardless of when and where students work on their assignments, the district requires that they be paired with adult mentors—not necessarily teachers—who shepherd students through their courses. Mentors act as liaisons between online instructors and students, and help coordinate other in-person resources, like tutoring with subject-specific teachers.

Another cost-effective solution for many districts is to build a customized credit recovery program using open education resources such as those available from the National Repository of Online Courses (NROC). Developed by the Monterey Institute for Technology and Education, this 6-year-old membership-based cooperative project boasts a multimedia education library that schools can personalize.

According to Gary Lopez, executive director at the Monterey Institute, more and more districts are piecing together quality online credit recovery programs with NROC's digital resources, especially in the face of tighter budgets. For the price of an annual membership ($3,000), districts not only have full access to the project's content library but are also able to share best practices with a community of teachers and administrators who already have designed their own online programs.

"We're bringing yet another business approach that preserves the teaching staff at the district, gives them a whole new set of teaching tools to work with, and introduces them to other teachers," Lopez says.

As an independent study high school in the **Whittier Union High School District** (CA), Sierra Vista High School used as many open educational resources as possible, including NROC's digital library, to design its 3-year-old hybrid-model online credit recovery program.

And, although building the program is an ongoing effort, the time and trouble already has paid off in the form of big improvements in benchmark assessments.

"We have 10th-, 11th-, and 12th-graders getting A's and B's on these benchmark assessments," says Carrie Bisgard, Sierra Vista's online learning coordinator. "It's a huge boost to their self-esteem."

The Value of Virtual

Although there are complaints that some commercial credit recovery programs simply pass kids through courses, what distinguishes a quality program from one that just earns course credit ultimately comes down to how the content is delivered and the support provided, says Wicks.

"Some companies get a bad rap, but it may be the school district's fault rather than the company's fault," says Wicks. "If the company is selling content that is intended to be done with [on-site] teacher support but that school district doesn't provide it, that would be like blaming the textbook because you had a bad teacher. On the other hand, sometimes those companies may not always emphasize the importance of the role of the teacher in the process."

One key to a successful credit recovery program is making sure teachers receive the professional development necessary to support the online environment, says Wicks.

Although the data touting the efficiency and effectiveness of online credit recovery programs is primarily anecdotal at this time, it is proving to be a welcome solution for school districts that are on a mission to see all students through to graduation.

"We need to figure out a way to get more kids to graduate from high school," says Bisgard. "Programs like this are going to be more important all of the time because we absolutely need to get more kids to graduate from high school." the

Lisa Plummer is a freelance writer based in Las Vegas.

ONLINE EXCLUSIVE: There's a difference between an effective credit recovery program that actually promotes learning and one that simply passes kids through a class. For more on what constitutes a quality online credit recovery program, go to thejournal.com/recovery.

LINKS

- **Apex Learning** apexlearning.com
- **Carnegie Learning** carnegielearning.com
- **Class.com** class.com
- **Education 2020** e2020inc.com
- **K12** k12.com
- **Pearson** pearsoned.com
- **Plato Learning** plato.com

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COMMENTARY

KEEPING GANG INFLUENCE OFF THE GRIDIRON

By Ralph C. Jensen

THERE ARE A LOT OF THINGS ABOUT SCHOOL AND SECURITY THAT CATCH MY EYE. HOWEVER, WHEN YOU ADD GANG ACTIVITY TO THE MIX, SCHOOL BECOMES CORRUPT QUICKLY.

If you are a fan of football at the high school or college level, you might remember four years ago all the talk that surrounded Brandon "Bull" Johnson. Right out of high school, Johnson became a starter on the gridiron for the University of Washington. Things looked pretty good for him.

Things changed quickly in the neighborhood. Today, Johnson, now 22, is in a Southern California jail, facing murder charges in connection with the shooting of an 18-year-old suspected gang member. The prosecutor in the case says Johnson is associated with the infamous "Bloods" gang.

CBS News' Armen Keteyian and *Sports Illustrated* investigated the problem, seeking to determine if there is a gang-influence problem on athletics. There is.

According to the investigation, Scott Decker, a professor of criminology at Arizona State University, Tempe, said "The kinds of crimes that gang members are most likely to be involved in are the kind of crimes that ought to concern athletic directors, police chiefs, university presidents and coaches."

What drew my attention to this topic was a news flash on the way to work the other day. The CBS radio station in Dallas quoted Mike Leach, former head football coach at Texas Tech University and now the top guy at the University of Washington. During his 20-year coaching career, one of his players was shot by a gang member, and he got rid of another player who posted gang slogans on his own Facebook page.

No one really keeps track of gang-related incidents, but some believe gang-related incidents have taken place at Rutgers, Oregon, Oregon State, Nebraska, Nevada and Southern Mississippi. Charges range from assault to murder.

The CBS/SI study surveyed 130 top athletic programs and found that while the vast majority of student athletes are not involved with gangs or gang activity, nearly 20 percent of the 87 police chiefs who responded to study questions "had direct knowledge of a student-athlete who retained gang membership while at their university."

Gang activity is a security problem not limited to university campuses, though until today it seemed rather unimaginable to me that it would be associated with college sports. Athletics, I thought, was a means for many youth to escape the bile that is gang activity.

It seems incumbent upon all of us to take a responsible look at today's youth and help separate them from making the wrong decision and to remain free from the grip of gangs. Education, athletics, good music and more help keep youth on the right path.

Brandon Johnson, it appears, has wandered off the path of great promise.

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FEATURE

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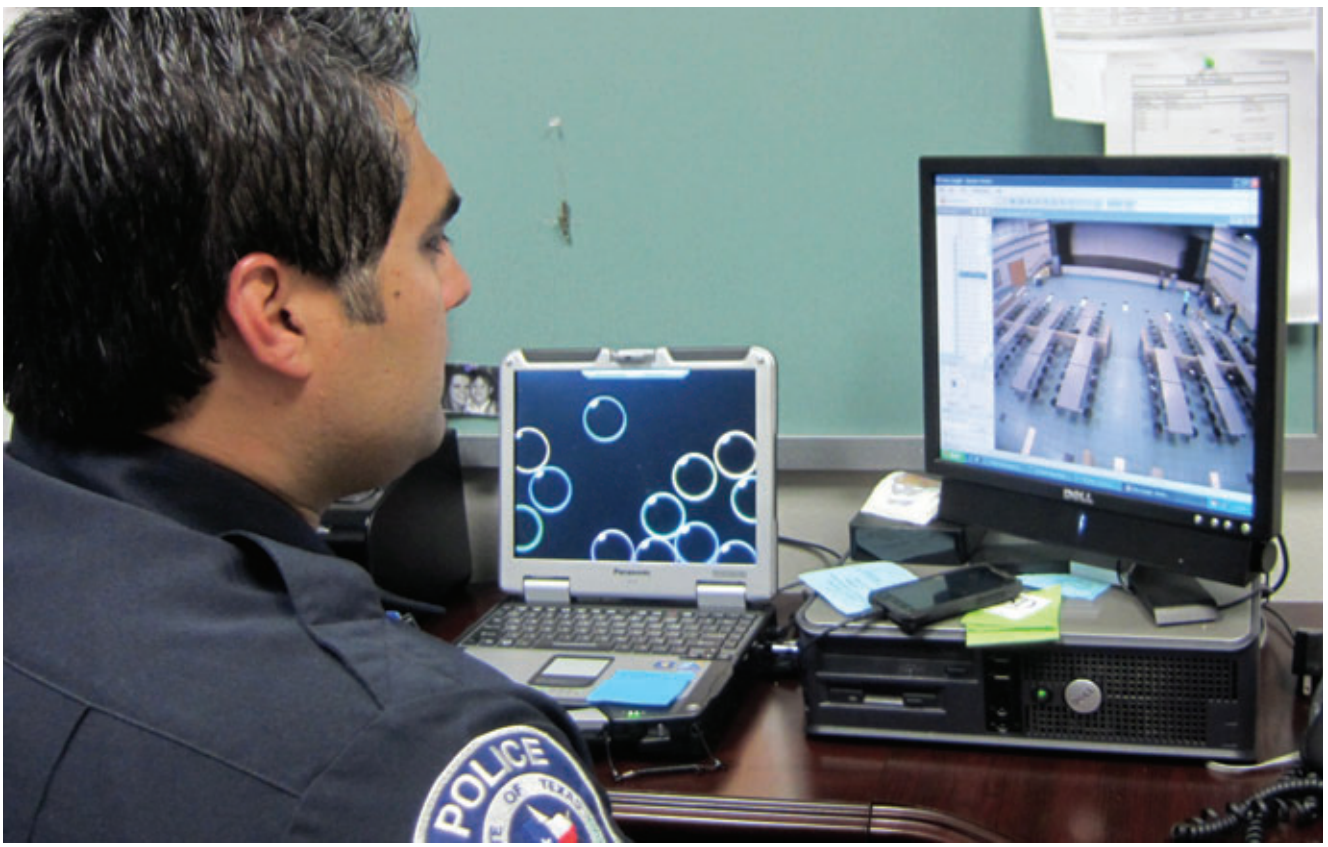
Growing Texas school district adds comprehensive video surveillance system

By Nicole Segura



PFLUGERVILLE (PRONOUNCED "FLEW-GRR-VILLE") INDEPENDENT SCHOOL DISTRICT RESTS IN A POPULAR SUBURB JUST NORTHEAST OF AUSTIN, TEXAS. ENCOMPASSING NEARLY 100 SQUARE MILES, PISD ENROLLS MORE THAN 21,000 STUDENTS ON 29 CAMPUSES.

Within the next 10 years PISD expects to double its enrollment to reach more than 40,000 students. Recognizing the need to develop a comprehensive video surveillance system to effectively monitor and provide safety for the thousands of students that walk the hallways and enter and exit buildings every school day, PISD sought a district-wide video management system to replace the DVRs and proprietary camera software systems it was using at a few campuses.

FINDING A FIX

"We had a campus-by-campus DVR-based system, and not at every campus, just at a few," said Jo Moss, PISD safety and emergency management coordinator. "If a camera went down—which was often—we went out to the BuyBoard state-approved vendor list and just bought another one. We found what we had in place to be a temporary fix for what was a more general issue."

Moss said it was a system that offered little support and that seemed to result in continued money invested in equipment, rather than a solution. She and Todd Gratehouse, technology project manager, then sought to further develop the existing plan and to implement a comprehensive resolution that would provide district-wide coverage—a solution that was in line with the district's safety initiatives.

SUPPORTING THE ENTERPRISE

After an exhaustive bid process, PISD selected Video Insight's Enterprise software to manage the district-wide camera solution. System integrator Titus Systems, of Round Rock, Texas, provided the physical installation of the cabling and cameras. The implementation includes 600 Axis and 300 Arecont 8 MP cameras running on 11 Dell R510 servers, each with 22 TB of RAID5 storage hosted in the PISD datacenter.

Cameras have been placed in all major hallways, entrances and exits, bus loops, loading docks, cafeterias and gymnasiums. The district chose the extremely reliable Axis cameras for many of its indoor and outdoor locations. The Arecont cameras are a mix of 180-degree and 360-degree 8 MP panoramic cameras. The Arecont cameras provide four separate camera streams but use only one Video Insight license (which saves the district money). Moss said the Arecont 8 MP 360s also make the camera presence less noticeable by students.

"With the Arecont 360, I have four excellent views of the cafeteria, for example, but as far as the students are concerned, they just see one camera," Moss said. "Also, our school board didn't want to give the impression that PISD had entered a 'Big Brother' phase, so the more you can do with fewer cameras satisfies everyone."

With PISD's fiber infrastructure, all 2,200 cameras are streamed from the various campuses to the datacenter where the Video Insight Enterprise Software distributes the processing across the Dell R510s, running more than 150 cameras per server, which makes for an efficient use of infrastructure, Gratehouse said. In addition, a twelfth R510 is configured for automated failover in the case of a server failure.

"Our purpose in developing this plan was to provide the safest environment for our students and employees while also maximizing our resources, and we have achieved that," he said.

Gratehouse added that employees have found the Video Insight software much more "user friendly" than what they had before.

"Our campus administrators and police officers monitor the cameras, and at times we have had to make video clips for use in investigations," he said. "They have had no problems in retrieving video and in using the software. It has been so easy for them to just get into the software and do what they need to do because the user interface is so simple to use."

Moss said PISD is building for growth with two new elementary schools, a middle school and a high school coming on board in the next five years. The district plans to have cameras using Video Insight for these campuses, as well.

The district is pleased overall with the implementation, particularly since the comprehensive coverage Video Insight provides supports the district-wide safety plan.

"We know that we have the doors, cafeterias, gyms and hallways of all schools covered," Moss aid. "That consistency is key to the implementation of our district-wide safety program. All campuses have the ability to monitor and provide a safe environment for our students and employees."

Nicole Segura *is the communications manager at Video Insight Inc. She can be reached at* nsegura@video-insight.com.

FEATURE

SAFE WITH SOUND

Directional sounders reduce evacuation times by clearly defining immediate escape routes

By Christa Poss

FRANK SAVINO, PRESIDENT AND CEO OF UNITED FIRE PROTECTION (UFP), KNEW HIS LONG-TIME CUSTOMER THE SEEING EYE WAS AN OBVIOUS CANDIDATE FOR EXITPOINT DIRECTIONAL SOUND TECHNOLOGY FROM SYSTEM SENSOR.

Installed at building exits or along egress routes, directional sounders produce broadband noise using locatable sound to guide building occupants (to safety or outside of the building). Because it's an auditory system, directional sounders are ideal for helping visually impaired people, as well as sighted people whose vision is obscured by smoke, as during a fire.

PROVIDING ACCESSIBILITY

The Seeing Eye's school and training grounds sit on 60 acres just outside of New York City. A residence hall with private rooms, a lounge and fitness center houses students who train with their new dogs onsite for almost a month. With facilities to train 120 dogs and a state-of-the-art veterinary medical center containing additional kennels, the campus has a considerable population at all times. Many onsite visitors are unfamiliar with the layout, which is another reason the school chose directional sounders to reduce egress times.

Bud Liptak, director of facilities at The Seeing Eye, says the school was looking to upgrade its life safety system. After learning about ExitPoint and directional sound technology, he was convinced of its effectiveness.

"Rich Fischer from NOTIFIER gave us a presentation, and everyone at the school was on board right from the start," Liptak says. "We are very excited to be pioneers in our field once again with this important life safety upgrade at our facility.

"The system has been installed throughout the entire administration building and has received favorable reviews from students, teachers, the administration and local fire officials. Our students say the directional sound system is extremely intuitive.

"Usually, when a class first enters the building, we hold an orientation with a quick fire drill to help students get their bearings in the building. We hold these practice drills about once a month when a new class of students arrives," Liptak said.

To meet the budgetary needs of the non-profit institution, the new equipment was donated to the school. UFP designed and installed the system at no charge. Both the design and installation phases went smoothly, and UFP was able to integrate the product into the existing system, completing the installation in one week during the school's summer break.

EFFECTIVENESS OF DIRECTIONAL SOUND

The National Fire Protection Association (NFPA) has published the Emergency Evacuation Planning Guide for People with Disabilities for developing plans to protect disabled individuals during emergencies. This free guide can be downloaded as a Microsoft Word or Adobe Acrobat PDF document at *www.nfpa.org*.

The guide brings various planning components for the disabled community into one comprehensive evacuation planning strategy. It is written for those in building management who are involved in life safety decisions. Sections explore the egress requirements of individuals with one or more mobility, visual, hearing, speech or cognitive impairment.

Chapter 3, "Building an Evacuation Plan for a Person with a Visual Impairment," highlights the capability of a device that uses directional sound to lead people to a safe exit.

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Directional sound is an audible signal that leads people to safety in a way that conventional alarms cannot, by communicating the location of exits using broadband noise. The varying tones and intensities coming from directional sound devices offer easy-to-discern cues for finding the way out. As soon as people hear the devices, they intuitively follow them to get out quickly.

A directional sounder is an advanced egress device that can accelerate evacuation times by as much as 75 percent. The device acts as an audible exit sign, directing people to the nearest safe exit using broadband sound. Some models can also use a recorded voice message to provide verbal instructions in 15 field-selectable language choices. The technology of exit-marking audible notification is referenced in NFPA 72, National Fire Alarm Code, 2007 Edition.

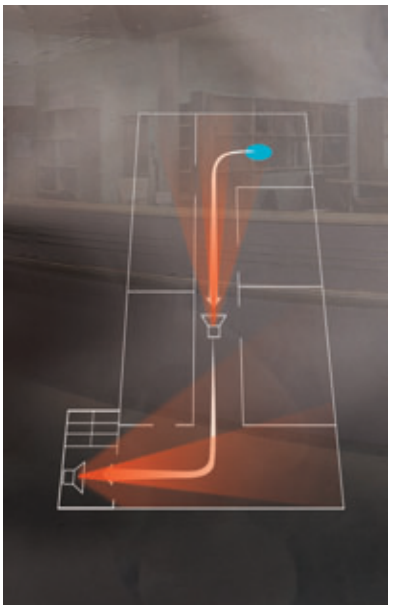
A "Personal Emergency Evacuation Planning Checklist" in the guide prompts emergency planners to consider a full range of appropriate devices and notification actions. References and links are provided for applicable life safety codes and studies.

This NFPA guide is based on input from the disability community. It will be updated annually, or when new ideas, concepts and technologies become available. The NFPA is a nonprofit organization that serves the fire, electrical and life-safety field with code and standard writing, research, training and education.

INCORPORATING DIRECTIONAL SOUND

Today's fire alarm control panels are highly sophisticated. When activated, they are capable of performing hundreds of preprogrammed action sequences within a fraction of a second. Although dependent on electrical capacity of the existing panel, directional sounders can be added into existing fire alarm systems with relative ease.

"Part of the beauty of the directional sound system is that it can be easily retrofitted to existing notification circuits," Savino said. "This makes for fast installation. Also, the system draws an extremely low amount of power due to the absence of strobes and other visual components. In most cases, it can be connected directly to existing notification circuits without any additional wiring. However, consideration for power and load needs should always be evaluated."



Because the installation on The Seeing Eye's main campus went so well and everyone is satisfied with the system, Liptak says the school plans to use ExitPoint at other locations. "We have a downtown lounge in Morristown where students can relax while classmates are in training," Liptak says. "We're upgrading the lounge in the coming months and are encouraging the landlord to install the system."

Christa Poss *is the manager of product marketing at System Sensor.*

DIRECTION SOUND FAQ

Q: What are the "rules" of directional sounder placement?

A: In short, the sounder can be flush or surface-mounted on the wall or ceiling. Beyond that, however, the concepts used to position directional sounders differ from standard notification appliances. Generally, fire alarm notification appliances, such as bells, horns and speakers, require placement at numerous locations in order to achieve the sound levels that can be heard and understood throughout all building areas.

In a Type 1 basic installation of directional sound technology, the concern is not for establishing an audible signal in all occupied building spaces. Rather, the focus is on providing sound cues to help occupants locate the point of entry to an exit with ease.

Q: What if a building occupant is deaf?

A: Many sources of deafness, such as work-related hearing loss, are frequency-specific, which means that these people cannot hear sounds in a specific, narrow band frequency range. The majority of people registered as "deaf disabled" in the United States are defined as such because they cannot hear sounds in the narrow frequency band containing speech. The ability to localize a sound is dependent on the sound containing broadband frequency content. Thus, individuals who are simply unable to hear sound in the typical speech band of 0.5-3 kHz would be able to hear and localize the broadband content coming from the directional sound speakers.

Q: Is there any risk of leading building occupants toward an exit that isn't safe?

A: Emergency exit signs mark the pre-designated exits within a building. They make no attempt to indicate whether a route is safe or not. The evacuee has to make his or her own decision on which route to take. When used as a simple audible exit system, directional sounders are used as an aid to highlight where evacuation routes and exits are located, just like emergency exit signs.

When there are multiple exits equipped with directional sound speakers, building occupants usually follow the sounder that is closest to them because it is the loudest. Research indicates, however, that evacuees will choose a route they believe will offer the best chance for survival if they determine that one or more routes are less viable due to smoke, heat or sounds of distress.

Q: How are directional sounders listed by the code bodies?

A: Directional sounders are listed to UL 464, Audible Signal Appliances. Under this standard, a directional sounder is listed as a supplemental notification appliance. Directional sound technology is also under consideration for NFPA 72.

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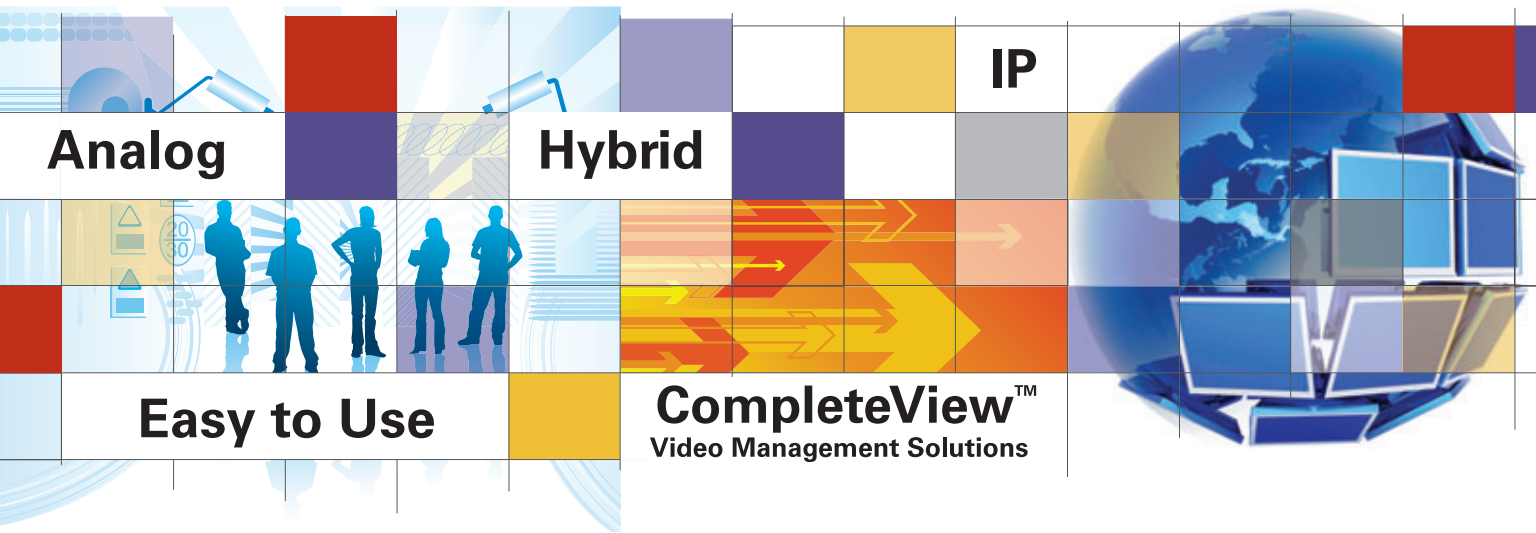

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FEATURE

BROADCASTING SECURITY

University aims to grow capabilities and response with new system

By Sam Shanes

THE SAFETY AND SECURITY OF STUDENTS, FACULTY AND GUESTS IS PARAMOUNT FOR ANY EDUCATIONAL INSTITUTION. IT IS ALWAYS A CHALLENGE TO IMPLEMENT A SYSTEM THAT CAN NOT ONLY PROTECT THESE PEOPLE, BUT ALSO PROVIDE THE MEANS OF RESPONDING TO ANY SITUATION. FINDING A SYSTEM THAT COULD EASILY TACKLE THESE ISSUES AS WELL AS PROVIDE INDIVIDUAL AND MASS NOTIFICATION RESPONSE WAS CRITICAL FOR SHAWN WOODS, DIRECTOR OF SECURITY AT THE UNIVERSITY OF THE SCIENCES, IN PHILADELPHIA.

"We wanted to look at a system that was new, up-to-date and added additional features that allowed for better two-way communication," Woods said. "We were able to address multiple issues in regards to our emergency notification and two-way communication. The addition of the wide-area emergency broadcast system contact platform allowed us to implement a mass notification system into our emergency process."

The University of the Sciences recently went through a dramatic overhaul of its security, response and notification system. At the core of this upgrade was an NFPA 72-2010, Chapter 24 (ECS) compliant WEBS Contact platform. The platform allows the university to broadcast live and pre-recorded audio messages to any exterior and interior paging units and emergency phones strategically placed on campus. At the same time, personal notifications via SMS, e-mail or RSS can be routed to the appropriate segments of the population.

Provided by Talk-A-Phone, the WEBS contact platform offers a new way to combine independent notification mediums into a comprehensive crisis management solution. In addition to personal notifications and audio broadcasts to paging units, WEBS can be integrated with high-power speaker arrays and third-party paging systems. These combined features are designed to make the job of security staff easier during a crisis.

"The university is located on the west side of Philadelphia and covers approximately five square blocks," Woods said. "The size of our campus makes mass notification difficult. We needed a way of contacting and providing instructions to our students and staff in case of an emergency. This platform allowed us to do just that. It allows us to select the location and means by which we contact our students and faculty."

During an emergency, confusion and slow response time could be detrimental to an institution's response plan. Being able to provide detailed instructions and information to a specific location or group, at the push of a button, can save security valuable time. Unlike other mass notification systems, WEBS Contact allows operators to segment a population of any size geographically and demographically, meeting NFPA 72-2010, Chapter 24 (ECS) requirements.

"All managers have access to our mass notification platform," Woods said. "They have the ability to remotely go into the system and send out any message they like. These include prerecorded messages covering events such as an active shooter, fire, weather and lockdowns. Our managers also can broadcast unscripted messages to cover any situation we may have."

WEBS Contact allows security staff to create location-specific pre-scripted emergency notification profiles. In the event of a localized emergency, such as a chemical spill, security is able to execute a single notification profile created for this specific event in a specific location.

As part of the upgrade, the university also has deployed WEBS emergency towers. These highly visible emergency communications towers feature an all-LED blue light at the top and are capable of broadcasting audio messages at a peak 123 dBA at one meter. The sound pressure level can be individually adjusted in each direction to accommodate installation in the vicinity of residential areas.

"Our supervisors especially like the ability to use individual units in the system to broadcast localized messages over the unit's loudspeaker," Woods said. "For example, if we have an incident at one of our resident halls, one of our supervisors can use a special designated key on a tower and broadcast instructions using an internal microphone in the unit. This is especially helpful for crowd control. These features are everything we could have imagined in a system."

***Sam Shanes** is the chairman of Talk-a-Phone.*

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FEATURE

POWERING YOUR CAMPUS

Disaster planning before it is needed makes good sense

By Bill Allen

BY THE TIME DISASTER STRIKES, IT IS TOO LATE TO TAKE MANY OF THE IMPORTANT STEPS TO PROTECT A CAMPUS. UNFORTUNATELY, MANY EDUCATIONAL INSTITUTIONS OVERLOOK DISASTER PREPAREDNESS PLANNING OR SIMPLY ASSUME A CALAMITY WON'T HAPPEN ON THEIR CAMPUS. THAT'S A RISKY ASSUMPTION, GIVEN WHAT'S AT STAKE.

According to business continuity authorities and disaster recovery surveys and statistics, the single largest reason for network and other systems failure is a power outage. Obviously, planning for power outages is critical in any disaster prevention or recovery plan. All network, security and communications components, whether local or at a remote site, must be connected to a readily available and dependable power source. Power protection and the management of backup power is an absolutely essential component in contingency planning for a campus.

Power failures can strike at any time and for many reasons: the travails that Mother Nature dishes out, unexpected construction accidents, a utility pole taken out by a careless driver, equipment failure or even sabotage by a disgruntled employee or outside group. No matter the cause, campus personnel must be ready when disaster strikes. In general, the cost of downtime and recovery from a disaster can be many times more than the cost of putting a plan in place, and purchasing the necessary solutions to prevent disaster can easily pay for themselves even in a brief power outage.

DEVELOPING A CONTINGENCY PLAN

A contingency plan must contain detailed roles, responsibilities, teams and procedures associated with maintaining network, security and communications systems, both during and after a disruption. It also should document technical capabilities to support contingency operations. The contingency plan also should be tailored to an organization's ongoing and future requirements.

Contingency plans that account for short-term activities during a

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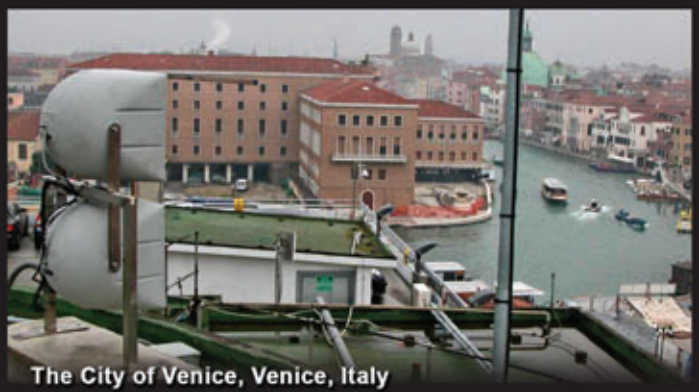
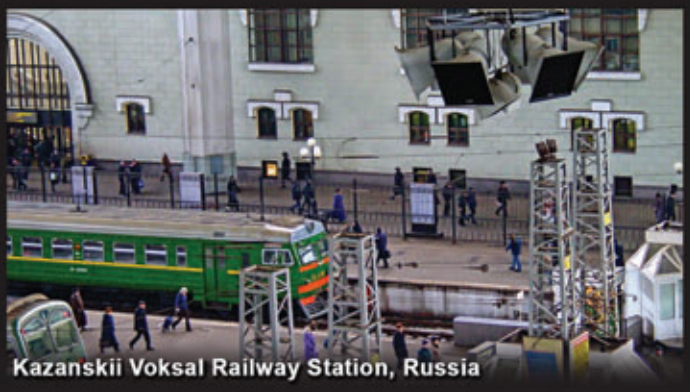

The City of Venice, Venice, Italy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brief power outage are typically covered by a standard uninterruptible power supply (UPS), which bridges the gap until power is restored. A strong contingency plan will ensure power availability through an extended power outage. In this scenario, using a UPS in combination with an external battery pack should be considered. The decision to use either of these two choices is dependent on how critical the system is to maintaining business continuity.

IDENTIFYING PRIORITIES

Developing a plan to prevent business disruption begins with prioritizing campus functions that absolutely must be maintained during a power outage. The systems and data that support these functions must then be thoroughly inventoried.

This process determines which systems and applications take priority when it comes to what will be protected with a UPS and how much time is required to maintain the application, or the length of time to safely bring down a system. This will also allow for better planning in terms of budgeting the cost of backing up these systems with a UPS.

PROTECTING DATA CENTERS

It's an understatement to say that a company's networking system is critical. Fully integrated and interdependent networks rely on continuity across the entire system to operate properly. For most educational institutions, the network is a complicated, totally mission-critical element of the enterprise, whether it's a local or wide area.

Servers provide the fuel to drive applications, while bridges, routers, wireless hubs and other peripheral devices provide the connectivity to service the users on the network. When these devices do not have power, the network is not fully functional, and in most cases, not functional at all.

These days the network serves as more than just a host-to-client file service; it is the backbone on which telecommunications systems may operate, along with security and fire alarm systems, in addition to accounting, attendance systems and Internet and e-mail traffic. Without a reliable source of power, critical functions come to a screeching halt if they are not properly backed up by an alternative power source. And let us not forget the importance of having desktop PCs and laptops available during both brief and extended power outages.

BACKING UP SECURITY SYSTEMS

While some administrators think first of IT continuity during a power outage, a security system is equally important to maintain and protect normal campus operations, especially during a crisis. The two main reasons for installing and using a security system are to protect an institution's assets and, more importantly, to protect students and staff.

When power fails and an entire security system becomes inoperable due to no power backup solutions, it leaves a campus, its students and its employees vulnerable in many critical ways.

When an access control system goes down, entering or exiting facilities may not be possible. When security cameras and DVRs go down, the ability to monitor facilities during a crisis is gone. When a fire alarm system is not properly backed up with a UPS, that's serious business. Emergency communications systems also cannot run without adequate backup power. Liability issues quickly come into play when security systems do not operate.

Having enough backup power to support these critical functions through an extended power outage is essential. Simply put, when a security system goes down, there is no security. Managers of security systems should realize the need for not only using power protection, but also adopting strategies that provide lengthy backup time in the case of an extended emergency.

CONNECTING TELECOMMUNICATIONS

A company's data and telecommunications connection is a lifeline to the outside world, most especially during an emergency and power outage. Not being able to communicate to customers, connect with mission-critical applications, or reach out to branch locations, employees or even emergency services, is a major risk and a potential liability.

A UPS enables continued communications through a power outage, and extended runtime battery packs provide more power that is necessary during extended power failure incidents.

POWERING THE CONTINGENCY PLAN

Once a company has detailed its contingency plans and identified power-critical vulnerabilities, it can then assess its requirements for power protection. This may include understanding the level and amount of power needed at a facility or across an enterprise, the duration of the required power supply, and even how many assets and locations need to be covered.

Power protection in the form of a UPS has been around for several decades now, yet surveys find that up to 60 percent of small businesses do not have adequate power protection.

UPSs do protect against all types of power problems, from sudden spikes or surges to brownouts and electrical noise. Not to minimize the importance of protecting from these potential equipment-damaging problems, the battery backup function provided by a backup system is perhaps the most crucial. Certainly, all power glitches can cause serious damage, but things change dramatically when power fails.

There are three types of UPSs: standby, line-interactive and online. With a standby UPS—sometimes called "off-line"—as voltage sags or the power fails, a battery-powered inverter immediately turns on to continue to supply power. Even while power is coming directly from the A/C outlet, the UPS provides protection from voltage spikes and surges.

A line-interactive UPS offers protection from spikes, surges and brownouts by regulating the incoming voltage. By using voltage regulation, correcting the voltage is accomplished without accessing the batteries. This provides continuous power conditioning, promotes longer battery life and eliminates electronic noise that can cause minor application errors and loss of data.

Online UPSs provide the highest level of power protection by using a double-conversion technique. UPS takes the incoming A/C power and recreates it by converting the voltage to direct current. During this conversion process, the online UPS conditions the power to eliminate noise, sags or surges and, finally, converts the power back to A/C before it exits and powers the attached equipment. Since the power runs continuously through the inverter, there is no transfer or switching time to battery mode in the event of a blackout.

When it comes to protecting vital equipment such as servers, telecommunications systems and security systems, a UPS ensures that these hardware devices are available and fully functional to support crucial applications. Ensuring the safe and reliable flow of power is really about protecting a company's assets, its products and services, its revenue stream, its employees and facilities, and ultimately its reputation and bottom line.

Bill Allen *is the director of marketing at Minuteman Power Technologies.*

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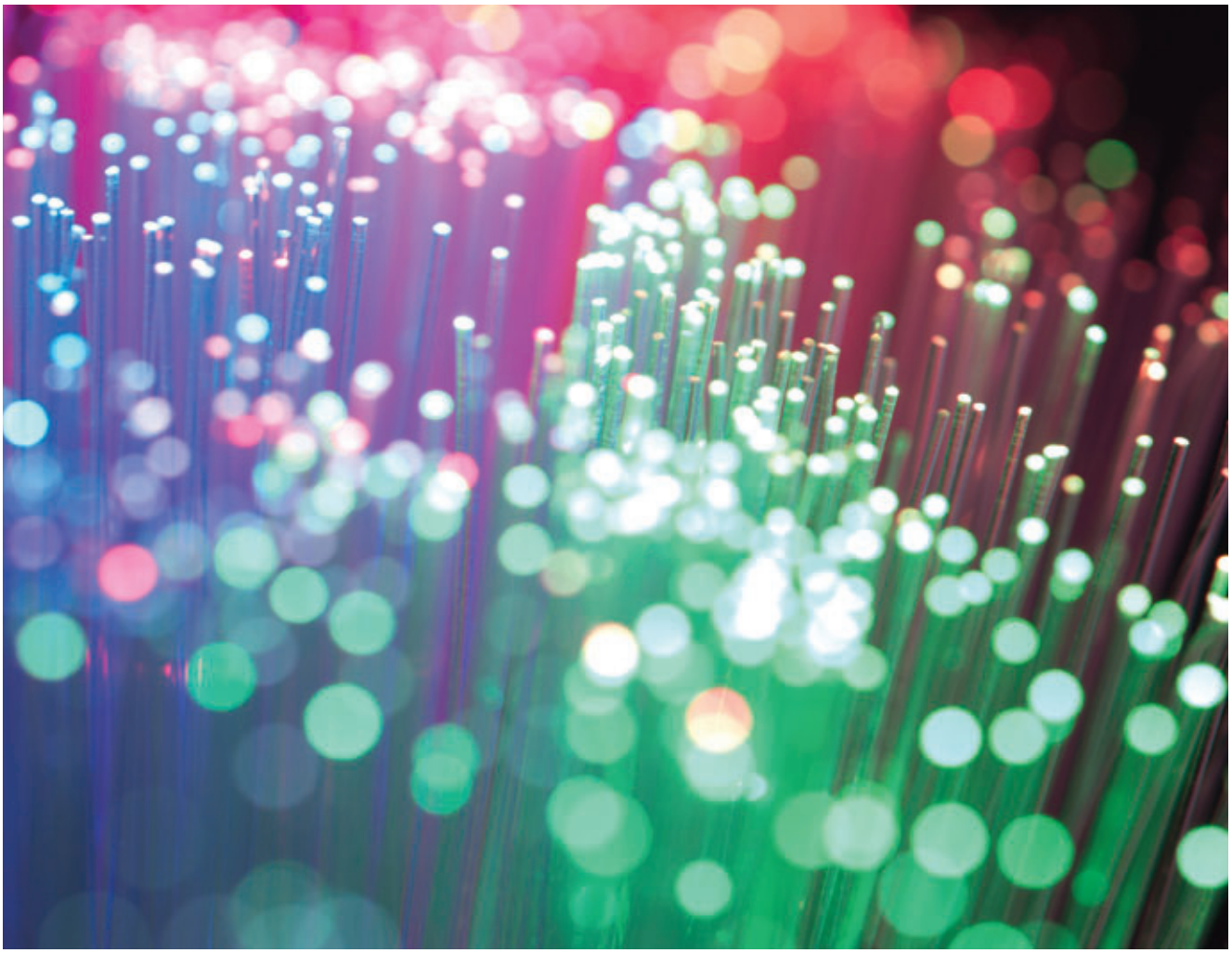
FEATURE

FIBER HEALTHY

Miami-Dade County schools depend upon superior surveillance

By Mark S. Wilson



MIAMI-DADE COUNTY PUBLIC SCHOOLS IS THE FOURTH-LARGEST SCHOOL DISTRICT IN THE UNITED STATES, COMPOSED OF 392 SCHOOLS, 345,000 STUDENTS AND MORE THAN 40,000 EMPLOYEES. LOCATED AT THE SOUTHERN END OF THE FLORIDA PENINSULA, THE SCHOOL DISTRICT STRETCHES ACROSS MORE THAN 2,000 SQUARE MILES OF DIVERSE AND VIBRANT COMMUNITIES RANGING FROM RURAL AND SUBURBAN TO URBAN CITIES AND MUNICIPALITIES.

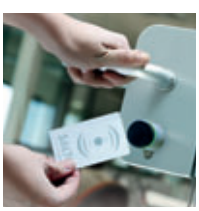
Watching over this large organization is a surveillance system that is constantly morphing and expanding. The system has used a variety of transmission schemes and camera technologies under the scrutiny of Dwayne Mingo, the district's project manager on the Facilities Operations Capital Task Force.

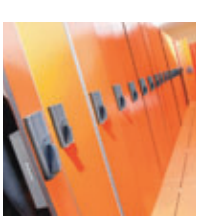
"Today, fiber optics is tying everything together," Mingo said. "Throughout the district, we are using more than 2,000 fiber-optic transmitters and receivers. However, it hasn't always been that way."

As with many legacy installations, it was copper coaxial cable handling images from the cameras to their IDF (intermediate distribution frame) and from the IDFs to the MDF (main distribution frame). However, as the school district knew, coax has its limitations, including restricted transmission distance, signal degradation over long cable runs and interference, to name a few.

With Southern Florida being the lightning capital of the United States, the latter was a significant concern. Fiber-optic cabling, with its interference immunity, increased inherent security, robust cabling distances and huge bandwidth capability, would serve the schools better, the district realized.

Controlled access
on campus





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Working with Infinova, the team decided to explore using the organization's dark fiber. Dark fiber, what some call unlit fiber, refers to unused optical fibers available in buildings and throughout local, regional and national networks. There is an estimated 80 million dark fibers installed in North America, thanks to the dot-com bubble of past years, new construction practices and technological advances in getting more traffic through the installed base.

Often on the IT side, installers have almost always included extra fiber strands when installing structured cabling backbones between telecommunications closets and separate buildings, for example.

Mingo and his team decided to use those existing available fiber links, cutting the initial investment and reducing what installers call long cable pulls. Instead of continuing to use expensive 25-pin copper wire, all the cameras were connected to their IDFs using that fiber-optic cabling.

PLANNING FOR IP

Two different contractors had been hired to do the installation. One was to create infrastructure, while another would do the actual install of the video system. When the video installers showed up, they found out that the electrical contractors had installed smaller wall boxes at the schools than needed for the surveillance system's fiber-optic transmitters.

"There were thousands of these boxes, and it would cost several hundred thousand dollars to replace them," Mingo said. "And the transmitter and receiver modules only came in one standard size. We had two choices. We could replace the wall boxes with the correct size for standard fiber-optic transmitters or go to litigation."

It turned out that there was a third option. If the transmitter module could be customized to reduce it in size, the receiver module could remain the same and both would fit in the smaller wall boxes. The customization provided by Infinova saved the project and the budget.

At the time, all cameras were analog. For instance, even the PTZs, Infinova's V1748, were analog. This specific model was selected because it provided a 26x optical zoom and wide dynamic range. The day/night camera's variable speed capabilities range from a smooth, fast pan motion of 240 degrees per second to a low speed of 0.5 degrees per second. The system is capable of 360 degrees rotation and has an "auto flip" feature that allows the camera to rotate 180 degrees and reposition itself for uninterrupted viewing of any subject that passes directly beneath the PTZ dome. This particular model also saved the school district up to $500 per PTZ.

In addition, Mingo had obtained an advanced replacement policy, garnered local support and all work was being done by trained certified contractors.

Both fixed and PTZ cameras were deployed throughout the schools with PTZs typically used on perimeters and high-occupancy locales. For instance, PTZs are outside, watching over parking lots and fields, and inside, covering areas such as auditoriums, breezeways and cafeterias. Cameras provide remote access to the schools' police department and downtown administration.

They are controlled by the local operations staff and the principals at the schools but can be overridden by the school police.

However, as the team started discussing a migration to IP cameras, installers started pulling Cat-5 cabling to the IDF junctions

and to the edge device of the cameras using video baluns at all new camera locations.

Once the decision was made to go IP, all the installer would need to do is to replace the fiber-optic cards for encoders and switch the edge analog camera for an edge IP camera. Fiber optics would continue to connect the IDFs to the MDF. The team decided to use its video management system (VMS) to interconnect the main IDF controllers to the MDF using DVRs as encoders.

Then, once the first batch of IP cameras was installed, the state of Florida informed the district that a law required that they store 30 days of recorded data at all times, from all cameras. Since IP cameras cause a logarithmic increase in storage space, they also create a similar increase in storage costs.

The schools had no choice. Out came the IP cameras to be re-replaced by the analog cameras. Cat-5 cabling was ousted for fiber-optic cabling between the IDFs and MDFs.

RESULTS ARE POSITIVE

Nonetheless, everything worked out in the end.

"Our users are very satisfied," Mingo said. "They especially like having color video, and we have been able to apprehend people undertaking malicious acts. Knowing such people are being seen, prosecuted and convicted makes our staff and parents feel safer. It also sends a message to other would-be lawbreakers."

According to Mingo, all senior and junior high schools are now installed, and the team is well on its way implementing video at the elementary schools.

"We find analog to be very cost-effective for our school district," Mingo said. "Analog cameras are less expensive, yet provide us with the clarity of images we need. The added cost of storing IP camera images for 30 days is just too expensive for us.

"With such a big system and the problems that can occur with such a big operation, we need to rely on trustworthy vendors. We are lucky that our vendors have stepped to the plate for us with both engineering help and field installation."

Mark S. Wilson *is vice president of marketing for Infinova. He can be reached at* markw@infinova.com.

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Students at Littleton Public Schools (CO) use basic netbooks and an array of cloud-based and open source tools to support a district-wide writing initiative.

21ST BUILDING CENTURY WRITERS

DURING WHAT MIGHT HAVE in the distant past been called "quiet time" in Arlene Anderson's fourth-grade classroom, many of her students are glued to their netbooks. The intense, enthusiastic focus and the hushed chatter amongst the students are all about high scores and strategy. But the students aren't playing video games. Instead, they're revising and editing their writing assignments within a web-based application that instantly assesses their writing skills and suggests ways to improve their work before turning the assignments in to their teacher.

Student achievement scores take off with the implementation of tech-supported writing initiatives that cross curriculum lines.

BY JENNIFER DEMSKI

"For students, the software is an amazing self-motivator for writing, editing, and reviewing their writing," explains Anderson. "They're constantly working at learning the skills that will raise their scores."

The software and netbooks are part of the **Saugus Union School District**'s (CA) Student Writing Achievement Through Technology Enhanced Collaboration (SWATTEC) initiative, one of a number of similar tech-supported initiatives that encourage writing across the curriculum. At the same time, the Saugus initiative is helping to prove that schools can see improvement in student achievement and engagement by harnessing 21st century tools to enhance writing skills.

Why Writing?

Writing isn't typically the first skill that comes to mind when one imagines a high-tech learning initiative. At Saugus, the SWATTEC initiative was born out of a grant proposal for 1-to-1 implementation. The team behind the proposal explored research to see where the implementation would have the most impact, and eventually decided its focus should be on fourth-grade writing skills.

[keyword: writing visit thejournal.com]

"Writing itself is a higher-order area of the curriculum in terms of thinking," explains Anderson. "If students do better in writing, they'll do better across the board in other subject areas."

What's more, she adds, "In California, fourth-graders take a cold writing test every March." By choosing a year in which students participate in a standardized test on writing, the team could easily measure the impact of the initiative.

Writing not only helps develop students' critical thinking skills, it also is a skill in and of itself that is applicable throughout the curriculum. "There's writing for science, there's writing for social studies and history—writing can be incorporated into any subject area," explains Jim Klein, Saugus' director of information services and technology.

The district rolled out the initiative in 2008. Since fourth-grade students remain in the same classroom throughout the day, the team worked collaboratively with their teachers to find the best practices for transparently incorporating writing and technology across the curriculum. The grant that funded the SWATTEC initiative also allowed the district to employ Anderson as an instructional trainer for two years.

"My job was to travel from school to school and work with the teachers so they knew how to use the technology to get the effect that they wanted out of it," she says. "Some of the teachers took to the initiative like a duck to water, while others had a tough time adapting."

Still, by the end of the second year, each of the district's elementary schools had a fourth-grade teacher on staff who could lead that school's program and help keep its teachers on track.

In the end, Klein notes, "Our teachers have embraced it tremendously and, by collaborating with them in the beginning, we were able to eliminate those islands of innovation that happen in districts, where individual teachers are doing great things, but nobody knows about it or it doesn't scale up. The idea-sharing and brainstorming had a significant impact on the initiative's success."

An Inspired Approach

A thousand miles east of Saugus, in suburban Denver, **Littleton Public Schools**' (CO) Inspired Writing initiative was born out of a similar desire to find the best way to construct a 1-to-1 implementation. "In 2007, our board of education asked a team of educators and administrators to do research projects on what 21st century learning would look like," recalls Littleton CIO Dan Maas. "We evaluated all of the ideas out there. Both the external research and our internal findings pointed to a form of 1-to-1 laptop initiative supporting writing

AN OPEN SOURCE SOLUTION

WHEN DESIGNING THE technology components of **Saugus Union School District**'s (CA) Student Writing Achievement Through Technology Enhanced Collaboration (SWATTEC) initiative, Jim Klein, director of information services and technology, built an open source Ubuntu Linux-based operating system called ubermix, designed specifically for student and classroom use with the goal of redirecting the students' and the teachers' focus from the technology itself to the curriculum and skill-building that it supports.

The ubermix desktop is based on the typical smartphone interface and features large, fixed icons to help prevent accidental clicks or deletions that typically take away from instructional time or hamper use. The system can be reset to its default settings in just 20 seconds, making it easy for teachers to resolve software-based technology issues without relying on IT support staff.

Netbooks running the ubermix operating system are now being used at schools across the country, including the **Littleton Public Schools** (CO). Klein's simple, no-frills creation addressed a common problem faced by districts looking to adopt 1-to-1 initiatives. "The typical computer OS provided by Microsoft or Apple is designed to be customized to users' working preferences," he says. "In a shared computer environment, when used over time, this becomes a big problem because the laptop just builds more and more profiles that slow down the computer, and you end up having to reimage the computer every three to six months."

In a school environment, Klein adds, the technical support staff is not always available to ensure that a Windows- or Apple-based laptop is going to work the same way every time it is booted up. "The Linux operating system doesn't try to do any of that fancy stuff," he says, "but it works the same way every time."

With feedback from teachers and the ubermix community at large, Klein has worked to ensure that ubermix is constantly evolving to meet the needs of the teachers and students who rely on it to support their learning. Many districts have created their own custom-built ubermixes to meet the needs of their specific 1-to-1 initiatives.

"I think ubermix's success versus other alternative operating systems is in its design fundamentals," remarks Klein. "It has been and continues to be built with an understanding of teachers, the classroom environment, and learning in mind, along with a healthy perspective of the challenges associated with implementing technology in the classroom."

as a focus."

Littleton began its writing initiative in fifth-grade classrooms. Then, over the course of four years, it rolled out a full deployment of the initiative throughout the district. Maas and his team planned their professional development around the Learning Services Department's curriculum development initiatives, specifically the language arts teachers' participation in the Lucy Calkins Writers Workshop. Before the seminar, Maas and his team introduced the netbooks to the teachers who were participating in Inspired Writing, showed them how to use the Linux operating system and cloud-based tools, and spoke about classroom management issues and cyber safety.

Next, the district's tech trainers attended the two-day writing workshop with the teachers so they could get on board with the instructional goals of the initiative. Two days after the workshop concluded, Maas and his team met with the teachers again to unpack the core goals of the writers workshop and demonstrate how web-based tools could support the literacy initiative's goals.

"Instead of providing training on wikis, for example, our training was on engaging students in peer review, and how a wiki could help you do that," explains Maas. "That really scratched an itch for our teachers because they want to adopt these instructional practices, and we're there with really engaging and powerful tools to help them succeed. They just took it and ran."

Maas adds, "To me, the killer app for 21st century learning is a good teacher, and well-deployed technology makes good teachers into great teachers."

The real key to success in both Littleton and Saugus Union was ensuring that the netbooks would not be used as glorified word processors. With web 2.0 and social media tools, wireless connectivity, open source word processing and presentation software, cloud-based collaborative writing tools, and web-based writing tools like Vantage Learning's MY Access—Arlene Anderson's aforementioned writing assessment software—both districts built initiatives that have brought English language arts and classrooms as a whole into the 21st century—and made a significant impact on student learning.

When Dan Maas got the go-ahead from his board of education to design Littleton's 1-to-1 implementation, he looked at laptop and netbook implementations at districts across the country to see what could work best for his schools. Littleton only employed three computer support technicians for the district's 22 buildings, and the grant did not allow for the hiring of any additional support staff.

"We looked at the **Henrico County Public Schools**' (VA) 1-to-1 implementation, for example, and their model included adding a support technician to every building. We couldn't afford to do that," explains Maas. "We were looking for a practically zero-support device that was low cost to both purchase and maintain."

The district had built up its open wireless infrastructure in anticipation of the 1-to-1 implementation, and was ready to jump in when Asus released its Eee PC 700 netbook in 2007. "Shortly thereafter," recalls Maas, "we bumped into Jim Klein's blog and saw what they were doing at Saugus. We started collaborating with them, and then we were off to the races."

At Saugus, Klein and his team had deployed Linux-based netbooks loaded with free, open-source software and created a customized and easy-to-manage desktop interface that mimicked students' favorite technology—the smartphone—by incorporating large, fixed icons on the netbook desktops that could not be easily moved or altered. They also incorporated a "quick-restore" feature on the netbooks that would allow teachers to reset them to the default settings in seconds. The result was an interface that provided ease of use and stability to the fourth-grade users, at the same time allowing teachers to manage software problems at a moment's notice, without the help of an IT person.

At Littleton, Maas built on Klein's Linux implementation, but focused on cloud-based software rather than open-source tools—the district has a Google Apps for Education deployment and uses free services on the web for activities like blogging and collaborative writing rather than relying on a traditional learning management system. "Our netbooks are very basic," explains Maas. "We're not dependent on a lot of software. We've really adopted a cloud mentality, which means we don't have to do much to maintain the devices."

Maas implemented a tool called Clonezilla, which allows them to image each netbook in less than five minutes from a memory stick. As part of the image, they have a locked boot sector that allows support technicians to enter a keystroke command upon reboot to basically reimage the computer back to its original settings. "Once we image them and we deploy them out into the schools, we don't touch them again for about a year, unless they have some sort of hardware failure, which is rare," he explains.

Designing the Initiatives

Like most highly successful ed tech initiatives, SWATTEC and Inspired Writing were developed through close collaboration between the districts' curriculum and technology departments. Saugus' Klein and Anderson, who was a curriculum technology coordinator in the district when the initiative began, focused on finding a technology that would allow teachers to do things they couldn't previously do in classroom writing assignments: for instance, provide instant feedback on student writing.

"Under normal circumstances, when a classroom of 30 students writes essays on paper and hands them into their teacher," Anderson explains, "it would be impossible to give them each feedback within 20 seconds, and by the time you do get back to the students with notes or corrections, they've mentally moved on from the assignment."

At the time, MY Access, which Klein describes as "Microsoft Word's grammar checker on steroids," hadn't been used for students as young as fourth-graders. Saugus worked with MY Access to provide suitable prompts and build better assessments for students at that level. "We stressed with our

teachers from the beginning that no piece of software, including MY Access, is perfect. It's a system, and students are going to find ways to game the system," explains Klein. "There truly is no replacement for the teacher in the classroom."

Yet, MY Access tells students where and when their grammar or spelling is incorrect and, in certain settings, can even address the content of their writing. When students submit a piece of writing, MY Access scores the assignment on a scale of zero to 6.0, highlighting areas that need work. Students can resubmit their work and watch their scores improve as they make revisions. The goal is to fix all grammar, spelling, and usage errors before turning the assignment into the teacher, who can then focus on assessing the content.

"MY Access helps our students become better self-editors," explains Anderson. "These are 9- and 10-year-olds, so whether the topic they're writing about is in social studies, or science, or math, or an English narrative response, the topic is irrelevant. The software just looks for good writing, and it helps us as teachers be more effective in teaching the whole writing process, including editing and revising."

Lend Me an Ear

The second component of Saugus' SWAT-TEC initiative is providing students with an authentic audience for their writing through web 2.0 and social media tools. "An authentic audience lends weight to the students' work and adds value to writing assignments," explains Klein. "By posting content online, writing becomes much more important and relevant to the students. Writing activities suddenly take on a new life. You couldn't incorporate the social aspect of writing at this scale without technology."

Instead of writing a report on Martin Luther King Jr., for example, which might be tacked to a bulletin board in the classroom, students now post that report to their blog and incorporate photos, videos, and citations. Or maybe they'll record themselves reading that report aloud for a podcast. "We're not sacrificing any standards or content by focusing on this initiative," explains Klein. "Instead, we're enhancing our students' capability to understand and deliver their knowledge on the standards through this mix of writing and technology."

And, as Anderson notes, within the confines of the fourth-grade classroom, the netbook truly becomes a cross-curriculum tool. "In my classroom," says Anderson, "the computers come out in the morning and they go back into their cart 15 minutes before the end of the day. We use them for writing, but the students also use them as needed to access the internet for research and skill building throughout the day. The kids absolutely love having this tool."

At Littleton, the initial deployment required that teachers incorporate the students' netbooks in fifth-grade classrooms as well as language arts instruction in every grade. That initial grant paid for 2,900 netbooks. As the popularity of the initiative has grown, individual parent-teacher organizations and schools throughout the district have placed 3,100 more netbooks into individual science and social studies classrooms, lower-grade elementary classrooms, and some shared environments.

"It's been really exciting, because at the district level we just wouldn't have the funding to do a true 1-to-1 initiative beyond the fifth grade, where the students don't trade classrooms," explains Maas. "To see our PTOs really get behind the initiative and fund a further deployment in their own way is a real testimony to what the parents see in this effort."

The Littleton Inspired Writing initiative focuses on using cloud-based tools to enhance language arts instruction and increase students' enthusiasm for writing. As Maas notes, the initiative isn't designed to reintroduce the idea of writing to the districts' teachers, but to take what the teachers know about writing, "which is extensive," and forward it to the 21st century. Now, instead of giving a lecture in front of the classroom, a fifth-grade teacher might engage students in a five-minute mini-lesson that covers the day's topic before the students form small groups and begin contributing to a collaborative report in Google Docs, or posting research into a wiki environment.

"Writing itself is a higher-order area of the curriculum in terms of thinking. If students do better in writing, they'll do better across the board in other subject areas."

—Arlene Anderson, teacher, Saugus Union School District

"The revision history feature of Google Docs enables better accountability in group projects," Maas notes. As part of their training in cloud technology, teachers attended a writer's workshop and then followed up to unpack what they learned for the technology-enabled classroom.

"For example, when teachers are asked to include a 'peer review' step in the writing process, we showed how Google Docs, wikis, and blogs can support that activity," Maas says. "Certainly, teachers do not audit every single document's revision history, but in some cases they will spot-check and in others they will use a specific assignment to measure group work."

Seeing Results

As a part of a national research program on the use of laptops in education, researchers from the University of California, Irvine Department of Education looked at state standardized test scores in both Littleton and Saugus before and after the writing initiatives were put in place. In their report, the researchers noted that, after the first

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year of implementation, test scores for Littleton fifth-graders improved by 25 percent and, for sixth-graders, 20 percent.

In Saugus, researchers compared individual student gains in writing and language arts scores before, during, and after the SWATTEC program's implementation. Writing scores improved 10 percent when the writing program was available part of the year and 23 percent when available the entire school year. Similar improvements for English language arts scores were 8 percent and 33 percent, respectively.

Anecdotally, the Saugus district's fifth- and sixth-grade teachers report that students are coming out of the fourth grade with far better writing and critical thinking skills than they had previously demonstrated, explains Klein. "Our upper-elementary teachers are reporting that they can move forward with their own initiatives and do far more interesting things in class because their incoming students are better prepared for the new school year."

At Littleton, the Inspired Writing initiative is one of many initiatives the district has implemented to move its curriculum into the 21st century. Significantly, Littleton Public Schools is the only district in the Denver metropolitan area to be accredited with distinction by the Colorado Department of Education the last two school years. Most impressive to Maas, though, has been the enthusiasm students now demonstrate for writing.

"The students went from not liking writing to writing a lot," remarks Maas. "The obstacle before was the rewriting; they just don't want to rewrite an entire handwritten report to improve it. If that's the simplest thing you take away, because on a computer you don't have to rewrite the entire assignment, then you add the collaboration and sharing that the web provides, it transforms writing from a dull, monotonous task to one of the most exciting things you can do at school." the

"By posting content online, writing becomes much more important and relevant to the students. Writing activities suddenly take on a new life. You couldn't incorporate the social aspect of writing at this scale without technology."

—Jim Klein, Saugus Union School District

THE RESEARCH ON WRITING

WHILE A BODY OF RESEARCH on properly implemented 1-to-1 laptop programs that give students 24/7 access to devices is already well established, another set of studies has focused specifically on laptops' boost to writing scores.

In a comprehensive summary of 1-to-1 studies, Lori Holcomb, a researcher on instructional technology at North Carolina State University, notes a 2003 study where researchers gave students writing assessments both before and after the introduction of laptops. The study found a 22-percent increase in the number of students who met or exceeded writing performance standards for their grade the year after the initiative began. Writing and problem-solving skills also improved when students were given round-the-clock access to laptops.


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Research performed in Maine—where the state has provided each seventh- and eighth-grader with a laptop and schools with related professional development since 2002—has shown that the average student post-implementation has scored better on state writing tests than approximately two-thirds of all students before the 1-to-1 program was introduced.

And although all students in Maine have laptops, the same study found that those who used them for all phases of the writing process had the highest scale scores. The average student who used laptops for all phases scored better than approximately 75 percent of those students who did not. Additionally, writing scores in Maine increased regardless of whether students took tests using paper and pen or computers, reinforcing the notion that properly implemented 1-to-1 programs aid students in becoming better writers in general.

Jennifer Demski is a freelance writer based in Brooklyn, NY.

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Ideas for cutting costs, making the most of your resources, and delivering the best service you can in the midst of the amazing, ever-shrinking IT budget and the worst economic recession in recent history. **By Dian Schaffhauser**

PRINCE GEORGE'S COUNTY Public Schools in Maryland, just outside of Washington, DC, has 125,000 students, 200 schools, and an annual budget of about $1.6 billion. Of course, last year that budget was cut by about $16 million. The year before it was cut by $80 million. Every year now, it seems, school districts are forced to leave no stone unturned when it comes to finding ways to save money. One would think that any changes the relatively modest IT department could make would hardly make a difference in a financial environment of that size.

The reality, though, is that the cost-cutting measures that some school districts are taking related to technology are having substantial impact—without many serious negative effects on student learning.

Prince George's County isn't alone. All over the country, IT leaders are finding out just how eager their districts and schools are to interrupt business as usual. They're cutting costs, eliminating waste, and streamlining services. Here are 10 examples from a handful of school districts that have found ways to boost their cost-cutting powers through strategic IT budgeting.

Shaw Neilsen

1) Take the Pay Phones—Please

Each of these symbols of a bygone era cost the Prince George's district $75 per month and, according to CIO Wesley Watts Jr., some middle and high schools had multiple phones on their campuses. "When we started brainstorming about how we could lower costs, this came up," says Watts. "In the day and age of mobile phones, it didn't seem it was going to affect many things. It was understood that if there were an emergency, the student or parent could use an office phone if the school was open. It was an easy win for us. It's saved us a few dollars."

The elimination of cell phones allocated to staff was another win—though not quite as effortless. In 2008 the district maintained about 2,500 cell phones, more than half of them on school buses. Those were deemed vital for safety, but not the others. Now, only mission-critical employees—mostly maintenance crew members on call during night and weekend hours to deal with emergencies—have district-issued mobile phones. Everybody else has turned theirs in. "Including me," Watts notes. That reduced the number of cell phones allocated to non-bus-related staff by 80 percent.

People who used to carry district-supplied cell phones—such as directors and principals—were disappointed by that decision, he observes. "Whenever you take something away, you're always going to have a little bit of hardship, a little bit of adjusting. But I think people realize we're in tough times and that we were trying to lower those costs as quickly as possible."

2) Bring Your Own

That push to digital content requires, of course, that students and instructors be armed with devices that can feed it to them. Previously, **Forsyth County Schools** in Cumming, GA, had a computer leasing program for its teacher laptops and classroom desktops, and "every three years we would renew the lease so the equipment didn't get old," says Bailey Mitchell, the district's chief technology and information officer.

Now the district has shifted to a bring-your-own-technology emphasis for both teachers and students. Although Mitchell can't point to any specific savings on that yet, he knows that new approach is changing how the district spends its device budget. "We might only invest in wireless notebooks in carts of 10. You need that to be able to provide for some equity for those students who may not have a device or for students whose batteries have died on their devices."

That's a pretty significant shift, Mitchell declares. "Basically, we have always been about [supplying] all the equipment that's needed from the district office level....We can't afford to do that anymore, at least not in the near future."

3) Can the Middleman

Watts also is excited about the potential of his IT organization's latest endeavor: a new distribution center that's on target to save the district upward of $1 million in its first year.

Previously, the district had a highly decentralized system in which individual campuses had limited authority to make their own purchasing decisions when it came to IT gear. If a school ordered 10 computers, a vendor would prepare those machines and deliver them directly to the school. "There was no guarantee that those 10 pieces of equipment would be bar-coded or entered into our asset management system, which became stressful," said Watts. "We had at least 50,000 computers in our district, and now we're looking at all of these mobile devices. The concerns started ratcheting up to make sure we had accountability for them."

Now all computing equipment is shipped straight to the new distribution center at one of the district's high school campuses. (That's also where Watts maintains his office.) Deliveries, ranging from a couple of boxes to several pallets, arrive every day. The IT team reads the purchase orders off the boxes, uses its enterprise resource planning system to find the individual who initiated it, and asks if he or she wants to wait on delivery until the entire order is ready or get it as a partial shipment.

"Our goal is that we'll have this completed and ready to go in 48 hours after we've received it," Watts explains. That includes bar-coding the machine, loading all applications, and getting it set up for the end user. Then it's added to a homegrown inventory system that ties into the HR and purchasing systems, and all of the paperwork that used to be done at the individual schools is completed. The devices are delivered to a technician on site at the school, who works with the staff member who will take final delivery. "We basically have—for lack of a better word—cut out the middleman," Watts notes.

Previously, vendors were charging the district to prepare and deliver equipment to the campuses—often up to $230 per machine. This year, high school teachers —all 3,200 of them—received new laptops as part of a refresh cycle. In the former scenario, that would have cost a hefty $736,000 just in machine preparation and delivery fees charged by those third parties. With the new distribution center, the district is handling all of the work previously taken on by the outside companies. The savings? About $560,000.

4) Make the Digital Shift

Forsyth County Schools spent $2.8 million on textbooks in 2008. This year it spent $500,000 on printed materials, "and that spend level is never going to go back to the 2008 level," says Mitchell. "I don't think the money is ever going to come back. That's about $90 a student dropping to about $12."

Still, he adds, the district, which has about 36,000 students, has not slowed down its purchase of content. "It's just that we've opted to spend money on the less expensive digital content," Mitchell says. Besides cost savings, the shift has allowed for far more personalization of instruction and superior monitoring of the materials in order to know which ones are actually being used, thereby rationalizing the expenditure.

Content is coming from providers such as BrainPOP, NetTrekker, National Geographic, and United Streaming, some subscribed to by the district, and others supplied by the state. It's also coming from two district-hired content specialists. "They've been at it for about nine months," Mitchell says. In that time, they've created about 6,800 learning objects, making it

$ Financial Factoids

Price tag to outfit every public school K-12 student with an Apple iPad: **$25 billion**

(50 million students x $500 iPad price = **$25 billion**)

Apple's revenue for the fourth quarter of 2011: **$28 billion**

more than worth the time of the two specialists, as far as he is concerned.

That's not all. The district is partnering with mainstay textbook company Houghton Mifflin Harcourt and the University of Georgia's College of Education to develop a personalized learning system that uses "100-percent digital content" for its middle and high schools in the areas of English, language arts, and math.

Explains Mitchell, "There will always be paper-based resources in play, but the core functionality of this requires a tremendous amount of high-quality digital content."

$ Financial Factoids

Enhancing Education Through Technology grant funding

EETT Grant Program funding in FY 2004: **$637 million**

EETT Grant Program funding in FY 2010: **$93 million**

EETT Grant Program funding in FY 2011: **$0** *(source: SETDA)*

5) Check the Phone Bill

Prince George's has about 8,000 phone lines. The printed monthly bill arrives in 10 boxes. Fortunately, it also comes on a DVD. "It's a very complicated bill," says Watts. "We have only a few people in the telephone services office, and it's really hard for them to audit and understand everything."

In 2010, the district hired a telecommunications auditing firm that began going through its contracts with telecom companies and examining all of those phone lines and the services attached to them to track down overcharges and erroneous billing. "If they didn't find anything, there wasn't any charge to us," Watts explains. "When they do find something, they get a percentage of the refund or credit."

In one instance, the district was inadvertently being charged taxes on a service that totaled close to half a million dollars over the course of three to four years. The audit process, still under way, is likely to result in even more unanticipated savings, Watts adds. "In some cases we're receiving credits back on things we paid over the last several years."

[keyword: budgeting visit thejournal.com]

6) Get More for…Well…the Same

When Forsyth County moved to the bring-your-own-technology approach in its middle and high schools, it became obvious that the data communications infrastructure needed to be ramped up. The district had recently spent $1.4 million to upgrade its wireless network for schools. "You have to have a really robust wireless infrastructure in your building to handle all the extra devices that will be connecting," says Mitchell.

So, when the latest internet service provider contract was up, Mitchell asked for referrals from his colleagues at other large districts and put the work out to bid. "I made it very clear to the providers: Look, it's a new time. You've been able to offer a certain price for internet connectivity, but now what I'm actually looking for is to potentially double what I'm able to get for the same money."

In the end, the district ended up paying a little bit more under the new contract with a new vendor, but Mitchell didn't get double the capacity—the new deal essentially tripled it.

7) Go Paperless

When Steve Young, chief technology officer for the **Judson Independent School District** in San Antonio, started a campaign to gradually go paperless, he was surprised that the first department to volunteer was maintenance. "That's a department you wouldn't think would be wanting paperless forms," he muses. "Sometimes the ones you'd think would jump on it the most—like our business office or HR—they're the most bogged down, and they have a process that works for them. Maintenance was like, 'We just need something to work.'"

Heating, cooling, and lights are now controlled over a network—at least in the newer schools. When somebody needs to change those settings, perhaps because of a special event, it's done from a central remote location. The group that needs the change electronically submits a request, which is routed to the principal for approval, then goes to the maintenance department for setting in the control console.

Now other departments are getting into the act. Recently, the purchasing director was pondering the process used to manage and contract with consultants for staff development and training. "It's one of the more complex things we deal with. There are a lot of steps to process," Young says. "W-9s, contracts, purchase orders, approvals at the district level, purchasing."

The Judson district uses Eduphoria's SchoolObjects, which includes a module called Formspace, a program that lets users create digital forms that include online approval processes as replacements for paper-based forms and manual approvals. "We looked at what some other companies had," Young says. "They looked good, but we couldn't afford them. We also thought we'd probably need a full-time staff member to support them as well, which is another big issue for a school district like ours which is always worrying about costs."

$ Financial Factoids

Public direct expenditure on education as a percentage of GDP in 2007:

Finland: 5.5
United States: 5.0

(Source: nces.ed.gov/programs/digest/d10/figures/fig_28.asp?referrer=figures)

Amount of investment that represents per student:

Finland: $7,500
United States: $12,000

Rank of these countries on student assessment in science:

Finland: 1st
United States: 29th

But as the processes being tried out in paperless form get more complex—such as creating a form that can be approved in multiple stages where more of the form is exposed as each approval takes place—the district is finding out that Formspace can still handle the work. "We're learning more as we try new things," Young says. "We're getting more and more forms put up. And, although we haven't really run numbers against how much this might save, at the end of the day, we know this is a no-brainer: It's going to cut costs. You're not using the paper. You're not trucking it around the district. You're saving a lot of time."

8) Revisit E-Rate Rules

Before Steve Young went to work for Judson in 2006, the district didn't have anybody in house with the expertise to handle the application process comprehensively for E-Rate funding.

One of the first things Young did in his new job was put out a request for proposals to find a company that could do the E-Rate application work for the district. "We just outsourced the whole thing," he notes. "I wanted an expert that could help me. It would cost a little bit up front, but my potential benefit is far greater than that cost."

As a result, things changed dramatically. By 2009 the district had requested and received $3.4 million in E-Rate funding; in 2010, it requested and received $815,000. This year it expects to have just as much success.

That will be especially critical now that the state of Texas has eliminated its $28-per-student technology allotment. "We've always gotten funds [from the state] to pay for 80 to 90 percent of the equipment," says Young. But, with 22,500 students, Judson lost $630,000 previously earmarked for IT staff salaries and equipment. With the help of the E-Rate funding, he says, "we're paying 10 to 20 cents on the dollar, which is a huge value. It's a great deal for us—it is really stretching our funds dramatically."

A key element in the formula to determine E-Rate funding is the number of students in a district that receive free or reduced-cost lunch. "Some districts probably take the view that they're never going to qualify," Young observes. "Maybe most of their schools aren't that high free and reduced lunch, so it's not worth the application time or the pain to do all that for them." But, he adds, "the economy may be changing their free and reduced lunch numbers. That's something to think about."

9) Get Schools to Ante Up

To ensure that technology funding goes to the schools that are most committed to using it wisely, the Judson district has a 50-50 program. "We pay 50 percent of the cost, and they pay the other half [out of their own budgets]." Young says. "We have a limited amount of funds. If you put funds out, then people will take it whether they need it or not. We don't want people to just grab them if they really don't want them."

There is some flexibility within this framework, the district CTO states. Some school principals are more tech-tolerant than others, and things can change when a principal moves from one school to another.

"You might have a principal at one campus that wasn't a real big tech supporter," he says. "They didn't expend any local funds, so their campus is way behind. When a principal that likes or supports technology gets a campus that had none, we're trying to fill in those kinds of gaps."

10) Finally, Just Turn Them Off

After shopping for a power management utility that could be used districtwide, Young's IT crew opted to put together a script themselves that automatically shuts down all computers at the end of the day. If a user happens to be on the district network after hours, a pop-up dialogue appears with a five-minute warning and instructions for how to override the shutdown.

"We might have 8,000 PCs running," Young says. Assuming that 10 to 20 percent of those are left on, by shutting them down each night, the district has probably cut its energy bill by about $30,000 a year, he estimates. That's a $120,000 savings in the four years since the script was put in place.

Granted, he adds, that savings may be reduced in time, but for good reason. "PCs are greener now," Young says. "They use less electricity, but there are more." the

Dian Schaffhauser is a senior contributing editor based in Nevada City, CA.

LINKS

- **BrainPOP**
  brainpop.com
- **E-Rate**
  transition.fcc.gov/learnnet
- **Eduphoria SchoolObjects**
  eduphoria.net
- **Houghton Mifflin Harcourt**
  hmhco.com
- **National Geographic Education**
  nationalgeographic.com/education
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equal measure:

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Safety is the motive behind most school policies regarding filtering and limitations of the internet. But what happens when these policies are proven ineffective, even detrimental, to learning and safety of the students they claim to protect? **By Margo Pierce**

"IF ONE LIFE IS SAVED, then it's worth it."

That is the clichéd argument frequently used to justify banning electronic communications, websites, and other forms of technology in schools. The common belief is that these prohibitions will prevent, among other things, the sexual assault of minors or suicides related to cyberbullying.

But that argument can be turned on its head and also applied to unfettered access. The "one life" saved could be that of the young student who reaches out through e-mail to a teacher for help when pondering suicide, or the child who is found via Facebook after a killer tornado. All of these issues—positive and negative—were stirred up late last year in Missouri when the state legislature attempted a contentious ban on social networking between students and teachers. The resulting dustup illustrated the true nature of online safety: It's complicated.

In 2001, the federal Children's Internet Protection Act (CIPA) tied funding for reduced-rate internet access for schools and libraries to a number of mandates. One was the implementation of a safety policy that would "address concerns about access to offensive content over the internet on school and library computers." There has been confusion over what exactly would qualify as "technology protection measures," but these policies were developed and implemented before the advent of nearly ubiquitous social media.

Social media sites like Facebook and Twitter are certainly riding strong waves of popularity at the moment, and already they have caused significant changes in the ways and means by which students and adults communicate with one another. In response, some schools and communities are creating new policies and measures directly targeting its use—both in and out of school. That has some thought leaders in the field troubled.

"While social networking is the technology of the moment, it may not be the technology of the moment in two years or five years or a decade," says Keith R. Krueger, CEO of the Consortium for School Networking (CoSN). "If you're going to try to regulate or legislate a technology, you're going to have to constantly be updating that law."

Krueger recognizes that, in the heat of an emotional reaction to a child being harmed, it's difficult for policymakers to thoughtfully and methodically review rules. However, when circumstances allow cooler heads to prevail, he proposes all policymakers undertake a careful consideration of how to truly protect students while avoiding unintended consequences that can undermine educational goals.

"As long as there's been technology, the concern is, 'How are we protecting kids?'" Krueger says. "The typical way that we've approached that is that we use technology to filter or protect, create a technology bubble around kids."

He cites Missouri's Amy Hestir Student Protection Act as an example of a safety policy gone wrong. In July 2011, the state enacted the law, which modified a number of statutes designed to protect children from sex offenders. It was named after a woman who testified before the Missouri General Assembly, the state legislature, about sex abuse she experienced at the hands of a teacher when she was a teenager in the 1980s.

The law included a ban on teachers communicating via any "non-work-related internet site [e.g., Facebook] that allows exclusive access with a current or former student." Passed unanimously by the legislature, the ban didn't cause much of a stir until the American Civil Liberties Union (ACLU) of

Noah Woods


YouTube
STOP
Google

Eastern Missouri sued the state on behalf of the Missouri State Teachers Association. An injunction based on a First Amendment challenge temporarily barred enforcement of that provision of the law.

"Missouri is a lesson in [what happens] when we don't get ahead of the curve and we're reacting," Krueger says. "Silly things can be passed with good intentions which may have unintended consequences."

Since then the law has been repealed, but a new law passed in its place requires the state's 522 school districts to implement their own internet policies—including rules for the use of social media—by this March.

Currently, the most popular vehicle for internet access guidelines in schools is the Acceptable Use Policy (AUP). The typical AUP has two goals related to information and communications technologies: shielding students from harmful material and enabling access to beneficial internet resources. Given the parameters of CIPA, these policies tend to focus on the former rather than the latter.

CIPA requires that school districts' "protection measures" address "(a) access by minors to inappropriate matter on the internet; (b) the safety and security of minors when using electronic mail, chat rooms, and other forms of direct electronic communications; (c) unauthorized access, including so-called 'hacking,' and other unlawful activities by minors online; (d) unauthorized disclosure, use, and dissemination of personal information regarding minors; and (e) measures restricting minors' access to materials harmful to them."

Opportunity and Concern

But an effective policy addresses both goals, according to Jim Bosco, principal investigator for the CoSN/John D. and Catherine T. MacArthur Foundation Project on Participatory Learning: Policy and Leadership.

[keyword: safety visit thejournal.com]

"People use the analogy of how we make kids water-safe," Bosco says. "You don't make kids water-safe by trying to eliminate swimming pools. You make kids water-safe by teaching them how to swim. Each of us has to make the decision of do we want to avail ourselves of the opportunities [technology] provides and, by so doing, take on the task of contending with the problems, or do we want to pretend that it doesn't exist and not use it and deprive ourselves?"

Another approach, Bosco says, is to decide "we are responsible to see that young people know how to use the tools of their culture in a responsible, safe, intelligent way."

CoSN has prepared a wealth of material to help schools address their AUP policies. Called Acceptable Use Policies in the Web 2.0 and Mobile Era, the effort was the starting point for a meeting convened in Washington, DC, last December, which brought together educators, IT professionals, school board members, and elected officials to develop a framework to help educators and policymakers create thoughtful AUPs. The resources developed at the meeting were scheduled to be released at CoSN's annual conference in early March.

"Even our strong allies of using technology in education will race to a simple solution around banning technology or blaming the technology if that's the only option they're given," Krueger says, "which is why it's absolutely incumbent upon superintendents and school boards, principals, and teachers who are technology advocates to say ahead of time, 'We need to minimize risk. Some bad things are going to happen, but we're going to do everything we can to minimize that. And we're going to remind people when bad things happen of what we've already done."

Common Sense

The dramatic limitation that Missouri placed on teachers' speech via the internet is one of those "silly things" Kruger refers to, only with serious legal implications. The suspension of rights guaranteed to both adults and children in the US Constitution is perfectly acceptable to many people in the name of child safety. That attitude isn't going to change any time soon, according to Shannon Holden, assistant principal of **Republic Middle School** in Republic, MO, who adds he considers himself a realist on the issue, not a pessimist.

"If you're going to try to regulate or legislate a technology, then you're going to have to constantly be updating that law."

—Keith R. Krueger, CEO, Consortium for School Networking

"It seems to me that public opinion is really in the negative, and the people who are the decision-makers and the lawmakers are very conscious of the legalities and exposing themselves to litigation through opening up avenues for students to use social media," Holden says.

In 2011, the high school in Holden's district faced a book ban instigated by a community member identified only as "a patron" of the school library. He actually considers this a positive development because it started a process of reviewing books in the library. The end result was a rating system for the collection and rules that require parental consent for students to check out certain restricted books.

But when it comes to formulating a plan to make social media sites more




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CREATING AN ACCEPTABLE POLICY

New Canaan Public Schools' (CT) Acceptable Use Policy is unique in that it allows a wide range of technologies and websites for learning purposes. *T.H.E. Journal* recently asked Jim Bosco, principal investigator for the CoSN/John D. and Catherine T. MacArthur Foundation Project on Participatory Learning: Policy and Leadership, to offer his views on excerpts from the AUP. To download New Canaan's complete policy and read Bosco's additional remarks, visit *thejournal.com/aup* or scan the QR code on this page.

Scan the QR code above to view additional remarks.

"To ensure that our students become proficient in the information and communication technologies (ICT) competencies essential for success in a 21st century learning environment, the New Canaan Public Schools provide a variety of resources in support of our instructional and administrative programs. Students and staff may also, at times, use their own personal information and communication technologies for educational purposes. Therefore, it is incumbent upon all members of the school community to use technology responsibly, ethically and respectful for the work of others.

"The premise that all individuals are authors and distributors of content is an underlying basis of 21st century learning. District and school use of ICT resources to distribute intellectual property, images, videos and information shall be related to school curriculum and instruction, school-authorized activities, and other information relating to school and district goals. It is our intent that such broadcasts and publications be educationally relevant to the goals of the school district while providing for the safety and security of all students and staff.

"To provide ready access for all users, age-appropriate material, an internet environment that is safe and appropriate for the maturity level and need of student users, and to proactively maintain and secure increasingly complex ICT resources and systems *the district, as the owner of the ICT resources, reserves the right to monitor and review the use of these ICT resources* and will do so as needed to ensure that the systems are being used for district-related educational purposes and to maximize utilization of the systems for such."

Jim Bosco 1/12/12 4:15 PM
Comment: At three pages, I like the brevity of the policy. Legal counsel may want a more detailed statement, but I believe the one- to three-page document can provide all the essentials.

Jim Bosco 2/3/12 1:10 PM
Comment: One might go further and state the imperative for schools to equip students with the skills to use information resources critical for their career and civic lives.

Jim Bosco 2/3/12 1:10 PM
Comment: There are unprecedented opportunities for students to be content creators. New Canaan deals with this issue in a very direct way and provides a sense of the pedagogical philosophy that undergirds their support for students as producers and publishers.

Jim Bosco 1/12/12 3:42 PM
Comment: One size does not fit all. The policy could spell out that internet filtering needs to be more stringent for elementary students. Yet even at that level it is important to promote responsible internet use.

accessible to students, not even educators can agree on the right course of action.

Saying he speaks only for himself, Holden says he suspects many administrators to be in favor of more permissive AUPs. "If you asked a school administrator privately or off the record if they would be in favor of opening things up and giving people a chance to learn digital citizenship, they probably would say that's a great idea," he says.

However, the burden of assuring any particular policy is followed may ultimately fall to administrators, making them more reserved in their official stances.

In Missouri, schools have had to learn quickly how to review their daily use of the internet because the new law requiring districts to set AUPs for social media use faced its deadline this March. A major source of guidance for the districts has been the two major insurance companies that cover most of the school districts in the state, according to Tony Rothert, legal director of the ACLU of Eastern Missouri. Rothert says those businesses have committed to consulting with IT professionals and educators, but his organization still plans to monitor district AUPs for infringement of free speech rights.

Rothert was instrumental last fall in getting the injunction. It was not until then that he became aware of how teachers use social networking, e-mail, and the internet to communicate with students.

"What was most cogent was teachers have a role in children's lives outside the classroom; that's especially true for children who are vulnerable and don't have adults in their lives who they can talk to or support them," he says. "I talked to several teachers who were able to relay stories [about] getting a message through Facebook on a Friday night from a suicidal student, or a student who was at home and being abused and was able to reach out through the internet for help."

When drafting their new social media policies, Rothert hopes that districts will follow the same "common sense" guidelines already in place governing other areas of student and teacher behavior. "Teachers already know, and there are already policies about, what is and isn't appropriate," he says. "Transferring the same common-sense limitations over to the electronic realm is really the best thing to do." the

Margo Pierce is a Cincinnati-based freelance writer.

LINKS

- **American Civil Liberties Union of Eastern Missouri**
  aclu-em.org
- **Children's Internet Protection Act**
  fcc.gov/guides/childrens-internet-protection-act
- **Consortium for School Networking**
  cosn.org
- **CoSN/John D. and Catherine T. MacArthur Foundation Project on Participatory Learning: Policy and Leadership**
  cosn.org. Choose Initiatives/Participatory Learning from the main menu.

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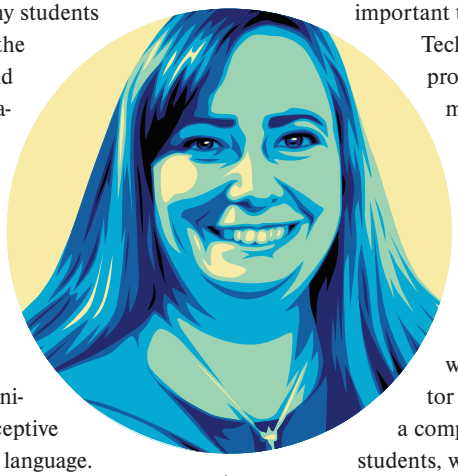
PROFILE

RITAMARIE THEILER SPECIAL EDUCATION TEACHER, MCCOLLUM ELEMENTARY SCHOOL, ALBUQUERQUE, NM

ON THE SPECTRUM

I teach in what's called an autism-specific classroom with seven kids, grades 3 to 5. Autism is a spectrum, and some of my students are on the severe end. I have one who uses a speech device. She talks, but it's one or two words at a time and a lot of repetitive phrases. Another student has a device but doesn't initiate talking—she's happy to be quiet. And then I have students who are very verbal. None of my students are at grade level, but the hope is that some could go into a general education setting someday.



HOW TO AVOID THE BREAKDOWNS

The biggest learning challenge faced by students with autism has to do with communication, whether it's receptive language or expressive language. To general-ed students, you might say, "Okay, class, it's time to get started. Get out your pencils, go get your paper, and write the morning message." If I said that to a class of students with autism, they might only hear, "Go get your paper." They don't process as quickly or in the same way as a typical developing student. So I have to make sure I'm not bombarding my students with language they don't need.

Also, students with autism tend not to be able to generalize as easily. If you want to teach them it's unsafe to run across the street, you might have to teach them it's unsafe to run across the street at home, then at the park, and at school before they realize it applies to all settings.

PREDICTABLE PATTERNS

Consistency and routine tend to be very important for kids across the autism spectrum, and that's one way that technology makes a huge difference. The programs are written in one way, and the response is always the same. When students get the right answer they might hear, "Way to go," or, "Good job." When they get it wrong they might hear, "Uh-oh." That predictability is very important to them.

Technology also helps to provide a multisensory, multimodal experience. With the iPad, my students are developing fine-motor skills, and with the Promethean board [interactive whiteboard], they're working on gross motor skills. And being on a computer is fun for the students, which allows me to use it for positive behavior reinforcement.

MORE INTERESTING THAN I

Our school got Promethean boards last year and I was the first in line to say, "I want one." It gives me one more way to present things. It's more interesting than I am.

We have a clock app that helps the students learn time, and another app that helps them build math skills using money. Each student takes his or her turn at the whiteboard and then passes the pen to the next student, so they're learning communication and social skills as well.

They're learning how to vote through the multiple-choice questions they answer—and more and more, I'm seeing students get the correct answers. It takes a lot of repetition for them to absorb the lessons, but with the Promethean board they enjoy the repetition rather than getting bored by it.

MY TOP 3... WAYS TO IMPLEMENT TECHNOLOGY IN A SPECIAL-NEEDS CLASSROOM

Don't Be Shy "Be the first to volunteer for any new technology that is being introduced at your school."

Go to School "Participate in as many trainings as possible that are offered for technology in your district."

Ask Questions and Make Friends "Don't be afraid to ask for help and find out who is best able to answer your questions. Make that person your friend; it will pay off in the long run."

A NEW WORLD OF LEARNING

This year I brought in an iPad and it's opened up everything for these kids. There are so many great apps that help me. My favorite right now is Math Bingo. I'd been teaching addition using a program in which the students have numbered blocks and they build problems to get the answer. I thought they would eventually wean themselves away from the building, but they didn't. Now I'm starting to see the kids generalize: They get the answers right in Math Bingo, then they get it right on their paper.

With both the iPad and the Promethean board, students who are able to decode words but have trouble with comprehension—common among kids with autism—are able to see animated versions of the stories they're reading. I've been teaching kids with autism for about six years, and when I look back on when I was without this technology, I see such a contrast. the

Daniel Hertzberg

Do you know a K-12 technology leader or tech-savvy administrator or teacher we should profile? Tell us! E-mail michaelhart@1105media.com.

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