

[SCHOOL CIO]

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The latest edtech news curated by SchoolCIO editor Annie Galvin Teich.

1 NEW COMPUTER SCIENCE INITIATIVES

In early December, the White House [announced new K-12 computer science initiatives](#). The National Science Foundation spent \$25 million on computer science education in 2016, and it has allocated an additional \$20 million for 2017, with an emphasis on training teachers. And the National Science and Technology Council will create a framework to guide federal efforts “to support the integration of computer science and computational thinking into K-12 education.”

Computer science education plays an important role in preparing students for STEM careers, as nearly two-thirds of these jobs require computer skills. Only about 40 percent of schools currently offer classes in computer science.

2 CALLING ALL INNOVATIVE SCHOOLS AND DISTRICTS FOR GRANT OPPORTUNITY

Steelcase Education is offering a grant for partners who are ready to use their classroom space to advance learning. Each Active Learning Center grant will cover the cost of furniture, design, installation, onsite training, and pre- and post-occupancy measurement tools for one of four classroom types designed for up to 30 students in grades 6-12. Grants are valued at \$65,000. The application period runs from December 1, 2016 to February 10, 2017. Thirteen

grants were awarded in 2016. For more information go to steelcase.com.

3 FY2016 E-RATE FUNDING SLOWER THAN IN PREVIOUS YEARS

The progress of funding commitments in FY2016 has been slower than most other years, especially when compared to FY2014 and FY2015. Funds for Learning, the industry leader in supporting E-Rate program participants, sees this as result of the USAC's largely counterproductive efforts to streamline and improve their online systems. However, by historical standards, FY2016 is not much better or worse than many other funding years. The total for FY2016 stands at \$1.5 billion, with another \$2.39 billion still pending. There are 7,274 applicants still waiting to receive funding commitments for the current funding year. Despite the delay this year, the total of funds committed for schools and libraries and those that are still pending as of November 30th does not vary significantly from the average of the past ten years. More details [here](#).

4 NEW NATIONAL CONDITION OF STEM 2016 REPORT

This report, from the publishers of the ACT test, reviews the 2016 graduating class in the context of STEM-related fields. Some of the highlights include:

- * Students with an interest in STEM



continue to show higher levels of college readiness than ACT-tested students as a whole. This has remained relatively constant over the past five years.

- * Almost half of ACT-tested US graduates, more than a million students this year, have expressed interest in STEM majors and careers.
- * Underserved learners have a high degree of interest in STEM, but their ACT STEM

Benchmark attainment lags far behind that of their peers.

The report also includes details on science, math, computer science, medical and health, and engineering and technology majors and career occupations. Correlations to specific occupations, as well as detailed research on the underserved learner, can be found [here](#).

THE GOOD, THE BAD AND THE UGLY

THE GOOD. Moving in the right direction: in a new proposal for teacher evaluations, the New York City Department of Education urges that teachers be judged on their students' classroom work and hands-on projects—rather than on their state test scores.

THE BAD. College and university enrollment is down for the fifth straight year. The trend threatens the national goal—already behind schedule—of increasing the proportion of the population with degrees. The drop-off also signals further problems for not only for-profit colleges and universities, but also for private nonprofit institutions for which tuition is the principal source of revenue.

THE UGLY. The new Trump Administration is poised for controversy in its first 100 days with its position on school choice and science—particularly with regards to teaching evolution and climate change. Many educators are concerned about the future of liberal arts and STEM topics. “Donald Trump has shown a contempt of science, a willingness to play fast and loose with the very idea of truth, and an absence of intellectual curiosity,” says Laurence Tribe, professor of law at Harvard University. “This leaves me with the sinking feeling that he will have a terribly destructive impact on the entire project of making excellent education broadly available.”

Opponents of school choice do not believe that it leads to improved academic outcomes. More importantly, they fear that school choice threatens the church-state divide by channeling government funds into private religious schools.

LACK OF ENCRYPTION POSES RISKS FOR SCHOOLS & DISTRICTS



- **780**—the number of security breaches in schools reported since 2005
- **14,790,000**—the number of hacked records in those 780 breaches
- **49%** of the more than 1,200 edtech sites used by teachers and students do not include a secure log-in
- **30 to 60 minutes**—the time it takes for IT teams to check Web sites for security in advance
- **10 to 20 times the cost**—in time and money to clean up a security crisis on the back end

Source: hechingerreport.org/nearly-half-education-vendor-websites-tested-security-problems-audit-reveals

ARE CHILDREN COMPETING WITH THEIR PARENTS' SMARTPHONES FOR ATTENTION?

- **74%** of caregivers were distracted in recorded two-minute playground interactions
- **30%** of those distractions were due to electronic device usage
- **72%** of caregivers in another study used their smartphones while eating in a fast-food restaurant
 - **40%** of these caregivers were engrossed in their devices for the entire meal, ignoring their children.
- A **10%** uptick in unintentional injuries among children suggests that smartphone usage may be to blame

Source: apa.org/monitor/2016/02/smartphone.aspx



GLOBAL SURVEY FINDS LITTLE PROGRESS IN SCIENCE EDUCATION

- The top science scorers on the 2015 PISA are **Singapore** (no. 1) and **Japan** (no. 2)
- The US ranks **number 25** out of 72 countries
- A **20%** increase in expenditures has yielded no benefit, with flat performance since 2006

Source: wsj.com/articles/global-survey-finds-little-progress-in-science-education-1481018403



WHAT DO STUDENTS SAY ABOUT SCHOOL CULTURE?



- Only **one in three** students across all grades give their school culture positive ratings
- Only **34%** of students report treating adults at school with respect, but they agree that they see **57%** of adults showing students respect
- Only **37%** of students (across all demographics) feel that discipline at their school is fair
- Only **16%** of students who identify as something other than male or female report positive perceptions of school culture

Source: youthtruthsurvey.org/school-culture

A Motivated Community Makes the Right Connections

By Ellen Ullman

It's no secret that 1:1 programs are no longer enough. With nearly one-third of US households lacking broadband access—according to EveryoneOn—the real challenge for school districts is to make sure every student has Internet access at home.

Many districts are already working to close this digital divide. Some are doing it on their own, but many are partnering with their communities to raise funds and increase the impact. [Tech Goes Home Chattanooga](#), based on a similar program in Boston, helps school leaders and staff learn how to teach computer skills to their low-income families. Technology Matching Fund (seattle.gov/tech/initiatives/digital-equity/technology-matching-fund) has served more than 43,000 residents in Seattle for almost 20 years by providing funding and technology resources to local organizations. [Unlocking the Connection](#), in Austin, Texas, has connected 18 public housing communities, teaches people how to use the Web, and gives away refurbished computers to anyone who completes the digital training course.

In Charlotte, North Carolina, the Charlotte-Mecklenburg Schools (CMS) have spurred a digital





equity movement based on one student's vision.

She Had a Dream

Two years ago, when Franny Millen was in eighth grade, she noticed that many of her classmates turned in handwritten reports and were disappointed that they couldn't get to the library or somewhere with Internet access so they could complete the research their projects required.

At CMS, 54 percent of the 147,157 students are economically disadvantaged, and 75 percent of students at more than 70 of the schools live in poverty.

Millen thought everyone should have connectivity at home, so she formed [Eliminate the Digital Divide](#) (E2D). She reached out to community and civic leaders, local colleges, and business owners to ask for donations and grants. [MI-Connection](#) offered to wire recipients' homes for free and provide a free year of Internet connectivity



and subsequent discounts.

But Millen wanted to go even further. She wanted families to receive computers, training, tech support, and educational software as well. Her school identified families to apply for the computer and connectivity package. The families paid \$10 a month and received computer training from Davidson College students. E2D subsidized the balance of the overall package so the families could own the laptops at the end of the year.

Around the same time, Charlotte was applying to become a Google Gigabit city. A team of county and city leaders was working with CMS administrators, the public library, and higher education institutions to figure out how to address the homework gap.

From Great to Greater

Millen's initial goal was to raise \$15,000 and help 50 families from one elementary school. Since January

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2015, E2D has raised \$40,000, received more than 700 donated laptops (500 from Lowe's), and provided laptops, digital access, and computer training to more than 1,200 families at 12 CMS schools.

Last May, 109 elementary schools in the district hosted student-organized lemonade stands to raise money for E2D. It was part of the first annual county-wide Lemonade Stand Day, with support from Google Fiber and Lowe's. The goal was to raise money for the remaining 24,000 families who needed Internet access.

"All of this effort came from a desire for digital inclusion for all children," says Valerie Truesdale, CMS chief of technology, personalization, and engagement. "Internet access is a basic utility and a social justice issue."

Form Your Own E2D

"Digital equity is part of ensuring that all students have opportunity to learn and access to the Worldwide Classroom," says Truesdale. Here is her advice on getting started.

- * Convene stakeholders to build an understanding of, and commitment to, digital inclusion.
- * Meet with elected officials to explain the importance of digital equity so that they will use the social justice issue in their platforms, which often can influence policy making.



- * Engage the media by writing editorials about the importance of equity of access and sharing stories about how digital access has changed people's lives. You can write or tweet about students who can do their homework, unemployed parents and caregivers who are able to apply for jobs, or parents being able to communicate with teachers or access their children's grades.

About CMS

- * 147,157 students
- * 170 schools
- * 54% economically disadvantaged
- * 187 native languages spoken
- * 165 countries represented

"ALL OF THIS EFFORT CAME FROM A DESIRE FOR DIGITAL INCLUSION FOR ALL CHILDREN," SAYS VALERIE TRUESDALE, CMS CHIEF OF TECHNOLOGY, PERSONALIZATION, AND ENGAGEMENT. "INTERNET ACCESS IS A BASIC UTILITY AND A SOCIAL JUSTICE ISSUE."

The Business of Edtech

By Christine Weiser



Kevin Custer moderates a panel discussion focusing on incubator programs.

In December, the Software and Information Industry Association (SIIA) hosted its annual [Education Business Forum](#) at the Princeton Club in New York. This event for education business leadership and the investor community offered a variety of sessions, including insight from peer-reviewed product showcases and one-on-one networking events. Mike Fisher, Associate Director, Education Technology at Futuresource, presented on the topic, “The Ed Tech Market Around the World.” He said product interoperability would likely replace assessment as the edtech trend in 2017, with Chromebooks making up almost 60 percent of the sales to North America. “The conversation is moving from hardware to content and interoperability,” he told *Tech & Learning*. “Products must

be platform agnostic.”

Many sessions also noted a movement toward “bottom up” decision-making in K–12 as more products launch as “freemium” models and the wide adoption of Google continues to grow. The event also marked the retirement of Karen Billings, who served in the edtech industry for more than 40 years. “Karen Billings’ legacy in building support, resources, and camaraderie for a diverse network of education companies represents an enduring and significant contribution to education,” said incoming Senior Vice President and Managing Director of ETIN, Chris Lohse. “I’m humbled by the opportunity to further her aspirations and ambitions for what’s next for our industry sector.”

Broward County's Margate Elementary School Seeing Greater than Expected Literacy Gains in their First Year with Achieve3000

Approximately 350 fourth and fifth graders using KidBiz3000 made 1.5 times and 2.5 times the expected Lexile growth in one year with an average gain of 108 points for fourth graders and 160 points for fifth graders. In some classes, the percentage of students who showed an increase in reading skills was as high as 90 percent. Additionally, Margate saw a 162 percent increase in college and career readiness among fourth and fifth graders. One indicator of KidBiz3000's positive effect on student engagement and, consequently, on student reading, is the proportion of students who logged in to the literacy solution outside of school hours. Research suggests that the amount of reading that students do during out-of-school hours is an accurate predictor of their in-school academic achievement. Ninety-three percent of Margate's fifth graders used the program before or after school, while 85 percent of fourth graders did the same.



Low-Income Students See Improvements in Math and Reading Scores with the use of the Brain- Training Program ACTIVATE

Designed to improve critical thinking skills, ACTIVATE fosters the growth of cognitive skills through computer and physical exercises. In a third-grade class where 95 percent of students receive free and reduced lunch, 83 percent of students tested as proficient in reading after using ACTIVATE, compared to 58 percent in the rest of the school district. In a second-grade class with 49 percent of the students receiving free



or reduced lunch, 92 percent met proficiency in math after using ACTIVATE, compared to 63 percent in the rest of the school district. This research-based brain-training program has found that the cognitive function skills of focus, self-control, and memory predict math and reaching achievement as well as high-school graduation rates.

Edgenuity and Montgomery Virtual Program (MVP) Work Together to Offer Flexible Online Learning Opportunities

The Montgomery Virtual Program in Montgomery County, Pennsylvania, partnered with Edgenuity to create an online learning environment for students seeking credit recovery, acceleration, and more. The result was a 94 percent pass rate last year. Using Edgenuity content to offer a wide range of courses taught by highly qualified teachers, MVP enables students to complete online coursework while they are still enrolled in their local schools. The innovative curriculum has allowed students to catch up or get ahead. Courses include standard, accelerated, honors, Advanced Placement, SAT, ACT, and Keystone Prep and electives, and they may be used for initial credit, credit/unit recovery, for homebound students, and for alternative education programs.



Coeur d'Alene School District Develops New Mission for Science Education and Chooses PASCO Scientific to Help Support It

The district recently established a comprehensive new middle-grade science philosophy to foster scientific literacy. Coeur d'Alene wants students to master scientific principles and processes



that will help them solve problems, think critically, work cooperatively, and use technology effectively in all subject areas. Every science course must foster inquiry-based experiential learning and incorporate lab-based experiences and new technologies to strengthen positive attitudes about science. PASCO's award-winning wireless sensors will infuse technology into the science curriculum and provide hands-on learning experiences for students. By simplifying lab setup and removing the clutter of cables, the sensors allow students to perform experiments that previously were difficult or impossible and to spend more time exploring.

Detroit Public Schools Community District Adopts myON in 65 Schools

The adoption of myON is part of Detroit's ambitious academic plan focusing on literacy and innovation.

The district's new initiative concentrates on competency-based and personalized learning to meet the specific needs of individual students. myON offers the 65 schools access to more than 5,300 high-quality, engaging fiction and nonfiction digital books, as well as access to myON's literacy tools. The district wants to increase student access to books both at home and at school, thereby increasing their love of reading and ultimately leading to increased student achievement. myON also offers titles in Spanish and other languages to help close the literacy gap for English Language Learners. Funding for this initiative came from a Michigan Department of Education Additional Instructional Time Grant, which was awarded to help students who have been identified as needing additional supports and interventions in order to read at grade level by the end of third grade.



UPCOMING SCHOOLCIO SUMMIT DATES AND LOCATIONS INCLUDE:

- **March 3-4 in Silicon Valley, CA** (Redwood Shores)
- **June 23-24 in San Antonio, TX**, immediately before the ISTE conference
- **October 6-7 in Nashville, TN**

Attendance at a summit is complimentary for those invited by *Tech & Learning*. To be considered, please complete this short survey:

www.surveymonkey.com/r/2017SummitSignup

