



K-12 School District Priorities

This year, it's all about personalized learning.



SURVEY METHODOLOGY

The Center for Digital Education (CDE) conducts the Digital School Districts Survey annually. The survey seeks to provide a yearly benchmark of technology use and innovation in education. CDE invites all public school districts nationwide to participate and share strategies and experiences with technology use in education. More than 100 school districts respond every year.

For the 2017-2018 survey, CDE asked school districts how they use a range of technologies to improve services to students, faculty, staff and the community at large. From this information, CDE creates a list of the top 10 priorities identified by respondents. CDE then spotlights 10 districts for the work they are doing in each of the top 10 priority areas. The most recent survey was fielded between November 2017 and January 2018. All told, 120 school districts in 24 states participated.

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Introduction

Heads up, public school administrators, teachers, parents and students — learning is about to get a lot more personal.

This is the top-level takeaway from a recent survey by the Center for Digital Education, an annual effort that spotlights districts innovating in exemplary ways and, in the process, culls the top 10 technology priorities from academic leaders at public schools throughout the nation.

Results from the 2017-18 Digital School Districts Survey indicate personalized learning is on just about everyone's minds — even peripheral priorities identified in the survey demonstrate an overall push toward using technology to tailor learning to individual students.

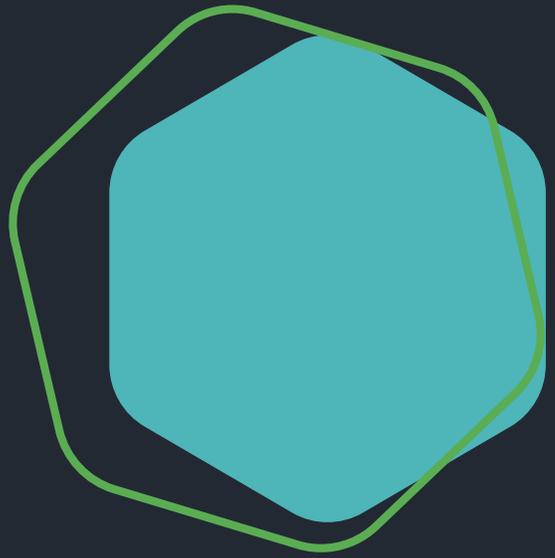
This report analyzes data for every priority, explains what respondents said about each, and, where applicable, spotlights case studies of districts blazing new trails. Most of the cited districts also are winners of the 2017-18 Digital School Districts Awards, an annual program held in conjunction with the survey that honors the leaders in this field. In short, the report presents a mashup of data analysis and best practices designed to inform and educate readers about the future of technology in K-12 education.

2017-18 Top 10 Priorities

- 1. Personalized Learning**
- 2. Digital Content and Curriculum**
- 3. Professional Development/Skills Training**
- 4. Mobility**
- 5. Upgrading Classroom Technologies**
- 6. Student Data Privacy**
- 7. Upgrading Networking Infrastructure**
- 8. Common Core/State Standards**
- 9. Online Testing**
- 10. Cybersecurity Policy
(Including Acceptable Use of Technology)**

Source: 2017-2018 CDE Digital School Districts Survey





PRIORITY NO. 1

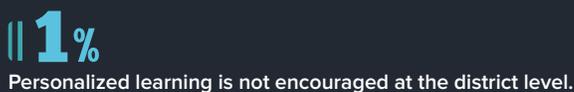
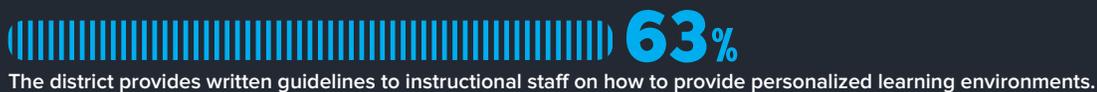
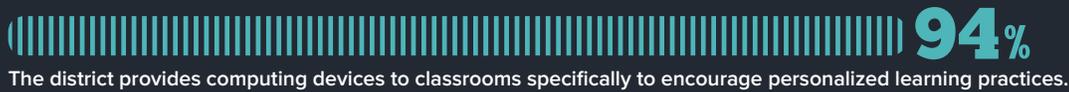
Personalized Learning

It's fitting that personalized learning nabbed the No. 1 spot on the 2017-18 list of priorities; in many ways, all nine of the other priorities represent a different facet of that effort.

Personalized learning was a core tenet of the Every Student Succeeds Act of 2015 (ESSA), which essentially made it a federal requirement to move toward more individualized attention. Thus, if states are doing what they should be under federal law, more districts should be embracing personalized learning by default. And they are.

But what is personalized learning? And how does it differ from the traditional approach? For starters, personalized learning emphasizes connecting learning to the real world and linking curriculum to students' strengths, aspirations and interests. It also favors providing students with individually targeted instruction, practice and support — especially in areas where students are struggling. Finally, personalized learning places importance on developing trusting and caring relationships between teachers and students. It includes popular approaches to curriculum and instruction development such as project-based learning, blended learning and individualized

How does your district encourage or advocate for personalized learning practices in classrooms?



Source: 2017-2018 CDE Digital School Districts Survey



learning. In general, the goal is to make learning more personal and therefore more engaging.

Ninety-six percent of respondents to the CDE survey said their districts provide software or digital curriculum to classrooms specifically to encourage personalized learning practices. Ninety-four percent said their districts provide computing devices for classrooms to encourage personalized learning. And 92 percent said their districts provide professional development in personalized learning.

Perhaps nothing demonstrates the push for personalized learning better than iPersonalize, a four-year-old augmented reality game at Fullerton School District in Fullerton, Calif. The game is designed to increase student engagement, establish connections with the local community and allow students to create their own learning pathways.

In the game, students create avatars for themselves, then advance through “storylines” that are tailored to their academic needs and interests. Students participate in a mix of whole group, small group and

individualized instruction delivered both digitally and face-to-face. According to Jay McPhail, assistant superintendent of innovation and instructional support for the district, the quest-based learning system lets students work through the curriculum at their own pace. Most of the quests use technology to provide students with immediate feedback that unlocks new content. What’s more, all students take a pre- and a post-test to qualify for culminating project-based events — most of which involve the local community.

“In one project, students who achieved mastery in writing self-published a book that was sold by the local Barnes and Noble bookstore,” McPhail says.

Another project had kids interview residents of retirement homes, then put together a video of the interview for the residents to watch.

McPhail says roughly 6,000 students in grades 4 to 8 have participated so far. “Every kid has something he or she is really excited about,” says McPhail. “Once we empower a kid’s passion and give [him or her] a pathway, it’s incredible to watch what the kids can do.”

Top 10 Priorities Side-by-Side

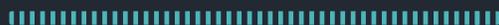
Top 10 priorities for 2017-18 haven’t changed dramatically from last year’s results. A side-by-side comparison indicates that the top four priorities are identical: Personalized Learning, Digital Content and Curriculum, Professional Development/Skills Training, and Mobility.

2017-18 TOP 10 PRIORITIES



1. Personalized Learning
2. Digital Content and Curriculum
3. Professional Development/Skills Training
4. Mobility
5. Upgrading Classroom Technologies
6. Student Data Privacy
7. Upgrading Networking Infrastructure
8. Common Core/State Standards
9. Online Testing
10. Cybersecurity Policy (Including Acceptable Use of Technology)

2016-17 TOP 10 PRIORITIES



1. Personalized Learning
2. Digital Content and Curriculum
3. Professional Development/Skills Training
4. Mobility
5. Upgrading Networking Infrastructure
6. Online Testing
7. Common Core/State Standards
8. Student Data Privacy (Including Policies)
9. Cybersecurity Policy (Including Acceptable Use of Technology)
10. Cybersecurity and Data Security Tools and Their Applications

Source: 2017-2018 CDE Digital School Districts Survey

PRINTERS IN THE DIGITAL CLASSROOM

Workbooks can be cost-prohibitive. Even if all students have access to a computing device, they may still need workbooks — for English language arts, math, penmanship and more.



ELLIOTT LEVINE
Director of Education
and Distinguished
Technologist, HP

In an era of digital learning, printing to a piece of paper is still important, asserts Elliott Levine, distinguished technologist and director of education for HP. Here, Levine shares four reasons why.

Workbooks can be cost-prohibitive. “Even if all students have access to a computing device, they may still need workbooks — for English language arts, math, penmanship and more,” says Levine. These costs add up. Simply eliminating this kind of practice work may not be an option because “there are still times when teachers absolutely want those manipulatives to reinforce learning,” Levine adds. Printers allow teachers to produce specific worksheets for individual students, which can help keep costs down.

Students and parents still like to see work on the wall. As project-based learning proliferates, students create reports and slides they want to print to show the work they’ve accomplished. “Kids are working on innovative school projects on their devices and they’re still just as proud of their accomplishments,” Levine says.

Augmented reality can lift learning off the page. Projects that used to require QR codes can now use visual triggers. HP’s free app Reveal (previously known as Aurasma) allows teachers and students to use their phones or tablets to print an image that activates visual interactivity. For example, for a class project, each child might post a picture he or she drew of a U.S. president. “When the parent or teacher puts the phone or tablet up to view the drawing, it plays a video of the student presenting a report on that president,” says Levine.

Centralized printers aren’t always easily accessible. Schools are rightfully concerned about teachers leaving the room while class is in session. For reasons of safety and security, suggests Levine, teachers can’t head to a central printer every time they need to print on demand. As a result, teachers need more access to local devices.

For more information, visit cdw.com/hpprinting.

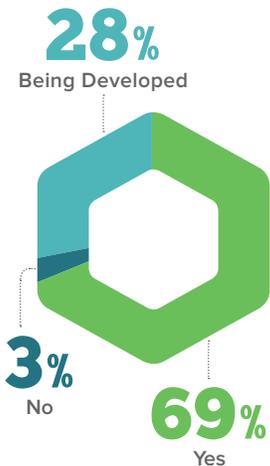




PRIORITY NO. 2

Digital Content & Curriculum

Does your school district have a digital content and curriculum strategy?



Source: 2017-2018 CDE Digital School Districts Survey

Digital content is another major priority for CDE survey respondents. This is no surprise since schools need a rich selection of digital content and curriculum to further personalize instruction. Other reasons respondents embrace digital content: to increase student engagement in the classroom, to provide extra support for struggling students and to supplement learning with information not found in the traditional curriculum.

Put differently, a wide swath of digital content — from quiz tools and video to digital textbooks and robotics — gives educators flexibility to tailor instruction to meet individual student interests and needs.

Nearly 70 percent of survey respondents said they have a digital content strategy, and 28 percent said they are developing one. Survey results also indicate the greatest amount of digital content is used in grades 6 to 8 — a perfect time to use it since educators teaching students at those levels typically are using content to reiterate old concepts instead of introducing new ones.

Also worth noting is that more than 70 percent of survey respondents said they are not using digital content from a library or repository, which means they are developing it themselves. This corresponds to efforts in many states to create open source collections of teacher-generated digital content. So far, Nebraska, Tennessee and New York are among the states leading the charge; a math curriculum from

A wide swath of digital content – from quiz tools and video to digital textbooks and robotics – gives educators flexibility to tailor instruction to meet individual student interests and needs.

New York state is the most utilized open education resource (OER) in the entire world.¹

Another state leading the charge with digital content: Georgia. Tift County Schools in Georgia created an online school in 2015 which provides year-round access to digital content for all students in grades 9 to 12. The following year, the district went one step further, moving to Google GSuite for Education so students enrolled in its 1-to-1 program could access digital content from the cloud on their Chromebooks. This May, Tift added students in grades 6 to 8 to the program, too.

“We thought it would give our kids the best opportunity to have access to the wealth of knowledge there is on the internet,” says Jonathan Judy, chief technology and information officer. “The teachers can deliver content to them digitally and they can respond digitally. It makes us more efficient and helps our teachers out a lot.”²

PRIORITY NO. 3

Professional Development / Skills Training

Technologists consider professional development and skills training for integrating technology in the classroom a mission-critical part of implementing personalized learning — as well as every other technology priority on the list.

The thinking here is simple: If teachers are going to move toward a more technology-focused instructional mode, they need to understand how to use the technology before they can incorporate it.

The good news: More than half (54 percent) of survey respondents said their districts mandate ongoing technology-based professional development, require attendance at these sessions multiple times per

year and provide training on the newest forms of technology, including social media.

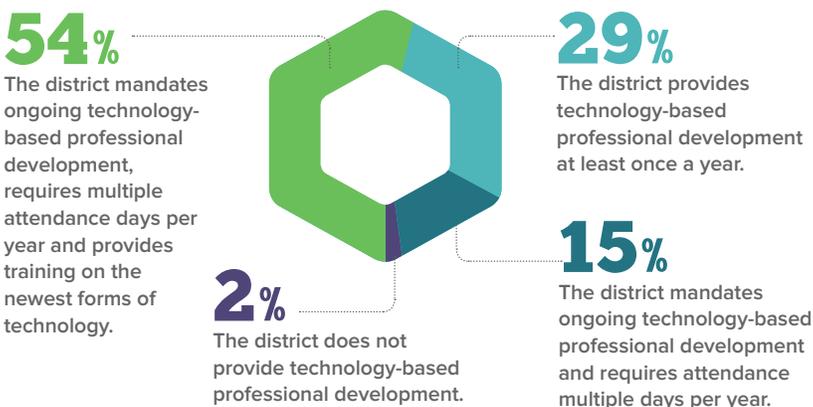
Equally encouraging: 96 percent of respondents said their professional development experiences include training on how to use hardware and software, and 90 percent said their districts provide technology training that can be accessed online or on demand. What's more, 89 percent of respondents said their districts provide opportunities to share best practices as part of professional development, and 83 percent said their districts provide professional development that includes ongoing mentoring or peer support.

The very best professional development programs are multi-faceted, offering a variety of opportunities for teachers in different media and settings.

At Center Grove Community School Corporation in Indiana, for instance, the professional development strategy has three tiers: self-directed, site-based and standardized. Self-directed professional development comprises individual coaching, professional growth goals and a compendium of quick, easy-to-digest ideas. The site-based component plays out in more of a group setting. The final piece of Center Grove's professional development picture — what the district calls "standardized" — uses a trickle-down, train the trainer approach.³

The overall effect of this three-tiered model is a menu of options that keeps everyone involved. Most CDE survey respondents (8 out of 10) said they are receptive to new technologies, so long as they know they can learn them in training sessions that are engaging, informative and enjoyable.

How does your district provide professional development (in live or virtual form) regarding the use of technology for instructional staff?



Source: 2017-2018 CDE Digital School Districts Survey



My district's training and professional development for technology includes the following:



Source: 2017-2018 CDE Digital School Districts Survey

PRIORITY NO. 4

Mobility



Mobility is a complicated issue for academic technologists. On one hand, it pertains to the basic need for teachers to provide a flexible learning environment and the basic ability of students to move around in that environment once it has been established. On the other hand, “mobility” has come to be synonymous with equity — that is, a strategy to bridge the digital divide and offer equal technology access to every student, regardless of his or her socio-economic background.

According to data from the CDE survey, 89 percent of respondents reported having a mobile device policy, though the data did not differentiate between bring your own device (BYOD) or 1-to-1 (in which the mobile device is provided by the school) initiatives. Another 89 percent of respondents also noted using mobile devices for assessments, meaning the devices have become normalized in the classroom. Perhaps most interesting, among those districts that offer 1-to-1 programs, 94 percent of them report little to no mobile device loss — proof that having mobile usage policies and protocols for students to follow can make a difference in overall maintenance costs.

For an exemplary effort in mobility, look to DeKalb County School District in Georgia. Here, through a

“You look at what is expected of our students when they leave us in terms of how to be good digital citizens and you realize that the only way they’re going to learn that is if we provide them with access to technology while they’re at school.”

Monika Davis, Director of Virtual Learning, DeKalb County School District

program called Digital Dreamers, technologists reach every student and teacher by providing equitable access to technology tools that support deep teaching and learning. The program is designed to grow as students grow.

Specifically, the Digital Dreamers program provides a device for every student in grades 6 to 12, and it provides one mobile device for every two students at grade levels below that. The district launched the program in 2018 and it eventually will comprise more than 82,000 devices.

Monika Davis, director of virtual learning for the district, says the program helps level the playing field. Nearly three-fourths of the students in the district receive a free or reduced lunch and are considered disadvantaged, which means many of them wouldn’t otherwise have access to technology at home.

“You look at what is expected of our students when they leave us in terms of how to be good digital citizens and you realize the only way they’re going to learn that is if we provide them with access to technology while they’re at school,” she says.

Access to technology is only one step; giving students the opportunity to get online is another. In conjunction with the Digital Dreamers program, the district has teamed with the Sprint Foundation to provide 25,000 monitored internet hotspots for qualifying students to use. Next year, DeKalb plans to build out community partnerships with businesses to offer free Wi-Fi to students throughout the county.

Davis says her team is targeting libraries and other businesses that are “Digital Dreamer-friendly.” Her hope: to create an environment where DeKalb students can use devices to access information whenever they need.



94%
of districts
report that
ONLY 0-3%
of mobile
devices are
lost or stolen
per year.



4%
of districts
report 4-7%
of devices
are lost
or stolen
per year.



4-7%



8-11%

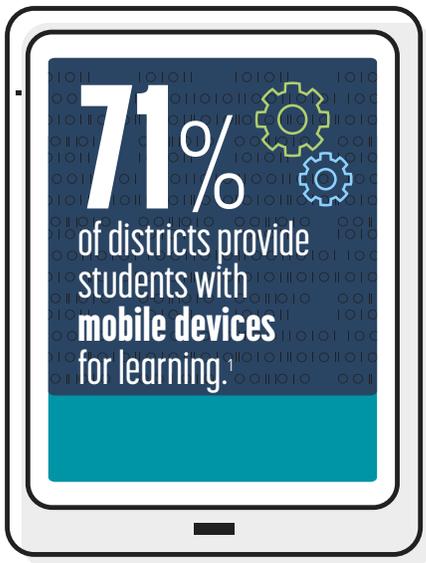
2%
of districts
report 8-11%
of devices are lost
or stolen per year.

Source: 2017-2018 CDE Digital School Districts Survey

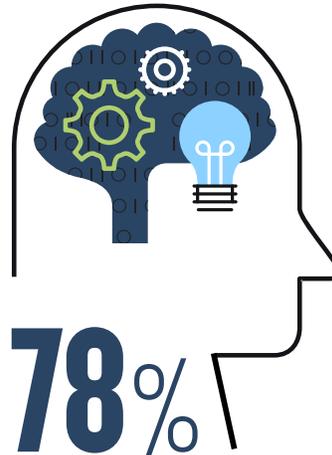
The Best Ed Tech Professional Dev

Preparing students well for college and careers is critical, and technology plays an important role. Digital tools and technologies can help equip students with the skills they need to thrive in a 21st century workplace and prepare them for careers that might not even exist yet. But to realize these goals, teachers must be provided the tools they need to effectively leverage technology.

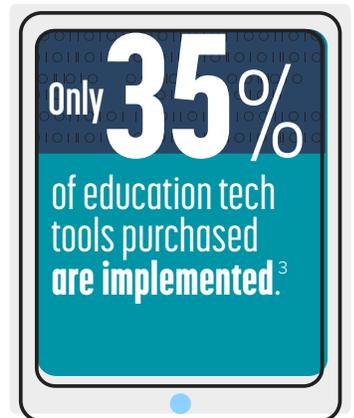
1. Technology investment is a top priority for K-12 school districts.



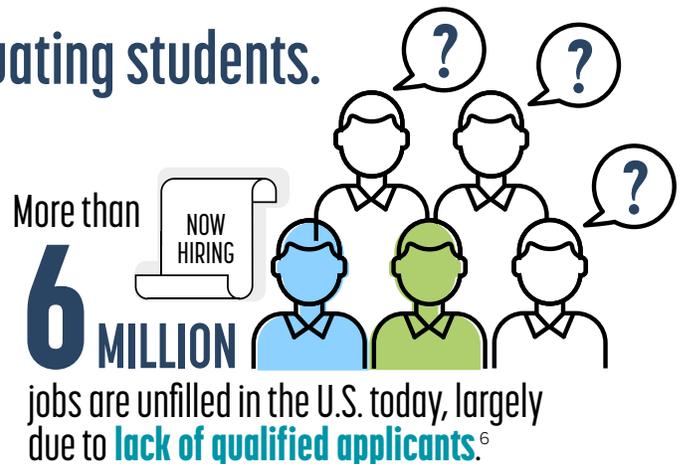
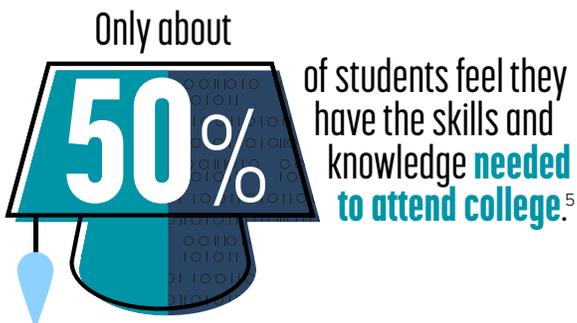
2. But teachers aren't adequately trained to use the technology to transform learning.



of teachers say they would like to **learn to use technology** to differentiate instruction.⁴

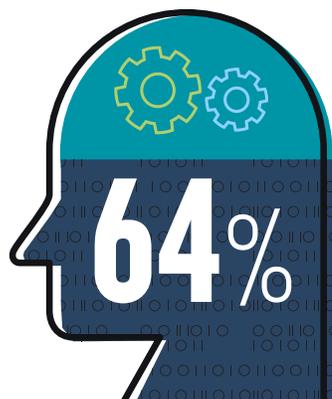


3. This leads to a skills gap in graduating students.

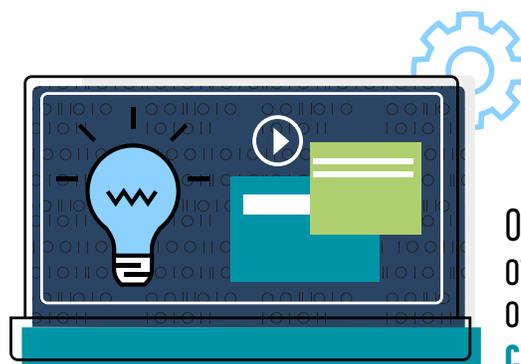


Professional Development Isn't About Technology

4. Professional development geared toward collaboration and innovation improves teaching and learning.



of teachers believe they **need more training** on the digital tools purchased by their district.⁷



Only **9%** of professional learning opportunities have **collaborative formats**.⁸

To empower teachers to use technology effectively, professional development...

- ★ Should focus on goals for learning first, technology second
- ★ Must be ongoing and easy to access whenever needed
- ★ Should be offered online, in person or in a hybrid format, using the same technology tools available in the classroom
- ★ Cannot be a one-size-fits-all curriculum; it should be tailored to teachers' needs
- ★ Should foster a sense of community and collaboration where teachers can learn from one another
- ★ Should help create a student-centered learning environment that's engaging and inspiring

TO LEARN MORE ABOUT HOW TO MAKE THE MOST OF YOUR TECHNOLOGY INVESTMENTS BY PROVIDING PROFESSIONAL DEVELOPMENT THAT ENABLES YOUR EDUCATORS TO USE EDTECH TO IMPROVE STUDENT LEARNING, VISIT: WWW.AVID.ORG



PRIORITY NO. 5

Upgrading Classroom Technologies

Technology changes so rapidly that it's difficult to keep up with the latest and greatest tools. Some districts, however, seem to be making a better effort at doing so.

While survey respondents reported ongoing classroom re-design initiatives in various areas, the numbers for current and planned modernization projects were low — at least, lower than perhaps one might expect.

Fifty-five percent of respondents said they wanted to see more classroom technology tools such

as interactive whiteboards, document cameras, display equipment and assessment tools. And 59 percent of respondents would like to see more money spent on STEM education, as well as on digital microscopes.

Coding also should be part of any discussion about cutting-edge classroom technologies. Kids love it. Educators can build lessons around it. And when robots are involved, everybody swoons.

According to the survey, coding is becoming more commonplace. Fifty-two percent of respondents said students at some school sites in their district have access to coding classes, while 41 percent of respondents said they offer coding to all students. Perhaps most impressively, 65 percent of respondents said their districts make students practice coding every day or as an optional after-school activity.

Survey respondents also mentioned a host of new technology areas and tech-friendly strategies they wish to pursue. Among them: A media center, a maker space and a model school with Active Learning with Technology (ALT) spaces.

An interesting example comes from Flagler County Public Schools in Florida. Over the last few years, the district implemented a Bluetooth beaconing system in conjunction with Wi-Fi. The system, which is still in trials, pushes content to students' iPads based on their

Does your district offer coding instruction?



**Respondents could select all that applied.*

Source: 2017-2018 CDE Digital School Districts Survey



59%
of respondents would like to see more money spent on STEM education, as well as on digital microscopes.

location. For example, when students enter a school's maker space, they get content about what's new there.

"When you walk into a specific area, resources and apps come up that are appropriate for what's being used in that space," says Ryan Deising, the district's executive director of instructional and operational innovation. "This type of push might inspire a student who wouldn't apply him or herself to give something a try."

Flagler's facilities department also has embraced another cutting-edge technology,

leveraging the connectivity of everyday devices (in other words, the Internet of Things) to tackle energy and environmental monitoring. Specifically, the district linked its HVAC systems and kitchen refrigerators and freezers to the internet, so technologists can monitor systems from any place, at any time. Eventually, Deising hopes to get district water management onto IoT technology as well.

"IoT is part of our strategic plan," Deising says. "It's a long-term goal to innovative new ways to streamline and manage our resources."

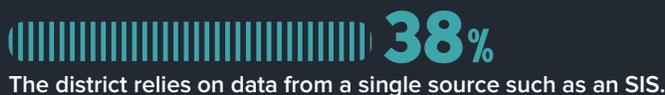
PRIORITY NO. 6

Student Data Privacy

One byproduct of transforming education with digital tools is that everyday usage generates a huge amount of data. In some cases, this data is anonymous — it's more about an entire class or grade than it is about one person. In other cases, however, the data is personal, which can make students — and their guardians — uncomfortable.

Making matters more challenging, many school districts work with third-party platforms which capture student data, raising concerns about data ownership. Parents and guardians want assurances that personal information about their children is secure and protected by a school system.

My district's governance plan for student data includes the following:



Source: 2017-2018 CDE Digital School Districts Survey



The Family Educational Rights & Privacy Act (FERPA) gives parents the rights to their children's education records and personally identifiable information. Additionally, the federal Children's Online Privacy Protection Act (COPPA) prevents child-directed websites and apps from collecting certain personal information from anyone under 13 years of age without parental permission.

Ninety percent of survey respondents said their districts track student data longitudinally. Eighty-one percent of respondents say their districts have governance policies that ensure the safety and privacy of data.

Some school districts are more open than others in communicating with parents about their policies regarding student data privacy. Colorado Springs School District 11, for instance, has a web page⁴ dedicated to informing parents about privacy and governance. The page lays out what data the district collects and why, how education data supports student success and school improvement, and how education data is protected. This paragraph, lifted straight from the page, sums up the objective perfectly:

"We are working to improve your children's education by ensuring it meets their unique needs. It would be very difficult to accomplish this goal without the ability to capture important information about your child's progress. Protecting personal information in secure and responsible ways is at the heart of our efforts to provide a richer and more dynamic learning experience for all students."



Parents and guardians want assurances that personal information about their children is secure and protected by a school system.



PRIORITY NO. 7

Upgrading Networking Infrastructure

Network infrastructure is intimately tied to mobility — as more devices connect to the network, districts must ensure they have enough bandwidth to manage the traffic.

CDE survey results show districts are investing in this area to keep pace with demand. Roughly 87 percent of respondents said their districts are upgrading networks to be ready for increased instructional demands, enriched digital content, multimedia-rich video content and cloud-based applications. Another 83 percent said their districts provide free Wi-Fi to students within a certain range of campus.

Perhaps no academic technologist knows more about bolstering network infrastructure than Dr. Daryl Diamond, director of Innovative Learning & Arts at Broward County Public Schools in Florida. Since 2014, Diamond has overseen an \$80 million investment in improving network infrastructure for 240 schools. The bulk of the expenditures has gone toward upgrading cabling and delivering wired and wireless access to all sites across the district.

Once the network improvements were made, Broward County began expanding its mobility

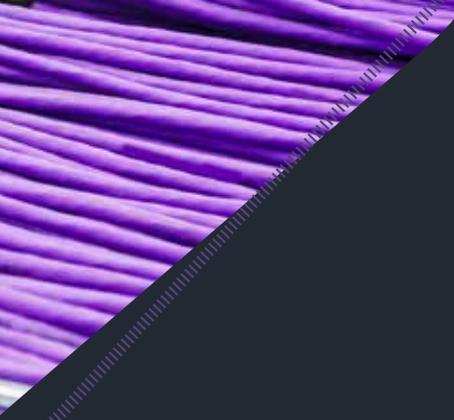
“Today, no matter where students are on campus, they are able to access our digital content with the devices they have.”

Dr. Daryl Diamond, Director, Innovative Learning & Arts, Broward County Public Schools

program, which, as of this writing, enabled students to bring devices from home and also offered district-provided devices.

“Today, no matter where students are on campus, they are able to access our digital content with the devices they have,” Diamond says. “Until we made investments in the network itself, until we made sure the network was available to every school and every campus across our district, that wasn’t always the case.”

Diamond adds that the network also facilitates the district’s push for personalized learning, since it gives students more reliable access to the content they need most.



What network initiatives are underway at your district?



Upgrading networks to be ready for increased instructional demands, enriched digital content, multimedia-rich video content or cloud-based applications



Establishing wireless access capabilities for students on campus



Making adjustments to security to better manage access to district networks



Implementing data center projects to enhance capacity and reliability, and to simplify management



Implementing on-site servers or other on-premises storage



Collaborating with local government/others to offer free Wi-Fi for students at home and/or community centers



Implementing software-defined networks



Other

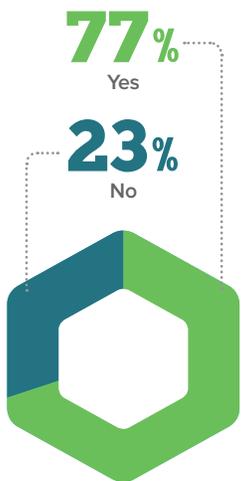
Source: 2017-2018 CDE Digital School Districts Survey



PRIORITY NO. 8

Common Core/State Standards

Does your district's digital content include open education resources (OER)?



Source: 2017-2018 CDE Digital School Districts Survey

State standards represent one of the major driving factors behind digital content delivery. While “Common Core” isn’t really on the radar screen any more — these standards emerged in the late 2000s and largely have disappeared in recent years — individual states have taken the essence of what Common Core once was and folded it into their own requirements.

Today, most of these requirements pertain to the ways in which districts offer certain curriculum, online or off.

According to the CDE survey, 77 percent of districts allow students to take fully online classes for core credit, while nearly the same amount (76 percent) offer blended classes to meet core content requirements through a combination of face-to-face and online instruction. Roughly 40 percent of survey respondents said their districts use video conferencing for instruction as part of core content.

State standards also often pertain to the use of open education resources (OER), and data from the CDE survey indicates that 77 percent of respondents use this type of free, openly licensed content.

Regardless of how districts deliver content, navigating state standards pertaining to that content

is a constant challenge. At Wilson County Schools in Tennessee, technologists took an unusual approach — assembling a special repository within the district’s learning management system where educators can upload and share lesson plans, digital content (including textbooks), and other OER that meet state standards.

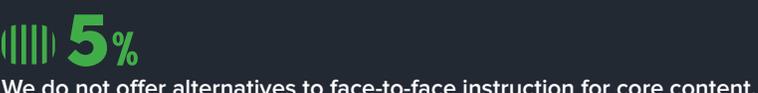
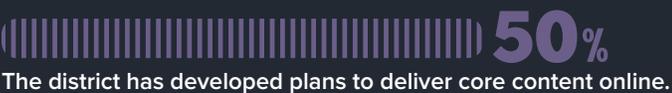
Nina Williams, the district’s digital learning specialist, was one of the district employees who put the effort together, and she notes the repository requires educators in the district to tag pieces of content, enabling users to search for materials by the standards they support.

Eventually, Williams says, the plan is to open the repository to teachers across the state.

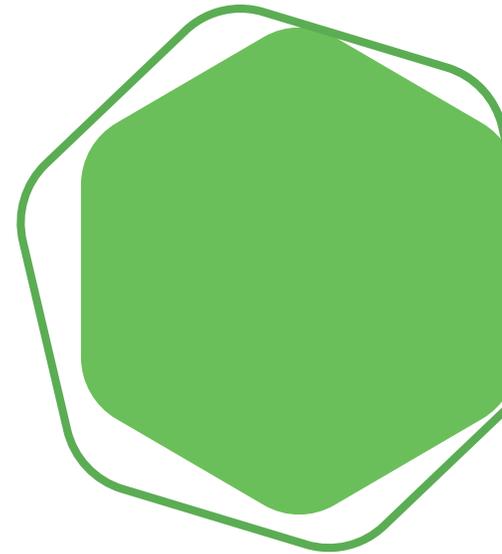
“Right now, this is just for our teachers, but ultimately the idea is that a teacher in any district in Tennessee could go in, type a learning objective or a standard, and get back a list of vetted and state standard-aligned content they can use in their classroom,” she says. “You can imagine how this will limit the amount of time teachers have to spend on prep — less time on that means more time with students.”



What does your district provide as alternatives to face-to-face instruction for core content?



Source: 2017-2018 CDE Digital School Districts Survey



PRIORITY NO. 9

Online Testing

While high-stakes summative testing remains an important component of assessment on the national level, ESSA lets school districts opt out of certain components. This means districts now are free to leverage portfolio assessments, formative assessments and other creative forms of evaluation to measure competency. It also means online testing at some point may give way to other assessment vehicles — both online and off.

The CDE survey indicates most school districts conduct online tests: 73 percent of respondents say they are maintaining or currently implementing cloud-based testing systems, while 13 percent say they plan to use the cloud for online testing within the next two years.

Anecdotally, growing numbers of districts are embracing formative assessments that offer much more timely feedback. Bibb County Schools in Georgia is a great example of this trend, having revolutionized the way it administers state assessments to students in grades 3 to 12. In just three years, district officials transitioned from nothing but pencil-and-paper testing to just about all testing online. Today the only remaining pen-and-pencil assessments are those that the district administers to students with special needs.

According to Rose Powell, executive director of technology services, the district's online testing platform automatically identifies students who need individualized remediation and registers them for enrichment activities.

"We get the results, we drop them into our student information system, and any student in third, fourth or fifth grade who didn't pass is notified they will participate in our summer remediation program," says Powell. "This helps us make sure students will be successful on the tests before they enter the next grade level."

Powell adds that by obviating pen-and-pencil testing and scoring, the district has eliminated clerical errors and sped up the feedback loop.

"We get the results, we drop them into our student information system, and any student in third, fourth or fifth grade who didn't pass is notified they will participate in our summer remediation program."

Rose Powell, Executive Director of Technology Services, Bibb County Schools



Does your district use the cloud for online testing?



Yes, the district is maintaining or implementing a cloud-based testing system.



No, but the district plans to use the cloud for online testing within the next two years.

Source: 2017-2018 CDE Digital School Districts Survey

PRIORITY NO. 10

Cybersecurity Policy

Between ransomware, DDOS attacks and other cyber threats, academic technologists face a constant battle to protect their networks and data. The CDE survey results indicate that districts are girding for this battle.

When asked to list the components of their respective cybersecurity frameworks, survey respondents tabbed the following:

- **Monitoring software (94 percent)**
- **Software filters (89 percent)**
- **Mobile device management (86 percent)**
- **Next-generation firewalls (85 percent)**

Roughly 83 percent of respondents said their districts regularly audit their network and systems, while 80 percent said their

district IT staff receive ongoing training to keep abreast of cybersecurity issues. What's more, 73 percent said their districts regularly examine data storage for security breaches.

However, many districts lack high-level personnel dedicated to cybersecurity. While 58 percent of CDE survey respondents said their respective districts have a full-time or part-time chief information security officer (CISO), 42 percent said their districts have no CISO whatsoever.

Still, there are a number of school districts showing true leadership on cybersecurity. Among the best is West Platte R-II School District in Missouri.

This district continuously undergoes voluntary cyber- and data-security audits and assessments — exercises that provide teachers ongoing and required training and also help staff recognize and detect phishing attempts. According to Richard Fletcher, the district's director of technology, the district has devised "phishing tests" to educate students and faculty on how to spot scams and avoid them. During these tests, the technology department sends out spoof emails and tracks how many faculty members and students click through.

Not surprisingly, faculty members usually score lower than students — in one of the first tests of the year, 80 percent of the teachers missed the emails as phishing, while just two of 600 students made the same mistake.

The Next 5

School officials responding to the CDE survey identified several other priorities that garnered significant attention but failed to make the top 10. Among them:

- 1. Data Management/Analytics**
- 2. Cyber and Data Security Tools and their Application**
- 3. Technology for Physical Security**
- 4. Server Consolidation and Virtualization**
- 5. Desktop Virtualization (Including Acceptable Use of Technology)**

Of these five, the notion of incorporating technology into physical security solutions is perhaps the most interesting, especially given the spate of school shootings that continue to plague public schools across America.



Does your district have a CISO or similar full-time staff member in charge of cybersecurity?



Source: 2017-2018 CDE Digital School Districts Survey

Since then, Fletcher has ratcheted up education among faculty about what phishing scams look like and how to avoid them. The district also incorporated cybersecurity awareness into a required course on digital citizenship for students.

“My advice to other districts would be: Don’t be afraid to find areas you’re weak in because you can always improve it,” Fletcher says.

Conclusion

The top 10 priorities for the 2017-2018 school year paint a colorful picture of school technology — a picture that revolves almost exclusively around personalized learning. Every one of the top 10 priorities ties back to this concept. Everything points to this new approach.

This emphasis on leveraging technology to give students the type of learning that suits them best is a promising practice that many districts are investing in today. Anytime the focus is on what is best for students, positive results are forthcoming.

After decades of standardized education, personalized learning is a move in the opposite direction, a push to create individual free-thinkers who have the skill sets to solve problems creatively. By prioritizing digital content, professional development, mobility and more, school districts can leverage technology to design curriculum that meets the passions of individual students and enables them to flourish in school and in life.

Endnotes

1. <https://www.edweek.org/ew/articles/2015/06/10/ny-open-education-effort-draws-users-nationwide.html>
2. <http://www.walb.com/story/38133225/tifton-middle-school-students-to-receive-chromebooks>
3. <https://www.centergrove.k12.in.us/Page/7786>
4. <https://www.d11.org/site/default.aspx?PageID=1740>



RETHINKING TEACHING

FACILITATING COLLABORATIVE LEARNING WITH TECHNOLOGY

Like many K-12 systems, Shawnee Mission School District in Kansas has embraced 1:1 technology, putting the power of the Internet into the hands of each student. But district administrators wanted to leverage technology even further, connecting classrooms to the outside world to help students address real-world problems in new ways.

During a problem-based learning process called “Genius Hour,” students identify issues they’re interested in exploring, and with the help of their teachers, connect via video with working professionals, including engineers, physicians, scientists — even professional athletes.

“Students get so excited about these professionals taking the time to speak with them,” says Christy Ziegler, the district’s assistant superintendent for innovation and performance. “Experiential learning is where the power of the technology ties in.”

At all grade levels, schools are awash in technology that would have been unthinkable a decade ago (see box, at right). But while interactive tools can transform online and blended learning from passive learning to active, engaging experiences that capture students’ imagination and help address their specific learning needs, they’re only as effective as the educators who use them.

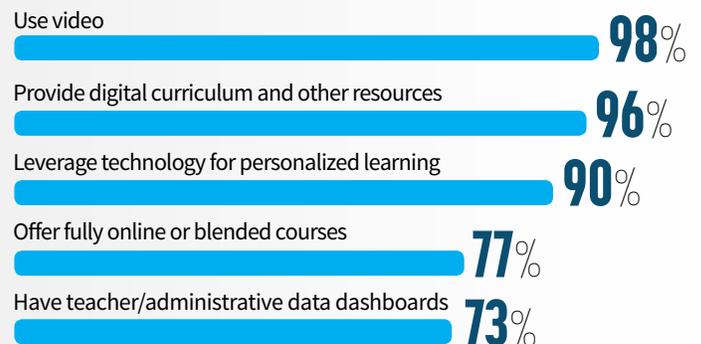
Today’s technology-empowered educator must wear a range of hats to ensure every student learns in an environment that meets his or her individual needs and abilities (see “The Technology-Empowered Educator” on the next page).

Preparing Educators: Shifting the Lens

To transform teaching and learning, educators must learn to leverage digital tools to engage students and support their personal growth. Accordingly, leaders should begin efforts to create a digital learning culture by shifting the lens. Rather than starting with students — who today are digital natives at all ages — focus on the adults who teach them.

KEY STATS

K-12 SCHOOL DISTRICTS



Source: CDE 2017-2018 Digital School Districts Survey

The Technology-Empowered Educator

According to the International Society for Technology in Education (ISTE), today's technology-empowered educator has many roles, including:



LEARNER

learning how to leverage technology as part of continuous improvement



LEADER

supporting student empowerment



CITIZEN

modeling how to responsibly participate in the digital world



COLLABORATOR

working with colleagues and students to improve practices and share resources



DESIGNER

creating activities and environments that recognize different learning styles and abilities



FACILITATOR

helping students use technology to learn



ANALYST

using data to drive instruction and support students' progress toward goals

Preparing educators to use technology in engaging ways requires more than traditional “sit-and-get” training. Educators must have the opportunity to take risks, collaborate with one another and use technology to create a personalized learning environment.

“Regular and persistent use of collaboration or web conferencing technology in the classroom is the best way to create and grow a digital school culture — and thus, a new digital learning environment,” says Renee Patton, Cisco's Director of Education.

Here are other strategies administrators can employ to help educators transform teaching and learning:

Provide technical support — but that's just a start. Training teachers on the nuts and bolts of using digital tools — and providing on-site support for when things go wrong — are the foundation on which a digital learning culture can be built. But technical know-how alone won't shift the way educators teach.

Emphasize culture. Technology adoption doesn't occur in a vacuum. It requires both support for risk-taking and experimentation from administrators, as well as a commitment to continuous professional learning and improvement from educators.

Go slow to go fast. Whenever possible, encourage educators to adapt at their own pace, so early adopters can set an example and encourage

their peers to experiment themselves. Doing so may take longer, but it can help shift the culture in more authentic ways.

Bring people together. Professional development is particularly challenging in high schools and small districts, where teachers in different subject areas lack opportunities to collaborate. Using technology to connect them with peers teaching the same subjects on other campuses can help encourage innovation.

Learn as you go. Embedded training and credentialing can encourage educators to build skills as they teach. Educators should have the opportunity to earn badges as they demonstrate how they use tools like Webex Teams in new ways in their classrooms.

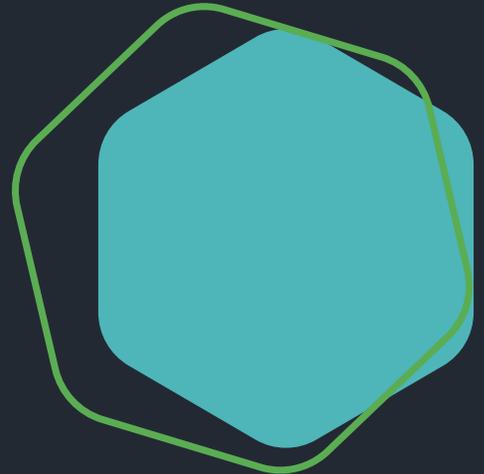
Just get started. As with students, educators learn best by doing — so encourage them to integrate digital activities into their day-to-day teaching.

Where to Begin

Technology is only as powerful as the infrastructure — and the people — that drive it. Cisco's Digital Education Platform provides education-focused solutions supported by an efficient, security-focused end-to-end IT platform. Cisco has helped transform more than 14,250 school districts and 9,800 colleges and universities in 127 countries and has committed to impacting 1 billion people by 2025.

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