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Teaching digital citizenship across the whole curriculum

Teaching digital citizenship as a "one-off event" doesn't lead to changes

By Dennis Pierce

When author and IT director Mike Ribble talks about the importance of teaching students appropriate online behavior, he likes to share a few eye-opening statistics.

According to Common Sense Media's study "Zero to Eight: Children's Media Use in America," the percentage of children ages 8 and

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Many topics can be embedded into regular classes.

Online platforms: build or buy?

By Bridget McCrea

The online education movement has pushed K-12 schools and districts to rethink the way they develop and deliver content. No longer relegated to using textbooks as their core instructional materials, teachers look to their institutions for help

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4 ways to boost graduation rates

Forward-thinking practices focus on college and career readiness

By Melissa Gedney

As the skills expected of today's graduates change rapidly, school districts have to overhaul their thinking on what it means to be "college and career ready." Conventional wisdom around when and where students learn, what knowledge they need to be successful, and who they are as learners is all rapidly changing, especially as technology becomes more prevalent in classrooms.

This is all top of mind for members of the Digital Promise League of Innovative Schools, a coalition of around 57 forward-thinking districts and leaders across the country who are committed to improving the opportunity to learn for all of their students through technology and research. We round-

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5 ways games make kids smarter

Games are challenging but they're also fun. That's a formula worth emulating

By Mitch Weisburgh

Ninety-seven percent of kids spend an average of 10 hours a week playing video games. It's hard work, but they keep coming back. They often fail at whatever they are trying to do, but they persist until they learn the strategies, concepts, and skills to achieve their goals. Then they set new ones and come back for more. Games lend themselves easily to collaboration, and kids often compete with each other. Playing games gives them immediate and long-term feedback. And the games track what they do, where they fail, where they succeed, and what they learn.

Isn't that the way we want education to work? So what is it about games that makes kids try harder and learn more?

1) Games are an optimal learning environment.

In their chapter Flow in Schools Revisited in the "Handbook of Positive Psychology in Schools," Chernoff and Chikzentmihalyi (don't ask me how to pronounce it or spell it from memory) point out that enjoyment and interest in school are good predictors of student success. They propose that an ideal learning environment, just like a game,

- presents challenging and relevant activities that allow students to feel confident and in control,
- promotes both concentration and enjoyment,
- is intrinsically satisfying in the short term while building a foundation of skills and interests,
- involves both intellect and feeling,
- requires effort and yet feels like play.

2) Games focus on the sweet spot for learning.

If you already know it, there's nothing to learn, and if it's too difficult, it's not even worth trying. Games work in what is called the zone of proximal development; beyond what a person can already do, but not so difficult that they can't do it with guidance, persistence, and encouragement.

Games inspire motivation and learning.

Many of us waded through Lev Vygotsky's work on the development of cognition when we were in school. Games bring his insights to life, resulting in a $100 billion industry, and new possibilities to advance learning.

3) Games make people want to persist, plan, and learn.

Games are complex problems waiting to be solved in a way that is both fun and challenging. What can't we learn when we are put into situations that require us to solve problems while having fun and being challenged?

We need to stop saying, "Let's make learning fun." Learning is hard work, and it is also fun. Every time we learn something, we get a shot of dopamine in our brains. What's more fun than that? Games have crafted their challenges for maximal engagement through a quick cycle of challenge-act-learn-accomplish so that the hard work of learning is intrinsically rewarded, and the player (or student or learner) wants to continue playing and learning.

4) Games encourage trial and failure.

All people who play games fail more than they succeed. Failure doesn't mean the player failed, it just means that a particular approach failed, and game players know that if they persist, eventually there will be one or more approaches that will succeed, and then they can advance. Players don't experience any long-term consequences for trying and failing. All that counts is that they eventually succeed, and they will only succeed if they try. They know upfront that any new task or goal may require multiple attempts.

Many games keep score and hold out rewards for success, but the reward mechanics are generally one of the least important aspects of an engaging game. Players play for the challenge and enjoyment. Perhaps we can model the way we grade in schools on the way games measure achievement and competence, and figure out a way for grades to help students become auto-didactics.

5) Games can simulate situations that are impossible or too costly to create in the real world.

Can a student be a senator in Washington? Lift a boulder on Mars? Safely experience the consequences of risky behaviors? Learn U.S. history by participating in revolutionary activities? With the online game iCivics, a student can experience what a congressman, senator, or judge does while learning about rules and procedures. NASA has games that are missions to the moon and Mars. The game Zoo U improves students' social literacy through interactions in a game. Mission US is a series of games where students get to play roles at key turning points in U.S. history. These are all situations that students could experience only in a game.

No amount of computers or technology can replace a good teacher. Games give teachers the tools to engage student learning in ways that reflect what we know about motivation, achievement, learning, and the brain. eSN

Mitch Weisburgh is a partner at Academic Business Advisors and a cofounder of the nonprofit Games4Ed.

Dashboards for the data-skeptic teacher

How do you get teachers to use data? One district zeroed in on what's important

By Michelle Hall

Every day, educators amass a tremendous amount of academic data. Much of that data ultimately gets entered into online systems and run through analysis software and teacher dashboards. But data is valuable only if it can be accessed easily and acted upon in a timely manner. And only if the teacher finds it worthwhile enough to complete that process.

In the past, my district used a scanning system to scan paper test forms and quickly make the data available to teachers for their review. The problem was that seven years after we launched the system, I was still teaching our teachers how to use it. Because it wasn't user-friendly, it wasn't used very extensively, which meant that data was going to waste.

Do teachers deal with too much data?

In 2013, we set out to find a system that would be easier to use, more visual, and better at organizing data in a concise way, and that summer we began using a new assessment and data system (we picked Performance Matters). To introduce its capabilities, we held district-wide trainings for our teachers. A few months later, however, we realized we now faced a challenge at the opposite end of the spectrum. With our previous system, our teachers couldn't get enough data. With our new system, they had access to more data than they knew what to do with.

To help teachers focus on the data most important to them, we launched another round of trainings. To make things as easy as possible, we decided to concentrate on two dashboards we believe are vital to teachers' daily practice in the classroom and to school improvement planning.

Item Analysis

Our Item Analysis dashboard provides item-level detail showing the percentage and number of students who chose each answer (multiple choice items) or earned each score (other item types) on a given assessment. This is particularly helpful when looking for students' misconceptions. If, for example, a teacher sees that 60 percent of students got item No. 1 wrong and that all of these students chose the same answer, they know exactly what they need to re-teach.

The Item Analysis dashboard also shows the breakdown of the standards on the assessment and how students scored overall on each standard. This helps teachers easily identify which standards students are struggling with, so they can target their instruction accordingly.

In addition, the Item Analysis dashboard illustrates each student's performance on the standards. Because teachers can instantly see which students are non-proficient, proficient or advanced on each standard, they can easily differentiate their instruction. Teachers say this is a huge time-saver, since they can simply click on a standard and have the re-teaching group displayed for them.

Student Item Analysis

Our Student Item Analysis dashboard gives an overall percentage score for each student as well as how many points the student earned on the test. Teachers can then use these scores in their gradebooks.

This dashboard also shows how each student responded to each question and whether the answer was right or wrong. Teachers can use this data to review the test with students if needed.

Finally, the Student Item Analysis dashboard shows the most common incorrect answer and the percentage of students who chose it. This helps teachers address common misconceptions.

Collaborative planning

Both the Item Analysis and Student Item Analysis dashboards provide valuable data for collaborative planning sessions at each school. During these sessions, school leadership teams and teachers can view their students' data so they can share best practices, and offer or ask for assistance. Because the data is easy to access and understand, they now spend less time organizing data and more time doing what needs to be done to improve student outcomes.

We've also provided trainings for our principals, assistant principals, and school leadership teams on how to use data for school improvement planning. The item-level detail and standards breakdown in Item Analysis gives us the data we need to create standards-specific goals, so we can be more focused in our school improvement plans.

Thanks to the wide use of these two dashboards, our teachers and school leaders now spend far less time on data retrieval and significantly more time on data analysis and decision making. The key is to keep it simple. Give teachers the tools and data they need to be successful, and give them opportunities to collaborate and use that data to improve their practice. Then, after teachers become comfortable with these key dashboards, offer more advanced training to show them how to use other dashboards to dive deeper into the data. eSN

Michelle Hall is an administrator in the Accountability Office, Instructional Data Division for Anne Arundel County Public Schools in Maryland.

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under who've used a mobile device nearly doubled from 2011 to 2013, from 38 percent to 72 percent. What's more, about two in five children under the age of 2 have used a mobile device.

"Kids are coming to school having already had some contact with technology," said Ribble, who works for the Manhattan-Ogden Unified School District 383 in Kansas. "Whether they have a knowledge of how to use it appropriately is another question."

Findings such as these suggest the need for schools to start teaching good digital citizenship to students at a very young age—and Ribble and many others believe that students should learn these skills throughout the K-12 curriculum. But that isn't happening in many school districts.

"When we teach digital citizenship as a one-off event like a presentation or an assembly, everybody gets all hyped up—and then it disappears over time," he said. "But if we embed it into the curriculum, that's when it sticks."

Ribble has written a book about the topic, called "Digital Citizenship in Schools," and a new edition is available this fall. In his book, Ribble outlines nine essential elements of digital citizenship that every student should know, and he includes suggestions for teaching these skills across the curriculum.

For instance, one sample activity aims to make students more aware of the issues involved in file sharing. Teachers divide their class into two groups, one arguing in support of file sharing and the other arguing against it. Students research each side of the debate, perhaps with the help of lawyers who specialize in digital law, and they must find concrete examples of legal and illegal file sharing to use in their arguments.

"After completing the debate, have the class determine which side made a better case," Ribble writes. "Spend time after the debate discussing the issues raised by both groups."

Managing an online identity

Teaching digital citizenship across the curriculum is a practice that Jennifer Scheffer is bringing to the Burlington Public Schools in Massachusetts.

Scheffer, who is the mobile learning coach and instructional technology specialist for this district known for the one-to-one iPad program at its high school, has taught a high school elective course called Digital Literacy. But the class "was only being taken by a very small percentage of students," she said. "We feel that digital citizenship is something that all students should learn."

Scheffer is working with the high school's principal and department heads to figure out how to integrate digital citizenship education school-wide and deliver lessons that are tailored to each grade level. "We may use Common Sense Media's curriculum and assessments," she said, "because those resources are excellent—and there's no reason for us to reinvent the wheel."

Burlington English and social studies teachers already teach their students information literacy skills such as how to judge the credibility of online information and how to source this information properly, Scheffer said.

Many teachers also use Google Classroom to foster online discussions outside of class, and they set clear expectations for how students should interact in this space—such as how to disagree with each other in an appropriate and respectful manner.

In addition, Burlington High School holds a summer session in which incoming freshmen receive their iPads and learn how to use them responsibly.

"This year, we went a little deeper," Scheffer said. "We spent more time talking to students about their ability to use social networks, but also their responsibility to use those networks safely and ethically."

The school allows students to use social networks such as Twitter,

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Nine essential elements of digital citizenship

School IT Director Mike Ribble has described nine essential elements of digital citizenship that every student should know. Here are those elements.

- **Digital access:** Full electronic participation in society.
- **Digital commerce:** How to be effective consumers in a new digital economy.
- **Digital communication:** How to make appropriate decisions when faced with so many different digital communication options.
- **Digital literacy:** How to use technology effectively, such as searching for, evaluating, and curating information.
- **Digital etiquette:** How to act appropriately online.
- **Digital law:** How to use technology in an ethical manner—such as not hacking into others' information, downloading music illegally, plagiarizing, sending spam, or stealing someone's identify.
- **Digital rights and responsibilities:** Privacy, free speech, and so on.
- **Digital health and wellness:** How to practice eye safety and sound ergonomics while avoiding repetitive stress syndrome, internet addiction, and so on.
- **Digital security:** Electronic precautions to guarantee safety, such as creating secure passwords, not sharing passwords, backing up data, antivirus protection, and surge control. eSN

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Instagram, Tumbler, and Vine. "We believe it's our job to help students use these tools for research, and also to craft an identity they can be proud of," she said.

The school's message to students, which is reinforced throughout their high school experience, is to think carefully before they share something online, and Scheffer emphasizes to students that they are not creating a digital "footprint," because "footprints can be washed away." Instead, she refers to their online identity as a digital "tattoo."

"With digital technologies, it's more like a permanent mark," she explained.

Scheffer has taught in a school that blocked students' access to social media tools, and she said that approach was not effective at curbing cyber-bullying. In Burlington, where students are exposed to these tools early on and learn how to use them responsibly, there have been very few instances of misuse.

"I think our approach is working," she said. "When students know their teachers and principals are on these sites as well, they are less likely to use these tools in negative ways."

Many schools teach about online safety and responsibility by creating an atmosphere of fear, Scheffer said, but that's not a healthy approach. It sends the wrong message: We don't trust you.

"Culture is a hard thing to develop in schools, but we have such a great culture here in Burlington, because students feel trusted and empowered," she said. "At the same time, they know they will be held accountable for their online behavior."

Digital citizenship is not just about teaching students what not to do, but also what they should be doing to create a positive online impression. Scheffer runs a student help desk at the high school, and she has showed her help-desk students how to create LinkedIn profiles and cultivate digital identities that will help them get into colleges and land their dream jobs.

"My vision is to team up with the guidance department to make sure every senior is graduating with an understanding of how to use LinkedIn to help them achieve their career goals," she said. She described one student who wants to be a physical therapist and has carefully crafted both a professional and a personal profile to help her reach her goal.

Examples like this aren't the norm yet, Scheffer said, "but we're on the right path." eSN

The former editor in chief of eSchool News, Dennis Pierce is now a freelance writer covering education and technology. He has been following the ed-tech space for nearly 20 years. Reach him at denniswpierce@gmail.com.

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Why your tech PD might be all wrong

Tech training should be about more than the device; it should have purpose


Tom Daccord

It's early September as I write this piece, and I've led some 40 EdTechTeacher workshops since June 1.

As I look back on the summer, one of the things that strikes me is how often my workshop followed a "technology training" at a school. In other words, faculty had already received tech training on the particular platform, device, or tool I was asked to address. Sometimes this training had been administered in-house, but often it had been delivered by a technology company that came in and explained how their product works. Often, the school administrator would explain the reason for my workshop like this: "Well, the company came in and showed us the product, but the teachers don't understand how and why to teach with it."

As I see again and again, the real challenge for teachers is not learning technology. It's developing a pedagogical vision of what's possible and then a willingness to make it happen. A defining trait of effective technology programs is a well-defined, actionable, and motivating vision of technology-aided teaching and learning. If teachers understand, accept, and embrace an educational goal, it can become a focal point for a change in practice.

To try and stimulate such an environment, I began most of my summer workshops by asking teachers a fundamental question: "What's your most important learning goal?" More specifically, I ask them to identify their most important learning goal for their first few classes. Consistently, teachers from all over the country told me that getting to know their students is their most important learning goal at the start of the school year. (It starts with getting to know their names and then who they are.) Teachers know that building relationships with students is the foundation of impactful teaching, so getting to know their students is a crucial element.

When a learning goal is clear, relevant, and important to teachers, they are more likely to consider a new path to achieving it. So, I direct them to a Padlet wall where they easily add their name, a picture of themselves, and respond to a prompt to get to know them. Next, they respond to Socrative quick questions in order to collect more useful information about them. (Sometimes I also have them fill out a brief Google Form poll or survey to collect even more information.) The teachers see that in minutes I've collected much useful information about them — my "new students." They also understand that if I had interviewed them individually to collect the same information, there would be little class time left for actual instruction. So, they understand that if I, the teacher, can collect useful and relevant information about them quickly, I am in a much better position to get to know my students.

Too often, technology training begins with an introduction of a tool and how it works. The tool is introduced without a meaningful pedagogical framework, and teachers immediately see it as something different, separate, and distinct from what they've always done. To them, it's an add-on.

But teachers truly want to get to know their students. They always have. So, they're willing to consider a new approach if it helps them achieve their goals. The trick, if you will, is that I am not asking them to change. I am telling them to hang onto what's really important to them. What I'm doing is showing them is a great new pathway to achieve what they already believe in. And therein lies a stepping stone to change. eSN

When a learning goal is clear, relevant, and important to teachers, they are more likely to consider a new path to achieving it.

Tom Daccord is the director of EdTechTeacher (http://edtechteacher.org), a professional learning organization.


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California School Pilots Total Motivation to Kick-Start Student Achievement

Print-and-Online Supplemental Curriculum Emphasizes Critical Thinking with 100-Percent Alignment to Standards

A year ago in August, third-grade teacher Lindsay Nguyen found a new way forward for her math curriculum. Along with her fellow teachers at Alice N. Stroud Elementary School in Modesto, California, Nguyen spent the year piloting Total Motivation, Mentoring Minds' innovative print-and-online supplemental curriculum that's 100-percent aligned to the Common Core state standards. The curriculum fit the bill, addressing students' diverse learning needs while paving the way for technology integration in a school with limited resources.

"What was most appealing to me were the resources and lesson plans presented in Total Motivation," said Nguyen. "I loved that I could put my students into small groups at all learning levels, from the struggling learners to the more advanced learners, and everyone was able to participate in the activity. And because each activity is aligned with a specific standard, I didn't have to spend any extra time researching additional resources. It was really great to have that tool right at my fingertips."

"The multitude of tools that Mentoring Minds provides to teachers is fantastic, as it really helps you to be able to gain a more holistic understanding of what students may need more individual attention on an assignment."

The robust teacher edition makes the resource easy to implement, with dozens of instructional strategies, intervention activities, and formative assessments aligned to each standard. Structured as standalone units, the program also fits any scope and sequence. Unpacking each standard in depth, the teacher edition spells out each learning objective and details the previous knowledge that each standard is built on.

Hybrid Format Includes Both Print and Online

As schools across the country grapple with the shift toward digital classrooms, limited access to technology and lack of high-quality digital resources persist as hurdles for teachers. Alice N. Stroud Elementary, where computers carts are shared among several classrooms, is no different. Mentoring Minds created Total Motivation with these challenges in mind, providing the same rigorous content both in print and online so that teachers can adapt curriculum implementation to match classroom realities, something Nguyen greatly appreciated.

"Since our access to computer carts was limited to a few hours a day, it was great to have the print edition as well, so we were able to transition between online and offline without missing a beat," she said.

Even when the students weren't completing activities online, Nguyen was using Total Motivation's built-in reporting feature. This powerful progress-monitoring tool allows administrators to harness the power of technology to inform instructional change. Because each activity is mapped to a level of thinking as well as a standard, educators get a bird's-eye view on student progress and learning gaps, allowing them to adjust lesson plans to match classroom needs and respond quickly when one-on-one intervention is needed.

"It was great to be able to go into the reporting feature and play around with the assignments and student roster and create my own diverse groupings within the assignment data," said Nguyen. "The multitude of tools that Mentoring Minds provides to teachers is fantastic, as it really helps you to be able to gain a more holistic understanding of what students may need more individual attention on an assignment."

Student Success

Perhaps what Nguyen appreciated most about Total Motivation was the impact it had on her students. She pointed to one student, Angie, who had been

Mentoring Minds Total Motivation hybrid format provides the same rigorous content both in print and online, so teachers can adapt curriculum implementation to match classroom realities.

having difficulty with word problems before the skills she learned using Total Motivation allowed her to tackle them with ease. Nguyen also noticed that overall her students often felt more accomplished after completing Total Motivation activities.

"The group activities in particular allowed the students to think in a much deeper, much more rigorous way," Nguyen said. "They were really tenacious in figuring out solutions to multi-step problems and were so happy when they were able to conquer those challenges. Hearing and seeing the sense of pride they had in their achievement was an incredible feeling."

This increase in student confidence is well founded. Students who use Motivation Math increased their scores an average of 23 points, according to an independent study led by SEG Measurement and released in 2014. Reading scores increased an average of 18 points.

"It was exciting to see the dynamic growth in test scores that students learning with Motivation Math and Reading experienced. From pre- to post-test, they realized increases on average of almost double, and in some cases, almost four times more than their peers," said Robert Bush, CEO of Mentoring Minds. "We are thrilled to see such incredible gains in academic mastery and overall improvement in learning."

Now familiar with the depth of resources and ease of implementation that Total Motivation offers, Nguyen is incorporating the program into lesson plans again this school year for her new class of third-graders. Looking forward to the challenge of a new year, she says, "This really is a great program. It saves a lot of time and allows a teacher to teach smarter, not harder."

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A one-stop shop IT overhaul

How the largest county in the U.S. recently revamped its infrastructure

By David Evans

Schools everywhere are in the midst of some major changes. There's the usual implementation of Common Core standards and Smarter Balance assessments, and, for my district at least—San Bernardino County Schools in California—a new funding model, the rollout of local control accountability plans, an aging network, and our staggering geography.

By sheer size alone, my district has always faced some challenges. Part of that is to be expected when your schools stretch across a county larger than 20,000 square miles that serves more than 410,000 students and 34,000 teachers, administrators, and staff across 540 school sites.

To best address the needs of our learners moving into the 21st century, we set out to implement an upgraded, state-of-the-art technology infrastructure that could deliver the robust, reliable and secure performance. Our approach was to address our infrastructure end-to-end, from the classrooms to the data center and network, which would enable us to prepare our schools and staff for a technology-driven approach that would support both 21st-century learning as well as California's new teaching and assessment requirements.

All of this makes delivering high-quality IT services, a major part of my job, crucial to our mission of transforming lives through education. As the head of technical services, my team is responsible for keeping SBCSS's networks, servers, and storage—anything that runs on a wire—operating at peak performance. That's why we took special notice when we started experiencing slow performance on our network.

This posed a serious problem, especially as ramping up for Common Core meant we would need more than 1 gigabit of network throughput to ensure sufficient bandwidth for online testing demands. We also realized that the implementation of new educational standards would cause a greater need for security and endpoint systems management along with scalable storage that could keep up with our growing data requirements.

As we started to evaluate the IT landscape, it was immediately obvious there were myriad vendors that could supply various pieces of the IT puzzle. We knew because we had tried many of them, piecing products together to run our system. This time, we felt the best route was to find a one-stop shop that could address all our needs at once.

Adopting this approach would enable SBCSS to embrace hardware and software for our data center, network, and classroom environments. We had learned our lesson because previously, we needed extensive knowledge to manage our current IT infrastructure, which included too many point products. Much of our days were spent managing the specific ins and outs of each disparate product; because if something impacted one, there remained uncertainty about how it might impact the rest.

Future-ready infrastructure

Dell came to the table with a holistic mix of hardware and software solutions that would let us leverage leading-edge technology for servers, storage, networking, security, and endpoint systems management. PoweEdge blade servers support our massive VMware infrastructure while Dell networking solutions replaced outdated and expensive Cisco switches to increase our capacity and connectivity at both the network core and edges.

To better address security, SBCSS installed a pair of Dell SonicWALL SuperMassive E10800 firewalls at our data center in San Bernardino with another two at our disaster recovery site in Victorville and a network node for the districts in the High Desert area. KACE systems management appliances addressed our needs for managing hardware inventory, software upgrades, and equipment rollouts. EqualLogic storage arrays replaced complicated and expensive EMC storage to help us keep pace with accelerated data growth.

New ways to collaborate

While most people think school districts are off during the summer, my team is busy replenishing or refurbishing our assets so we're set for school to start again. With our integrated IT infrastructure, we can spend less time troubleshooting problems and more time helping the district embrace new ways to teach, learn, and collaborate.

Through a single pane of glass, we can manage our IT assets easier and better. We can proactively prevent security threats and protect our network from unwanted intrusions. Additionally, SBCSS can stay ahead of the technology curve by ensuring we have ample storage, sufficient network bandwidth and security both inside the data center as well as across all schools and classrooms.

Previously, SBCSS had no control over inventory. With KACE, we displaced a dozen different products and now use one comprehensive solution for endpoint systems management. This enables us to image 10 to 12 systems in a day, whereas previously we could do only two.

As a manager, that is something I truly appreciate. So is having information at my fingertips; we have what we need to do our jobs, even remotely. With our county being roughly the size of West Virginia, the fact we can do things quicker and easier without having to drive four hours to a site is almost heaven. eSN

David Evans is systems security research officer for the San Bernardino County Superintendent of Schools in California.

The font that changes online text for students with dyslexia

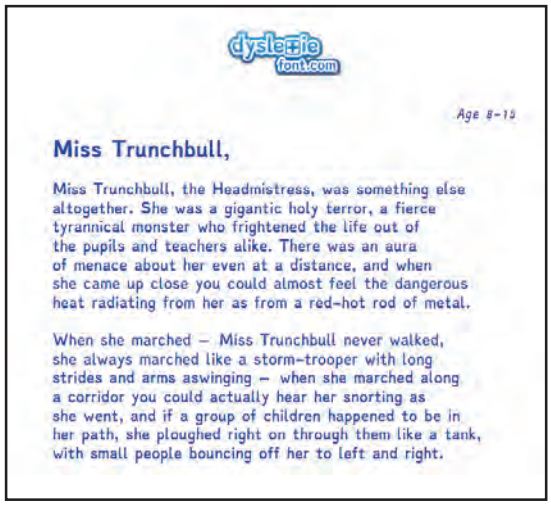
Dyslexie font is designed to help students with dyslexia better comprehend online text

By Laura Devaney
Director of News, @eSN_Laura

A font that is intended to help people with dyslexia better distinguish between each letter by making each letter's form unique is making its way into solutions used in U.S. schools.

The Dyslexie font is designed in a way that helps people with dyslexia cut down on reversing, flipping, and swapping letters. It does this, creator Christian Boer told eSchool News, by making each letter distinct and unique, and by adding extra space between letters.

Individual users and educators can install it for free. Once installed, the font displays on computers and the internet. (Explore the different ways in which the Dyslexie font aims to make reading easier for those with dyslexia online at www.dyslexiefont.com). Boer, who has dyslexia, initially designed the font as a graduation project, thinking only he and his text group would use the font. But the font spread after Boer won the Smart Future Minds Award in Amsterdam in 2011. The font also won first prize at the Smart Urban Stage in Amsterdam in 2011 and was a finalist for the Fast Company Innovate Through Design Award in 2012.



In Dyslexie font, letters are distinct and unique.

Education technology companies are already beginning to incorporate the font in their products.

Dig-It! Games is using the font beginning with the release of 3 Digits, and plans to introduce it to all newly developed games for kids. It also is going back to update previously released games, said founder Suzi Wilczynski.

"We're always looking for ways to accommodate [different needs]," she said. "We do try very hard to make our product accessible to all different types of learners."

When the Dig-It! team first became aware of the Dyslexie font, Wilczynski said she knew the team needed to learn how to incorporate it.

"We include a lot of text in our games, and we do it on purpose–Common Core has pushed more technical reading, more nonfiction, which is exactly what we do in our games. If I can easily incorporate a way for kids who have dyslexia to read the content, of course I'm going to do that in a heartbeat."

Adding the font is not a challenge, Wilczynski said, noting that it only took a few hours, or at most, a couple days to make adjustments.

"It's such a simple change that can make such a huge difference in the life of a child with dyslexia," she said. eSN

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Platforms

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selecting, aggregating, and then delivering relevant content to their pupils. Districts, in turn, must decide whether to build out their own online content platforms, farm it out to a learning platform provider such as FuelEd (formerly Aventa Learning) or K12, or take a hybrid approach.

And while core course content is often housed on the district's internal learning management system (LMS), the extracurricular content—advanced placement (AP), English for Speakers of Other Languages (ESOL), honors, homeschool, and blended learning content—also must be factored into the equation.

Hiring help

In most cases, schools are turning to third parties for help building out their core and non-core content right now, said Allison Powell, vice president for new learning models at iNACOL, the nonprofit blended learning advocacy group. "We're starting to see some K-12 schools wanting to build their own online platforms to house content, but a lot of times they just don't realize how difficult that is," she said. "To overcome this issue, schools will contract with the LMS providers and then customize the content itself to meet their individual needs."

The only problem with that approach is that districts tend to turn to individual teachers for help with the content buildout. Already strapped for time and tied up with their day-to-day responsibilities, teachers can get overwhelmed by the additional burden. "To avoid creating burnout, schools need to form teams that include teachers, content experts/instructional designers, and even graphic artists and web developers," said Powell. "This is better than saying, 'You're an algebra teacher, so go build us an [online] algebra class.'"

Of course, if the district has the right level of financing and support, the do-it-yourself LMS route is actually within reach. Powell points to Facebook's recent move into the K-12 space as an example. The company has assigned a small team of its engineers to work with California-based Summit Public Schools to develop a "Personalized Learning Plan" designed to deliver content and assignments online.

"This is now an open source option that was developed because the district couldn't find an LMS to support its needs," says Powell. "These initiatives are expensive, but if you're lucky enough to have Facebook in your backyard and ready to donate programmers to the [cause], then it's obviously doable."

Should those resources be lacking, Powell said schools might consider partnering with an "up and coming" LMS provider and serve as a pilot project for that company. This move can help the LMS hone its offering while allowing the district to have input into the development of the LMS itself. "Years ago ,Florida Virtual Schools did this with one of its first LMS companies," Powell recalled, "and then helped the latter expand and customize its offering."

> *"We're starting to see some K-12 schools wanting to build their own online platforms to house content, but a lot of times they just don't realize how difficult that is."*
>
> *—Allison Powell, iNACOL*

Taking the DIY route

Even thought most K-12 districts have opted out of building their own content platforms, Powell sees benefits in taking the DIY route. "It would be awesome if every school could develop a platform that meets their specific needs," said Powell, "but in most cases, a lack of money, IT support, and/or other necessary resources prevent them from doing this."

At Saint Stephen's College, a private K-12 school in Australia, Director of eLearning Peter West, says trying to build out a content platform is a process that's "fraught with danger" and that most schools should avoid. "At this point, you just can't compete with the big guys who have all of the resources and all of the experts onboard," said West. "Ten years ago you may have been able to handle this in-house, but these days the complexity of a good LMS or online learning environment is huge; it does much more than simply deliver content."

Besides, educators don't necessary understand the intricacies and depths of technology (much like technical types don't understand education in the classroom). For example, West said technology professionals often make platform-related decisions from a technical standpoint—without factoring the classroom into the equation. Educators, on the other hand, view the platform from their own perspectives and without considering its technical capabilities.

In place for four years, Saint Stephen's College's LMS—which it acquired from a third party and then populated with its own content (both original and acquired from other sources)—includes not only core content, but also grade books, rubrics, blended learning modules, sports programs, and even professional development materials. "We've taken a very structured approach to slowly moving all of our content online," said West, "even student-centered courses that support our 'Bring Your Own Laptop' program."

To K-12 districts looking to build or buy a new online platform to house core content, both Powell and West advocate a thorough "gut check" before taking on the project internally. West, for example, recently heard from a school that two years prior was determined to build out its own LMS, only to spent 24 months on a project that will likely never come to fruition. "It didn't take the big picture view of the undertaking," said West, "and now the school is looking around for a new solution." eSN

Bridget McCrea is a contributing writer for eSchool News.

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Stopping teacher turnover in its tracks

How do you retain the best educators? Observation and feedback, says one school

By Kristi Cole

Getting new teachers into the classroom has been a major focus of districts across the country during the last 30 years, as turnover has increased, especially in historically underserved communities. School leaders at high-need urban schools and elsewhere have resorted to signing bonuses, merit pay, and strong benefits in an attempt to lure teachers in. One public school in Arizona even advertises a four-day work week as a selling point to get them in the door.

Recruitment is important. However, the retention of high-quality teachers is equally, if not more, crucial. More organizations are realizing the necessity of developing ways to support teachers to raise retention. Keeping effective teachers in classrooms, particularly in a high-needs school, is becoming more of a focus for administrators. One way to achieve retention is through building a common mission and vision. Teachers want to be part of a high-quality organization dedicated to a common goal for success.

Milwaukee College Prep, where I serve as COO, is a high-achieving urban K-8 charter management organization (CMO) with four campuses and 2,000 students. The campuses are located in the most poverty-stricken areas in Milwaukee. As a successful urban CMO, one of the most important questions often asked is, "How do you train and retain outstanding educators?" To which I reply that giving teachers support through observations and feedback is perhaps the most vital piece. Teachers who are passionate about education pursue opportunities to perfect their skills. They appreciate feedback and specific action steps to guide self-improvement.

Several years ago, my organization adopted and implemented a cloud-based teacher observational tool in an effort to improve the way we provided teachers with actionable feedback. The program, called observe4success, allowed us to individualize our observations, brief classroom walkthroughs, and evaluations at each campus. On average, staff received two or three observations per month. Importantly, the staff members who were new or who we could tell were struggling received multiple observations each week, providing us with invaluable data, which helped us determine a given teacher's areas of skill and places where they perhaps needed some work. The data collected during observations was the focus for coaching meetings and developing action plans for staff.

Data was extrapolated from a number of walkthroughs (each conducted for a different purpose) and then shared with staff. The Instructional Walkthrough, for example, had topics such as academic rigor, instructional artifacts, lesson components, student engagement, and teacher actions.

In 2014-'15, we averaged 512 observations per campus with a total of 2,047 observations, combining academic and cultural observations and feedback forms. The retention rate at Milwaukee College Prep averages more than 92%. Typically, we see one, maybe two teachers leave from each campus during the year, often to move or start a family.

This strong retention rate is primarily due to the positive work environment and support teachers get in their professional growth. Here are some comments from staff as recorded in their June 2015, teacher end-of-the-year survey. "Love her (dean of students) feedback and visits to the classroom!" "The dean was great with feedback and helping with behaviors when needed." "It's nice that we have immediate feedback about our performance."

Our classroom observation platform is an efficient tool that aligned with the Common Core standards as well as with our own behavioral expectations. We utilized data and graphs to monitor improvements in teaching and to provide solid data for teachers and administrators. A combination of quick walkthroughs and more-detailed observations were used to provide immediate feedback.

Professional educators understand the importance of coaching and feedback. They seek out administrators and colleagues to observe them and provide strategies for improvement and growth in order to be most effective in the classroom. The steps to improving teacher behavior include:

1. Provide teachers with a copy of the observation rubrics and review.
2. Request feedback regarding the observation form and make adjustments as needed.
3. Develop a schedule with the entire administrative team regarding who/when observations will take place with staff.
4. Ensure you work with teachers when evaluating their observations forms.
5. Review observation with staff; providing specific data, glows, grows, and action steps.
6. Provide necessary resources, professional development, or peer mentors.
7. Observe the teacher again, reviewing areas of growth and action plan. Monitor items on the action plan and note growth or lack of growth.
8. Continue the observation cycle throughout the school year.

The difference between successful urban schools and failing urban schools rests on us educators. Since many urban schools obtain newer teachers right out of college or with few years of experience, it is imperative that observation and feedback is a norm at the school. How do you obtain the best educators in some of the highest-needs schools? You observe and coach the heck out of them!

Dr. Kristi Cole is the chief operations officer and talent recruiter for Milwaukee College Preparatory School.

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Why we must address digital equity right now

Digital equity remains a troubling issue with far-reaching consequences

Digital learning is reaching a tipping point.

Thanks to E-rate, as well as other state and local policy efforts, the education community has largely achieved the original 1997 goal of connecting every classroom to the internet. Even better, last year's 60-percent increase ($1.5 billion more annually) in E-rate funding means that over the next few years, classroom connections will be broadband with robust wi-fi—an essential requirement for 21st-century learning.

Keith Krueger

Ensuring every student and teacher has a learning device remains a challenge, but lower cost and increased availability by school or by family would reduce it moving forward. This is positive news for building the infrastructure for digital learning.

Crossroads

Despite this progress, we are at a crossroads. Digital equity increasingly requires that all students have broadband access when they leave the school campus, especially at home. Yet, many low-income families lack broadband access at home.

In most school systems, education technology leaders have focused time, energy, and funding on at-school access. While that has been critical, the focus must expand in this era of digital learning. According to our 2014 CoSN Infrastructure Survey, available at www.cosn.org, 82 percent of school district technology leaders report that they do not have strategies to address off-campus access. Only a handful of school systems offer off-campus internet connectivity programs such as free or subsidized home access for low-income students. A top priority should be making community and business wi-fi hotspots available for students and deploying district-owned personal hotspots.

The new civil right

Why should digital equity be a key concern for educators?

More than 70 percent of teachers revealed they require internet for doing homework. Do your students have access to the necessary technology and bandwidth after school to complete digital homework assignments? Unfortunately, for too many students and families, the answer is "no." This has created the "homework gap."

Educators also must consider parents and their ability to connect digitally with teachers, administrators, or the school website. As one school administrator said to me, "Increasingly, all our communications to parents are digitally delivered."

> *Digital equity increasingly requires that all students have broadband access when they leave the school campus, especially at home*

What does that mean for the parents or guardians who lack access?

Statistics tell a troubling story.

- More than 50 percent of educators in low-income districts reported that limited at-home technology access has prohibited the advancement and implementation of digital learning initiatives, according to Pew in 2013.
- A 2015 analysis by Pew projects 5 million U.S. households with school-age children do not have high-speed Internet service.
- U.S. Census data show that the lowest-income households, especially among blacks and Hispanics, have the lowest home broadband subscription rates. Roughly one-third of households whose incomes fall below $50,000 and with children ages 6 to 17 do not have a high-speed internet connection.
- According to the bureau's American Community Survey, low-income families (with incomes below $50,000) comprise 40 percent of all families with school-age children in the United States. This challenge is particularly true in rural and remote communities.

Strategies for addressing

Digital equity is a community challenge, not solely an educational concern. It is a conversation that should involve several local partners, including mayors, chambers of commerce, community foundations, and other government and nonprofit entities dedicated to solving social problems. At CoSN, we remain dedicated to ensuring that equitable access to technology happens at school and is part of an "anytime/anywhere" vision of learning.

Our communities will miss a critical opportunity if the digital inequities persist beyond the schoolhouse door. We risk leaving behind children living in our most impoverished and remote neighborhoods. Without thoughtful and intentional strategies and policies, the inequities will only grow as digital learning expands.

Digital equity is today's equal educational opportunity. Address this challenge and support students and families in your community at this incredible tipping point in education. eSN

Keith Krueger is CEO of the Consortium for School Networking.

Inside the STEM school for students with learning difficulties

A new STEM academy focuses on hard and soft skills

By Stephen Noonoo
Editor, @stephenoonoo

The new school features open learning spaces and technology like 3D printers.

Eye-opening statistics about career readiness are seemingly everywhere these days, and nowhere is that more apparent than when it comes to the future of STEM, where jobs are rapidly growing—up to 17 percent from 2014 to 2024 by one U.S. Bureau of Labor Statistics estimate—and could reach 8.6 million by 2018. In that light, the scramble to provide students with hard skills, such as robotics and coding, coupled with related soft skills, such as critical thinking and collaboration, seems only natural.

But in the world of special education, these numbers take on a special significance. Despite high unemployment and underemployment for autistic adults, more than a third of students with an autism spectrum disorder end up picking STEM majors, which often require a mix of hard and soft skills.

For these students, "The STEM piece develops rigor," said Dr. Ellis Crasnow, the director of a newly opened high school in Los Angeles devoted to STEM teaching for students with learning difficulties, such as autism. "It teaches you to be analytical; it teaches a kind of exactness."

The STEM3 Academy—that's STEM cubed—was started by the Help Group, an L.A. nonprofit with a smattering of schools around the city, most catering to students with learning disabilities. In fact, STEM3 has its roots in another Help Group school, called Village Glen, back when Crasnow was serving as principal there. "A few years ago we introduced robotics to the high school. It was very successful," he said. "We began to think that we should have a school just dedicated to STEM teaching."

Recently, the school opened its doors with 33 initial students on a small campus it shares with another school. STEM3 is classified as a non-public school. There's a tuition, but most students don't pay it. If parents or public school staff can convince their district that the school would be a good fit for the student's IEP, the district assumes the cost, even if the district is hundreds of miles away (the school boards some students nearby and provides a bus service to and from campus).

A wide range of ancillary services, like counseling and speech pathology, are also offered, in addition to courses in media creation, robotics, and AP computer science. Perhaps in recognition of the school's small size and unique focus, it doesn't look much like a traditional school physically, either. Crasnow and his team tore down walls to open up a huge innovation lab with concrete floors that's heavy on maker space technology, including 3D printers, cameras, and powertools.

Teachers were hand picked for their experience with special education but also for their expertise in the subjects they teach, from physics to biology to ELA. "We often say, in general ed, the teachers are specialists, and in special ed, the teachers are generalists," Crasnow said. What he was really looking for were "content experts who will really raise the bar for these students."

That, along with the school's STEM focus, could help students start to see school in a new light. "Rather than having students be passive learners, we want them to be engaged," Crasnow said, acknowledging that project-based learning, technology, and hands-on projects play a big part of students' days at school. "It also suits kids with special needs who tend to do better if the experience is multimodal, kinesthetic, aural. They do well if the learning is coming from a variety of directions."

At the end of the year, Crasnow plans for each student to develop his or her own online portfolio, a collage of various media and personal experiences, intended as much to chart social and emotional growth as academic. "In some ways the social aspect is more important," he said. "Can you appropriately express your emotion? Can you argue your case? It's important that they be able to articulate themselves, and the STEM part lends itself to that." eSN

Textbook management enters the 21st century

Tired of lost books and antiquated faxes, two districts opt for 21st-century asset management

By Bridget McCrea

Two years ago, Consolidated Unit School District 300 in Algonquin, Illinois, was facing a pretty daunting challenge across its 26 schools. When it came to recording the inventory of assets such as textbooks, some of the district's numbers were incorrect. "We'd start a new school year thinking that we had the appropriate supplies for our students, only to find out that our inventory system didn't reflect what we actually had on hand," said Susan Harkin, chief operating officer for the 26-school, 21,000-student district.

A student who wasn't matched up with an algebra book, for example, would often have to wait a week or two for it to be ordered and delivered to the classroom. And for some of the outdated books that are no longer being published, the district could spend months trying to hunt down the textbooks. "Students would start the school year without a textbook to refer to for homework," said Harkin. "It wasn't a good situation for a district that's focused on student success."

Harkin says the schools' curriculum and instructional personnel were particularly concerned about the gaps that existed between the inventory system and the actual inventory. At the time, D300 was most concerned about textbooks, although it also wanted to improve the tracking of district-owned assets, such as tablet computers and musical instruments.

Finances were another driver, says Harkin, who notes that her district spends $2,500 less than the state average per student. "Assets and resources are tight," she added, "so everyone wants to do his or her part in helping to make sure we're using our resources efficiently and effectively."

A district-wide initiative

While searching for a solution to its asset management problem, the district found one possible answer right in its own educational technology stable. Already using Follett Learning's Destiny Resource Manager, the district started leveraging the platform's physical inventory capabilities. Using the web-based system, teachers and administrators can view current inventory levels and locations, manage the inventory, and more efficiently plan for resource expenditures. They can also reallocate assets to different schools, thus reducing redundancies and stockouts.

Harkin's team began by conducting a complete asset inventory. The process was handled by a dedicated team of staff members for whom "the management and movement of those assets" were part of their job duties, she said. Finally, the district installed a new staff person to oversee asset management from the central office and coordinate the process across D300's 26 schools.

As a component of the physical inventorying process, D300 weeded out books that weren't part of its curriculum. "Why track assets that don't matter to us anymore?" Harkin asked. In addition, the district shifted its textbook ownership philosophy from "building level" to "district level." Because textbooks are now a district item, if a building has an overstock of 100 books, those assets can more easily be moved to another school as needed.

On the financial side, Harkin estimates that the district saves "a couple hundred thousand dollars per year now," with most of the savings coming from its ability to more accurately track assets across its schools. In the past, for example, institutions with growing enrollment numbers would simply buy

Textbook management gets modern.

textbooks, not knowing that another school with declining enrollment numbers had the needed assets sitting in its storeroom.

"In the past, schools would hold onto them because they already paid for the books and didn't want to give them up," said Harkin. "By taking ownership across all of our schools, we've been able to make asset management a true, district-wide initiative that everyone is now onboard with."

No more paper and faxing

With 230 schools and more than 150,000 students, Dallas Independent School District relied on an antiquated asset management system that resided at the district office and accommodated just four user logins. When they needed textbooks, teachers would have to fill out handwritten forms and fax them to the office, where someone else would input the information and place the order. And while the previous system was used to maintain inventory, the fact that only four people could access it made it cumbersome and far from collaborative.

"We needed a new solution to bring us into the modern times," said Matt Tyner, manager of textbook services. Other asset management challenges plaguing the district included a lack of system data, no automation, and low visibility over textbook inventory across its many campuses. "My prede-

cessor had been here for 25 years, so when I came onboard in 2011 it was definitely time to automate and streamline these largely manual processes."

After putting out a request for proposal (RFP) that attracted bids from two different software vendors, Dallas ISD decided to implement a textbook inventory management solution from Hayes Software Systems. Key criteria included a system that would provide the district with real-time data and that would offer a district-wide platform that all parties could use via any internet-enabled device or computer. "We needed something that would replace the phone calls we were getting on every single issue and question," said Tyner.

Functional capabilities

Dallas ISD's textbook inventory management solution handles functions like the requisition of instructional materials, the return of instructional materials to the warehouse, campus textbook inventory, a repository for lost and used books, and an easy way to transfer materials among campuses. All of the activities take place online and can be access 24/7 on an as-needed basis.

> *"We needed a new solution to bring us into the modern times."*
>
> *—Matt Tyner, manager of textbook services, Dallas Independent School District*

According to Tyner, the system has helped the district improve its inventory tracking and real-time accountability—two things that were largely handled on a manual basis before 2011. "Our teachers and principals really had to jump through hoops to find their books, write up their orders, fax them in, and then monitor the order progress," said Tyner. "This is just a much simpler way to get all of that done."

To districts that are struggling to get a handle on their school-owned assets, Harkin said, the first step is simply admitting that this is one of the "hidden issues" that isn't always talked about or discussed—but it does exist and can be both expensive and time consuming. "If you really want to be responsible with your textbooks, you have to admit that you have a problem and that you're willing to tackle it collectively," she said. "It may require an initial investment in time and money, but if you keep ignoring the problem it's only going to get worse." eSN

Bridget McCrea is a contributing writer for eSchool News.

Graduation

continued from page 1

ed up some best practices league members use to ensure students stay in school, get their degrees, and are prepared for success in their post-secondary endeavors.

Learning can happen anytime, anywhere

Geographic and socioeconomic factors no longer have to be barriers to learning. Schools don't even have to be limited by the confines of the school day. Piedmont City School District is a remote, rural part of northeast Alabama. Many students' families could not afford computers or even an internet connection. It is difficult for the 1,200-student district to offer STEM, foreign language, or Advanced Placement courses year-round.

Yet every student in Piedmont is given a laptop in school, and to take home and, through partnerships developed by the district, can access free or low-cost broadband 24/7. Students can take courses otherwise unavailable online, at home, and even during the summer, earning valuable credits and skills. For students who fall behind, they can make up lost credits online and catch up to their peers. All students that take online courses have a teacher that guides their progress and keeps them on track.

Early college access for later success

Early exposure to higher learning is key to inspiring first-generation college students who may not view postsecondary education as an option. In the Enlarged City School District of Middletown, N.Y., where 75 percent of students are low-income, high school students can take college-level courses through a partnership with Syracuse University. The courses are free and conducted in Middletown by certified adjunct professors.

Owsley County Public Schools, a small rural district in Kentucky where unemployment rates are well above the national average, established partnerships with several local colleges, including Hazard Technical and Community College, the University of Pikeville, and Morehead State University, to offer dual-credit courses to students at Owsley County High School.

High schools are changing fast.

Vancouver Public Schools, in Wshington, recently open iTech Prep, which is co-located on a branch campus of the the University of Washington. High school courses are held in university buildings, and classrooms and students can start earning college credits before they graduate.

Provide real-world opportunities

The type of learning and work environments students will experience after they graduate resemble the traditional "sage-on-the-stage," textbook-driven model of teaching less and less. Providing meaningful connections to real-world opportunities is another way districts are engaging their students.

Utica Community Schools, located in the heart of Michigan's auto industry, offers specialized high school programs directly aligned with workforce development needs, including a center for science and industry and a center for advanced math. Classrooms resemble manufacturing labs and makerspaces and students spend some of their week on-site at local internships.

Blue Valley Public Schools, in Kansas, created the Center for Advanced Professional Studies, a facility that resembles a modern professional setting more than a school building. The curriculum at CAPS—which spans biosciences, business and technology, engineering, human services, and medicine and health care—is developed by industry leaders, and many classes are taught by full-time professionals. Students are expected to participate in mentoring and internships.

And in Spartanburg School District 7, students can earn an associate's degree while still in high school, which increases employment opportunities for students who may not be bound for a four-year college or university.

New skills for a new economy

Today's economy requires skills that yesterday's curriculum often could not provide. South Fayette Township School District, a district just outside downtown Pittsburgh, is creating opportunities for new skills by engaging students in practical coding and making experiences as early as elementary school. Rather than offer computer science as an after-school program or elective, South Fayette involves all students by weaving computational thinking into each subject.

For instance, in elementary physical education class, one student might hop on the climbing rock wall while another "programs" her to the destination at the top, with directions of "move two blocks left" or "one block up." It teaches students logic and that there are processes behind everything. By high school, many students are developing their own apps.

This is just a handful of new methods that the nation's leading school districts are using to stay ahead of what awaits their graduates. Browse more online at www.digitalpromise.org. eSN

Melissa Gedney is the community manager for the Digital Promise League of Innovative Schools.

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Co-Founder Larry Siegelman 1954–2002

Districts to E-rate: 'Let us speak!'

E-rate may be undergoing a major overhaul, but whether it's in the right direction or not is open to interpretation. After the application process, consultancy Funds For Learning recently asked more than 650 applicants–3 percent of the total–for their thoughts on this year's process.

For more information on the survey, visit www.fundsforlearning.com.

THE TOTAL PACKAGE

27,132 E-rate applicants requested a total of **$3.92 billion** in 2015

91% submitted funding requests for voice telephony services

81% requested internet access and data lines

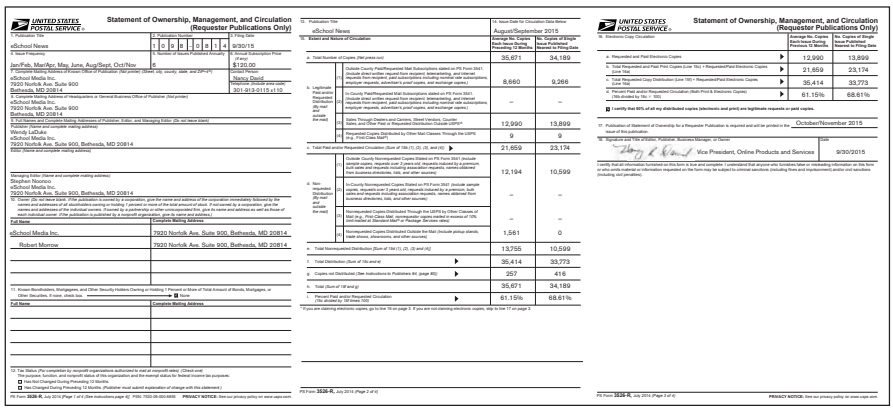
SURVEY SAID

86% of respondents reacted negatively to the loss of telephony services

If respondents could make one change to E-rate…

- **43%** would bring back telephony discounts
- **17%** would add end-user devices
- **14%** would allow backup internet access

- **67%** feel there isn't enough Category 2 funding
- **32%** feel C2 funding was sufficient
- **1%** feel it's more than adequate



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