Texas School Business

What's trending in technology spending?

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School IT experts share what's trending in technology spending

by Evan Lieberman

Budgets for public school districts are shrinking while the costs of educational technology are rising. A knee-jerk response to address this is to reduce instructional technology (IT) budgets, but this denies our students the tools of the future. By understanding recent patterns of spending in education technology, school boards, superintendents and other district-level personnel can ensure schools equip students with the technology skills they will need when they enter the modern workplace.

IT BUDGETING

A recent FutureSource Consulting study indicated that school districts are increasing their technology budgets, and that hardware spending increased worldwide by 7 percent in 2015. The increase in IT spending makes sense when considering the constant expansion of technology in K-12 schools. It may be unpalatable to school boards and taxpayers, but funding for IT must increase every year to keep school districts up to date.

One area that continues to affect IT spending is the market for interactive projectors and smartboards. The FutureSource study showed that increased competition is driving prices down, and, as a result, school districts have more choices and leverage when buying projectors and smartboards. Educators can decide to use projectors with smartboards, or they can choose touch-sensitive television screens. These screens and smartboards come in all sizes, types and prices, so every district can find something to fit their instructional needs and budgets.

The study also revealed that sales of mobile computers, such as laptops and tablets, are outpacing traditional tower-and-monitor desktop computers. Just as mobile phones have become smaller and more powerful, so have our computers. In the face of dropping prices for laptops and tablets, schools have turned away from clunky, more expensive desktop workstations. As a result of this trend, many school districts have more mobile devices in use than desktop computers. A specific example of the growth in mobile devices is the recent emergence of the Chromebook as the top mobile device for instruction.

THE RISE OF CHROMEBOOKS

Chromebooks are laptops or desktops that run the Google Chrome operating system (instead of Microsoft's Windows or Apple's OSX). Chromebooks are usually slimmer and lighter than other laptops, and most Chromebooks do not have a CD drive. Laptops and iPads require apps and programs to be installed on board. Conversely, Chromebooks use data and apps from the cloud, instead of storing data and apps on the actual device. This cloud-based setup requires more from the Internet, but less from the Chromebook itself. The shift of focus from the device to the cloud also makes Chromebooks ideal for classrooms or computer labs where different students use the same device throughout the school day. Instead of each student having to log in and out of a laptop or a computer, a Chrome-

book can allow the same configuration to serve multiple students.

Ronald "Steven" Byrd, who has experience working at both the campus and district levels, currently serves as a virtual learning coordinator at San Antonio ISD. He says he appreciates how Chromebooks can serve many students throughout the day with their user-friendliness and security. Byrd cites their "ease of use and being able to control the environment from one central location, as far as what (the students) can get to when they log in."
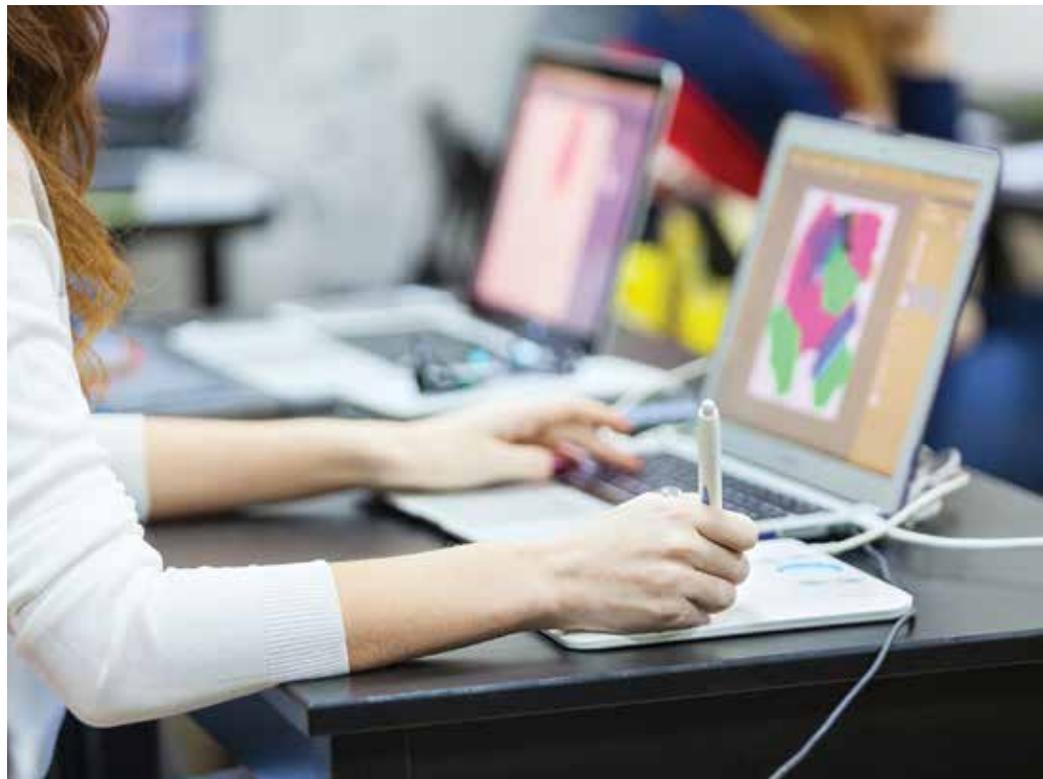
Because Chromebooks are cloud-based devices, they can be managed remotely and securely. Byrd says this gives educators the ability to control and monitor the sites visited when the devices are online.

A 2016 report by EdNET Insight cited that in 2015, Chromebooks had replaced iPads in America as the most widely purchased devices for mobile learning. The rise of Chromebooks goes hand in hand with a decrease in tablet purchases. One of the reasons for the recent dominance of the Chromebook is the lower price point. While a new iPad tablet might cost upward of $400, Chromebooks can cost less than $150 each. This means that school districts can buy at least double the amount of devices by going with Chromebooks instead of iPads. Byrd agrees that "Chromebooks serve a great functionality while lowering your overall operational costs."

Miguel Guhlin, director of professional development at the Texas Computer Education Association, cites testing as another reason districts are switching to Chromebooks.

"These devices are flexible, and preparing (the devices) for high-stakes testing is an easy process that makes yesterday's efforts for maintaining Windows devices a nightmare by comparison," says Guhlin, a former school district technology director.

As state testing moves from pencil and paper to digital, Chromebooks are ideally suited to facilitate online standardized tests.

Another advantage of using Chromebooks is that most of the software is free and set up to work with a Chromebook environment. Byrd says he appreciates this because "you can administer all your Chromebooks and all your Android devices from there."

While Microsoft and Apple products require purchasing apps and programs, Google offers free educational apps and device management systems that school districts can sign up for and use. Most Chromebooks are ready out of the box to access Google's Apps for Education, while iPads and laptops require programs and apps to be purchased, installed and configured.

▲
Edgewood ISD instructional technology facilitators collaborate on the implementation of district-wide technology initiatives during a monthly meeting. Pictured left to right are Evan Lieberman, Yvonne Galindo, Norma Cantu and Debra Martinez.

Also, many districts are now using Chromebooks because they are ideally suited for using free digital content online, commonly known as open educational resources (OER).

OPEN EDUCATIONAL RESOURCES

The William and Flora Hewitt Foundation defines OER as content that "permits their free use and repurposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge." Guhlin agrees that OERs, such as digital textbooks, provide "unprecedented access to the wisdom of the learned in convenient packages."

Byrd emphasizes that digital textbooks, by design, are more up to date than traditional printed textbooks, because the electronic medium can be updated frequently and easily.

"By the time you publish a textbook, you run the risk of having material being outdated," he says. "And then in Texas, (teachers and students) are stuck with it for seven years."

The audience for OER ranges from one student being homeschooled to an entire district of students. OER can be in the form of a video series, an online activity, or a complete curriculum of recorded lectures, homework assignments and quizzes. One of the first OER websites, Khan Academy, offers free "micro lessons" through YouTube videos. Another commonly known OER clearinghouse is edX, a collection of free, online college courses developed by Harvard, MIT, The University of Texas and other top universities. With a simple Google search, educators can find OER on any subject for any age group, from elementary school content to graduate-level college courses.

The most obvious advantage of using OER is the price — it's free. Guhlin agrees that these resources are "awesome because they are updated frequently by both teachers and students and are frequently less expensive to acquire."

Instead of investing in printed textbooks or paid online curricula and e-books, districts can save money with OER. Why buy anything when school districts can find free digital textbooks and curricula? Another advantage of OER is that schools can customize curricula based on local needs.

Districts can choose systems that provide a complete curriculum, or they can create frameworks by picking and choosing among the thousands of resources available online. This flexibility gives OER the potential to be used for any subject and in any district of any size. Within each tailor-made course, teachers can go one step further to use OER to provide personalized learning for their students. While traditional textbooks give the same experience to every student, wisely implemented OER can deliver effective, specialized learning to all students.

TEACHER TECHNOLOGY TRAINING

OER might save on spending, but districts still need to invest in IT experts to manage these online learning systems and to train teachers how to use OER. School districts must ensure that once the equipment is bought, it is used to its full potential.

An EdNET Insight study revealed that, from 2014 to 2015, there was a decrease in funding for teacher training and tech support, while spending on hardware and software purchases increased. IT experts know that funding teacher training is equally import-

K–12 open educational resources clearinghouses and websites

K-12 OER Collaborative
http://k12oercollaborative.org

OER Commons
www.oercommons.org

Curriki
www.curriki.org

CK12 Foundation
www.ck12.org

K12 Open Ed
http://k12opened.com

Khan Academy
www.khanacademy.org

Hippocampus
www.hippocampus.org

ant to purchasing equipment.

Randy Rodgers is the director of digital learning for Seguin ISD. He has more than 20 years of experience in education.

"Training is the most important factor in enabling technology resources to transform teaching and learning," he says.

Rodgers goes on to explain that technology preparation for teachers should not be a one-time event, but an ongoing offering of continuing education. Rodgers says, to truly improve teachers' skills, educators need ongoing support as they try to implement new technology in their classrooms.

Byrd concurs that one training session in isolation will not have a significant effect. He also says that training must be directly applicable to classroom situations. Guhlin agrees, saying that training sessions should focus on activities and projects that match what educators expect of their students. He says effective technology training helps students and teachers understand that classroom learning isn't solely about gaining theoretical knowledge but also finding expression in real-life application.

NETWORK INFRASTRUCTURE

Districts need a strong network infrastructure to support their technology investments. Chromebooks and most interactive digital materials require a robust network for optimum impact. Whenever your technology department suggests projects to improve the network, this money is well spent. Imagine that you are the owner of a racetrack, and you have the best cars and the most-skilled drivers. Unfortunately, your racetrack is a narrow dirt road, riddled with rocks and potholes. Even with the best cars and drivers, the race itself is severely compromised because of the low-grade track. The same is true for your district's network. It has to be high quality to power the best equipment and empower the end users.

Rodgers says districts should create growth plans for their network infrastructure. He says districts must "think at least a decade ahead, when capacity and bandwidth demands are far beyond where we sit today. We have to envision each student, teacher and administrator with multiple connected devices and continued growth in the move to cloud-based resources."

Education technology is moving away from individual, isolated pieces of equipment and toward an integrated framework that depends on a strong network of interconnected devices. Add this to the increase in OER availability, and the need for a strong network infrastructure becomes even more critical. Equal in importance to the technology itself is an investment in teacher training to ensure that these tools are fully leveraged in the classroom.

By acknowledging these trends, school districts can plan today to better serve our students of tomorrow.

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