

THE STATE OF ED TECH LEADERSHIP IN 2020

COSN
LEADING EDUCATION INNOVATION

THE STATE OF ED TECH LEADERSHIP IN 2020



This report was made possible by the generosity of our partners:



Contents

- Introduction..... 3
- Key Findings..... 4
- IT Leader Profiles 6
- Staffing 13
- Cybersecurity 15
- Emerging Technology..... 18
- Priorities & Policies 21
- Budgets 24
- Devices 27
- E-Rate..... 29
- FCC Goals & Connectivity 30
- District Initiatives..... 35
- Summary 37
- About the Survey..... 38

Introduction

Breaking down silos is an action many districts undertake to improve communication and increase understanding across the enterprise. To enable a more complete understanding of IT in K-12, CoSN has undertaken a similar effort and has broken down the silos between its two annual surveys. Previously, CoSN has conducted a survey to collect data about the Infrastructure of K-12 School Systems and a separate survey about the IT Leaders who manage them. This year, by combining the two surveys into one, CoSN is able to provide a more holistic view.

This year's combined survey gathers data on the changing responsibilities of K-12 IT Leaders and their educational technology challenges. The survey results provide critical information to districts, as well as key policymakers, on the state of K-12 technology, infrastructure, and leadership. The survey results inform resource development and programming essential to the implementation of CoSN's 2019-2022 strategic plan. Existing resources include:

- [The Digital Leap Success Matrix](#) — An outline of the practices needed to be a successful digital school system
- [Peer Reviews](#) — A rigorous process for assessing the capability of a school system's digital conversion, based on CoSN's Digital Leap Success Matrix
- [The Digital Equity Toolkit](#) — A guide to closing the Homework Gap and ensuring digital equity
- [Interoperability Toolkit](#) — Resources to help districts increase the interoperability of their academic and operational systems
- [Protecting Privacy Toolkit](#) — An in-depth guide to key federal student data privacy laws
- [Cybersecurity Resources](#) — A suite of resources defining risks and strategies to addressing cybersecurity challenges
- [EmpowerED Superintendent Toolkit](#) — Created in partnership with AASA, the toolkit provides leadership strategies based on imperatives for technology leadership and action steps for strengthening the technology leadership team
- [Driving K-12 Innovation](#) — Series of annual reports on emerging technologies to transform learning which identify top Hurdles, Accelerators and Tech Enablers

In addition to these public resources, CoSN provides members with extensive member-only resources like the new ASBO/CoSN Toolkit for collaboration between the school business official and CTO. Plus, CoSN issues Exclusive Briefs providing guidance on key emerging topics like addressing Screen Time Concerns, as well as EdTechNext reports on emerging technologies like AI in education.

The full breadth of [CoSN resources are available online](#).

Key Findings

Cybersecurity remains the number one technology priority for IT Leaders, yet the threat is generally underestimated. For the third straight year, cybersecurity has ranked as the top priority. When it comes to maintaining network security, 69% of districts say they are proactive or very proactive - up significantly over last year's 52%. Districts employ a variety of strategies to minimize risk, including the vast majority in which IT staff training is a top practice and a majority requiring teachers and principals to receive training as well. Despite concerns, the survey also found that less than a fifth of respondents (18%) have a dedicated full-time employee (FTE) whose sole job is cybersecurity. IT Leaders feel phishing scams pose the greatest risk to network security, with almost half (49%) rating them medium/high risk to high risk. Despite this, results also showed an overall trend to underestimate risk—less than a fifth of respondents considered any specific threat as high risk. This runs counter to the reality that school systems are being specifically targeted by cybercriminals with reported cyber incidents tripling in one year.

IT Leaders oversee education & administrative technology. Nearly three quarters (74%) of respondents have responsibilities that encompass both educational and administrative technology. This is a notable increase over the prior year's 63%. This uptick could be the result of the blurring of the lines between technology used by administrators and that used for instruction. Instructional technology systems are increasingly used to inform administrative systems. Managing the interoperability between those systems requires IT Leadership that has a holistic view. As nearly 60% of district technology leaders report directly to their superintendent, they are able to provide their administrators with a bigger and better picture.

Women are holding fewer IT Leadership positions. The percentage of women in IT Leadership roles has decreased from 36% in 2016 to 25% this year. Since women tend to move to IT Leadership positions from the instructional side, the decline could reflect an increasing preference for technical backgrounds in hiring requirements for IT Leadership positions. As women are drastically underrepresented in the graduating ranks of those with computer and information science degrees—comprising just 18% of undergraduates¹—an emphasis on technical backgrounds is likely to further reduce female representation in IT Leadership.

Lack of racial and ethnic diversity in IT Leadership persists. A pervasive problem in leadership positions across all public and private institutions, diversity statistics in K-12 are stark. The overwhelming majority (91%) are White with next largest category of respondents that identify as More Than One Race (3%), followed by Asians (2%). The remaining racial and ethnic categories with 1% each.

Staffing for student-facing technology and support is insufficient. More than half of respondents do not feel they have adequate staffing to implement new technology (51%) or to integrate technology into the classroom (57%). The staffing needed to support teachers on how to maximize technology tools for learning received the worst assessment with 63% citing inadequate staffing. Without sufficient support for teachers,

¹ https://nces.ed.gov/programs/digest/d16/tables/dt16_325.35.asp

instructional technology is needlessly harder to implement and almost certainly negatively impacts student outcomes.

Artificial Intelligence (AI) holds both promise and peril for IT Leaders. The majority (55%) of IT Leaders anticipate that of the emerging technologies, AI will play a significant or transformational role in teaching and learning over the next five years. However, AI also poses concerns, with privacy being the biggest. Before AI becomes adopted at scale and can deliver on its promise, privacy issues will need to be addressed.

Digital equity remains a priority for the overwhelming majority of districts. Ninety-six (96%) of IT Leaders consider digital equity a priority. As districts and our world become increasingly digital, students that lack Wi-Fi and access to devices at home are at a disadvantage. In an attempt to close the Homework Gap districts employ a variety of strategies, from providing Wi-Fi on school buses to working with local businesses to provide Wi-Fi hotspots for students. These efforts highlight the innovation of IT Leaders as they seek solutions to the problem, but they also highlight the degree to which the responsibilities of IT Leaders have expanded—now even beyond school walls.

The top three challenges persist: budget, professional development, and department silos. These three areas have been vexing IT Leaders since 2017. While budget is often beyond district control and directly affects professional development, it is within districts' abilities to address the existence of silos. As outlined in CoSN's "Digital Leap Success Matrix," cross-functional executive team leadership is integral to the development of a successful digital learning environment. Until the executive leadership breaks down the silos, IT Leaders will continue to face difficulty in achieving their district's own technology goals.

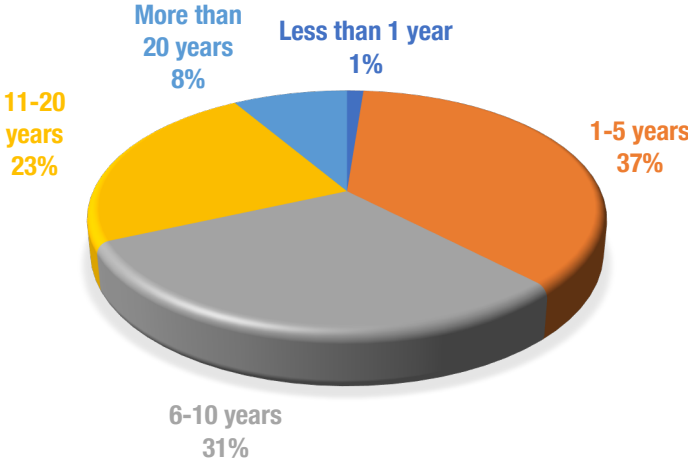
IT Leaders make decisions about digital content. A large majority (75%) of IT Leaders are consistently involved in making decisions about digital content, including 17% who are the final decision-maker for their district. The highest quality digital content cannot serve students well if it cannot be easily and cost-effectively integrated into a district's digital ecosystem. IT Leaders should be key participants in digital content evaluations. This enables more fully informed decisions and enables IT departments to plan accordingly should an educational product with known back-end technical challenges be adopted.

Broadband progress continues. When it comes to districts' existing infrastructure, more districts are meeting the FCC long-term goal of 1 Gbps per 1,000 students. Nearly half of respondents (49%) report all their schools have met this target, a significant increase compared to 36% the prior year. However, a majority of districts need to update all key components of their infrastructure —58% gateway routers, 51% DMZ switching, and 56% content filter—to achieve the long-term FCC goals.

IT Leader Profiles

More than two-thirds (68%) of respondents have been in their position more than five years. This represents an increase over the prior year when 60% of respondents were in their position for more than 5 years. This suggests that newer IT Leaders are staying in their jobs and that districts have been able to retain their senior IT talent. This year, almost a third (31%) have been in their positions between 6-10 years, 23% have 11-20 years, and 8% more than 20 years. The overall average is between eight and nine years. For comparison, superintendents tend to stay in their positions an average of five to six years.²

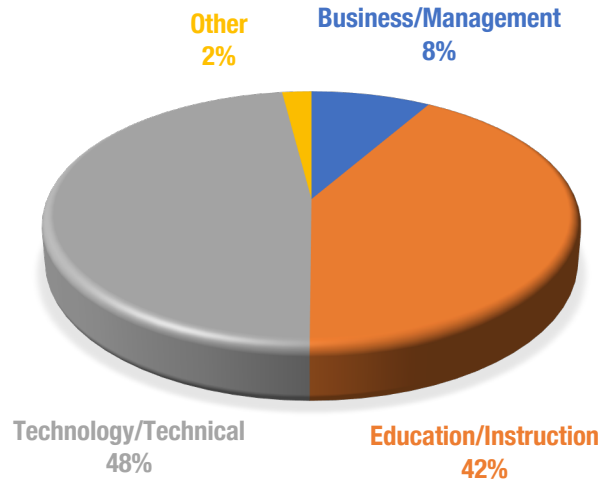
Years in Current Position



When looking at the primary professional background of IT Leaders in K-12 education, it's not surprising that Technology/Technical (48%) and Education/Instruction (42%) are the most common. These results are roughly the same as in the first year CoSN conducted the survey, 2013, when 45% of respondents came from Technology/Technical background and 44% from Education/Instruction. This year, Business Management with 8% and Other with 2% describe the backgrounds of the remaining respondents. When segmenting responses by metro status, no significant patterns emerged. IT Leaders with Technology backgrounds were just as likely to work in rural districts (48%) as in urban (53%). The breakdown was similar for those with Education backgrounds—40% work in rural districts and 42% in urban. These results indicate that while there is some preference for technical backgrounds, hiring from both backgrounds is widespread across the four district types.

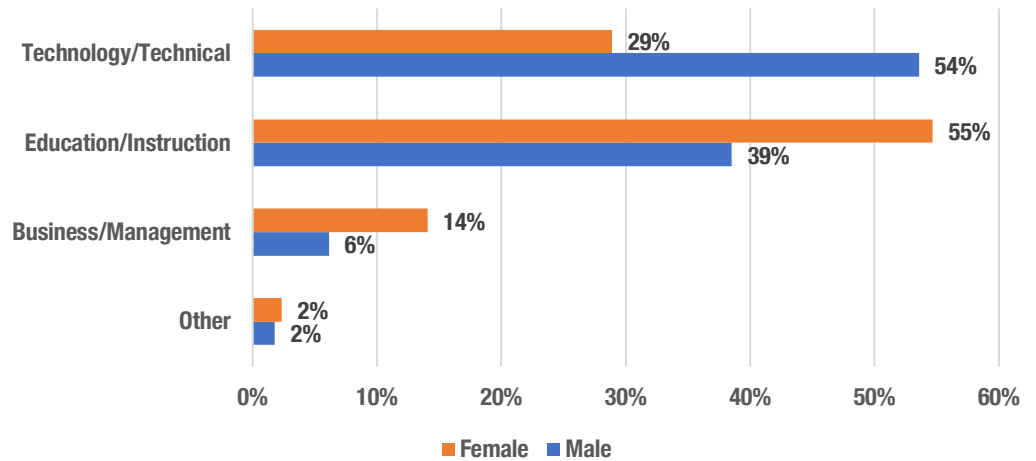
² <https://www.aasa.org/content.aspx?id=740>

Primary Professional Background



When segmenting professional backgrounds according to the sex of the respondent, a familiar pattern emerged. As in prior years' results, the career path to IT Leadership is different for men and women. The majority of men (54%) have a Technology/Technical background, compared to just 29% of women. The majority of women (55%) have an Education/Instruction background, compared to 39% of men.

Primary Professional Background Segmented by Female/Male



The survey results show the percentage of women in IT Leadership roles has been declining. Since 2016—when CoSN first started collecting female-to-male ratio data—the percentage of women in K-12 IT Leadership positions has declined from 36% to 25% this year. Since women tend to move to IT Leadership positions from the instructional side, the decline in the percentage of women could reflect an increasing preference for technical backgrounds in hiring for IT Leadership positions. As women are drastically underrepresented in the graduating ranks of those with computer and

information science degrees—comprising just 18% of undergraduates³—an emphasis on technical backgrounds is likely to further reduce female representation in IT Leadership.

TABLE: IT Leadership Segmented by Female/Male

| | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------|------|------|------|------|------|
| Female | 36% | 36% | 30% | 28% | 25% |
| Male | 64% | 64% | 70% | 72% | 75% |

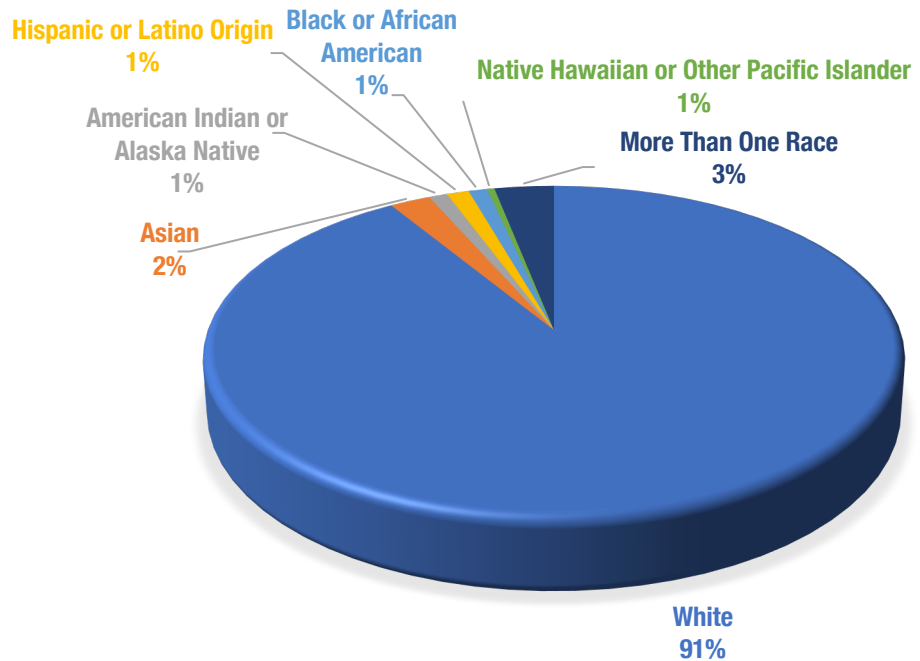
The female-to-male ratio is fairly consistent across district types, with roughly a quarter of IT departments led by a woman, regardless of metropolitan status.

TABLE: Female/Male IT Leadership Segmented by Metro Status

| | Rural | Suburban | Urban | Town |
|--------|-------|----------|-------|------|
| Female | 24% | 26% | 27% | 24% |
| Male | 76% | 74% | 73% | 76% |

When looking at ethnicity and race, we see the same lack of diversity in K-12 IT Leadership as in other sectors. With 91% of respondents identifying as White and 1% Hispanic or Latino, K-12 school systems are actually less diverse than the IT Management average. According to the Bureau of Labor Statistics on IT Management across all industry segments, “computer and information systems managers” are 20% non-white and 5% Hispanic or Latino.⁴

IT Leadership by Race/Ethnicity



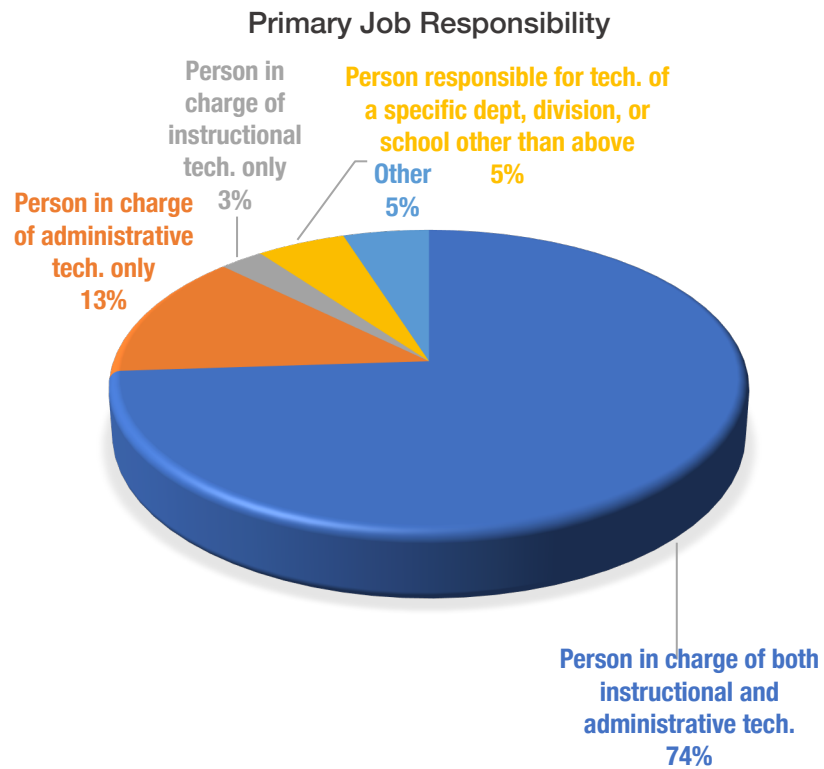
3 https://nces.ed.gov/programs/digest/d16/tables/dt16_325.35.asp

4 <http://www.bls.gov/cps/cpsaat11.htm>

Due to the large percentage (23%) of “opt-outs” for the survey’s salary question, the results may not be fully reflective. However, more respondents chose to answer this year than the prior year, when 28% chose not to provide their salary. Respondents earning less than \$70K remained the same year-over-year with 10%. Despite the lack of respondents earning more than \$200K, overall, more earned in the higher salary brackets—\$130K and over—this year (15%) compared to the prior year (12%).

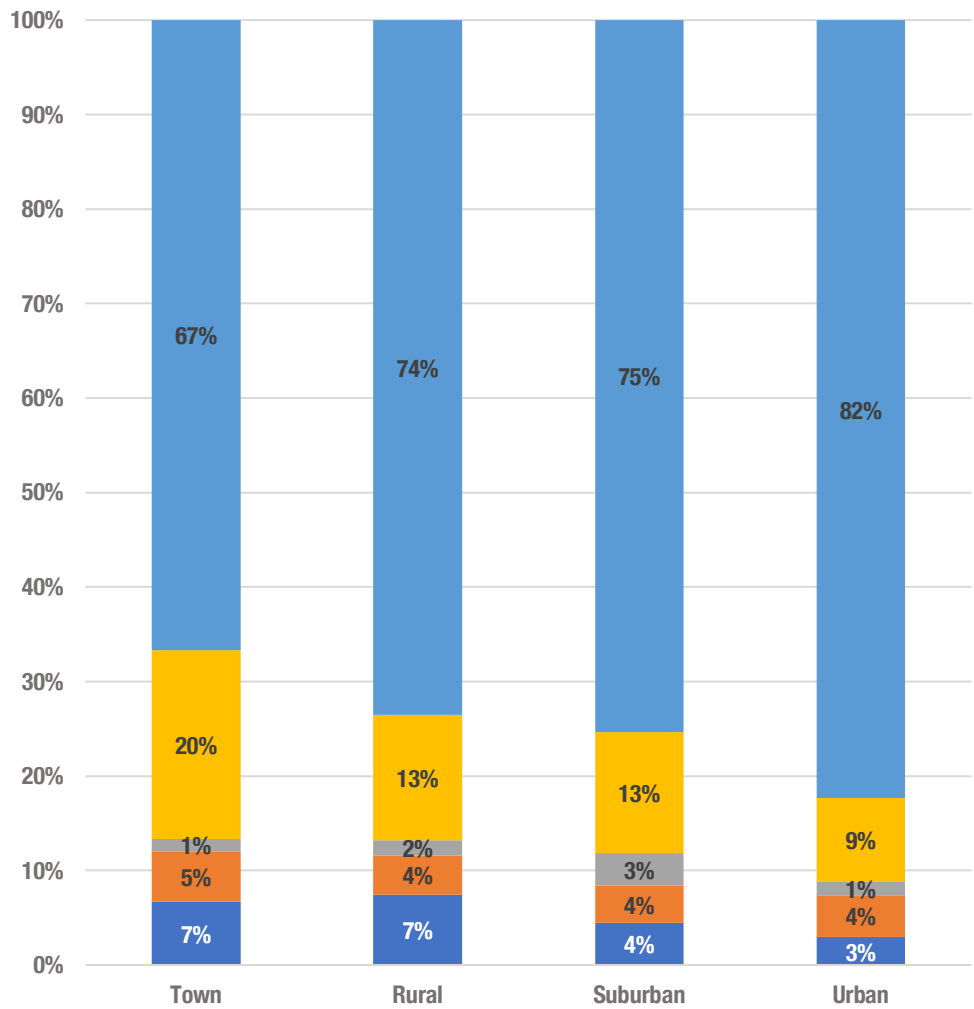
| Annual Salary | 2019 | 2020 |
|-------------------|------|------|
| Under \$70K | 10% | 10% |
| \$70K-99,999K | 27% | 25% |
| \$100K – 129,999K | 23% | 27% |
| \$130K – 159,999K | 7% | 10% |
| \$160K – 200K | 4% | 5% |
| More than \$200K | 1% | 0% |
| Did not provide | 28% | 23% |

Nearly three quarters (74%) of respondents have responsibilities that encompass both educational and administrative technology. This is a notable increase over the prior year’s 63%. This uptick could be the result of the blurring of the lines between technology used by administrators and that used for instruction. Instructional technology systems are increasingly used to inform many administrative systems. Managing the interoperability between those systems requires IT Leadership that has a holistic view. Relatively few IT Leaders report that their responsibilities are limited to either administrative technology (13%) or instructional technology (3%).



When segmenting responsibilities by metro status, urban districts are above the national average with 82% of their IT Leaders in charge of both instructional and administrative technology. Towns are a bit below the average with 67%. Rural and suburban districts align with the national average with 74% and 75% respectively. When looking at those responsible for administrative technology only, we see another clear distinction between towns and urban districts. A fifth (20%) of respondents working in towns are responsible for administrative technology only, compared to 9% of who work in cities. With 13% each, rural and suburban districts are equally as likely to only assign administrative technology to their IT Leaders.

Primary Job Responsibility by Metro Status

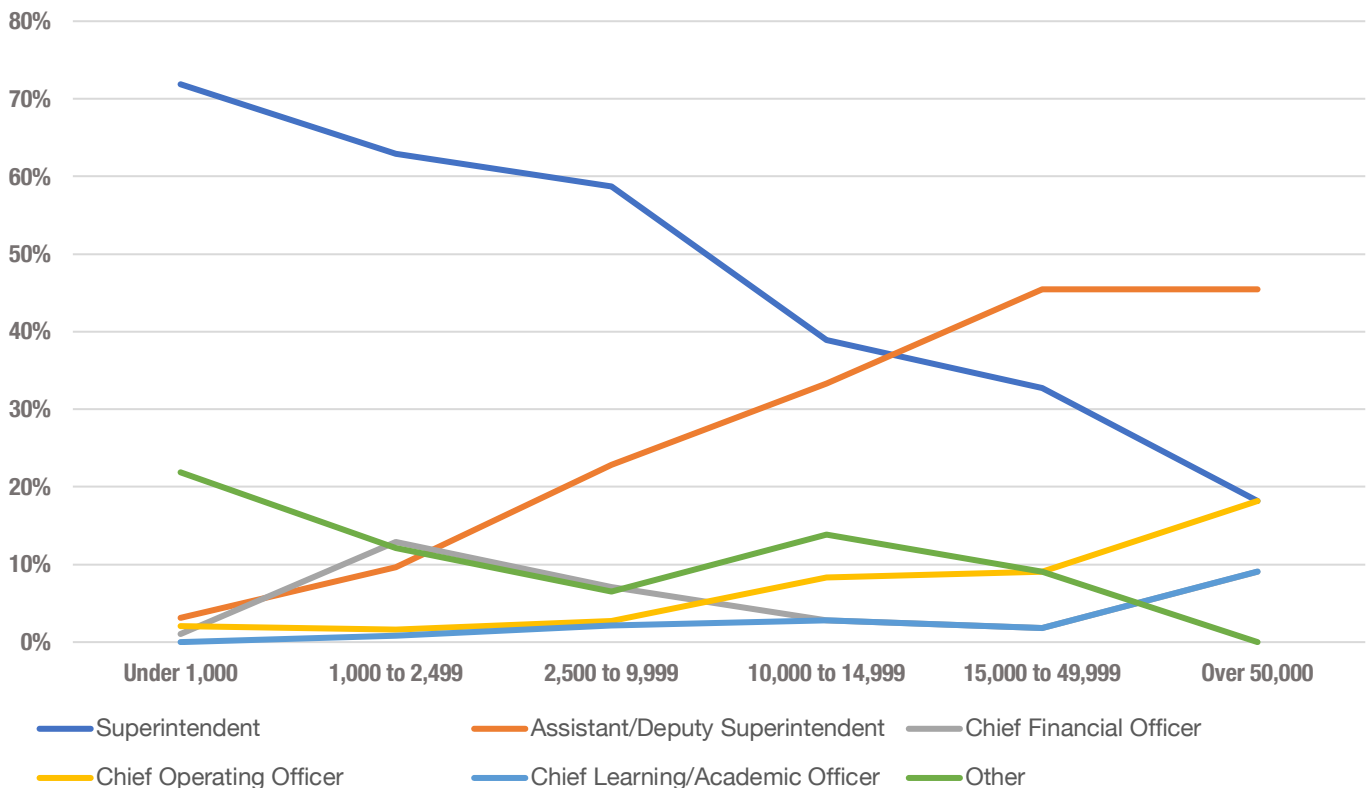


- Person in charge of both instructional and administrative tech.
- Person in charge of administrative tech. only
- Person in charge of instructional tech. only
- Person responsible for tech. of a specific dept, division, or school other than above
- Other

“To whom do you report?” responses have been consistent over the years, with a majority of IT Leaders reporting to their Superintendent. Most superintendents realize the value of technology to the strategic mission of the district and the importance of the head of IT. This year’s result of 57% is essentially the same as the 2013 result of 58%. Being part of the Superintendent’s cabinet enables IT Leaders to participate in planning how technology can be leveraged to support district goals. The remaining districts in which the IT Leader does not report to the superintendent may say more about the difficulties in changing established reporting structures, rather than the benefits of such a reporting arrangement. At a minimum, districts need to have a system in place to include their IT Leaders as part of cabinet-level conversations around priorities and expenditures. It is with collective decision-making that a comprehensive funding model can be created to directly support the technology plan.

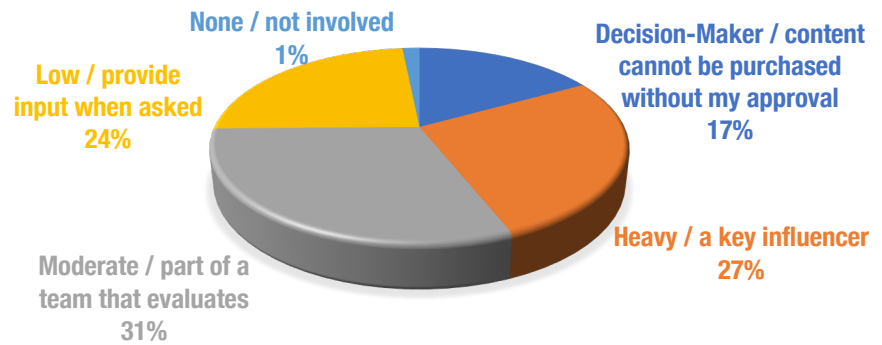
When viewing reporting structures by enrollments, a clear trend line emerges—as enrollments increase, IT Leaders are less likely to report to their superintendent and more to another senior cabinet member (Deputy Superintendent/COO/CAO). IT Leaders in districts with less than 1,000 students are most likely to report directly to their superintendent (44%) compared to 12% of those in districts with 15,000 or more. A similar trend line exists for “other” reporting structures. IT Leaders in districts with less than 1,000 students are most likely to report to a position not listed on the survey (44%), as compared with 12% of those in districts with 15,000 students or more. It is not clear if this result highlights the lack of standardization of titles at smaller districts or the diversity of IT Leaders themselves. In smaller districts, IT Leaders tend to wear many hats and might report through atypical operational lines.

Reporting Structure by Enrollment



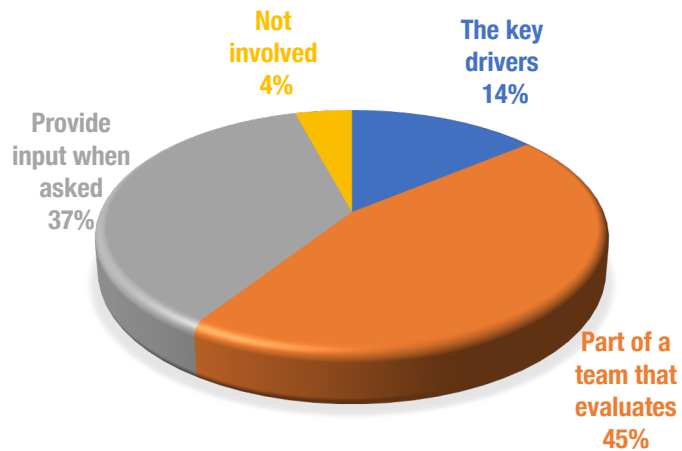
A large majority (75%) IT Leaders are consistently involved in making decisions about digital content, including 17% who are the final decision-maker for their district. The highest quality digital content cannot serve students well if it cannot be easily and cost-effectively integrated into a district’s digital ecosystem. IT Leaders should be key participants in digital content evaluations. This enables more fully informed decisions and enables IT departments to plan accordingly should an educational product with known back-end technical challenges be adopted.

Level of Involvement in Digital Content Purchasing Decisions



When it comes to AV upgrades, the majority of IT departments (59%) include Instructional Leaders in the planning process. Instructional Leaders are the key drivers for 14% of districts and are on the evaluation team for 45%. Few districts (4%) omit Instructional Leaders from the process completely, while 37% ask them for input. One of the tenets of best practice for edtech procurement is that educators need to be purchasing partners.⁵ When it comes to AV, keeping Instructional Leaders informed of new developments could help enhance teaching practices. Conversely, understanding what teachers use (or don’t use) in their classrooms can drive smart purchasing decisions by the IT department.

Degree to Which Instructional Leaders are Involved in Planning for AV Upgrades



⁵ Better EdTech Buying for Educators: A Practical Guide @2019 International Society for Technology in Education

Staffing

More than half of respondents do not feel they have adequate staffing to implement new technology (51%) or to integrate technology into the classroom (57%). While direct year-over-year comparisons are not possible due to the changes in response options in the survey, staffing for these two student-facing categories has consistently rated the worst in terms of sufficiency. The staffing needed to support teachers on how to maximize technology tools for learning received the worst assessment with 63% citing inadequate staffing. This category was a new addition to this year's staffing question and it is disappointing that it debuted at the bottom of the adequate rating. Without sufficient support for teachers, instructional technology is needlessly harder to implement and almost certainly negatively impacts student outcomes.

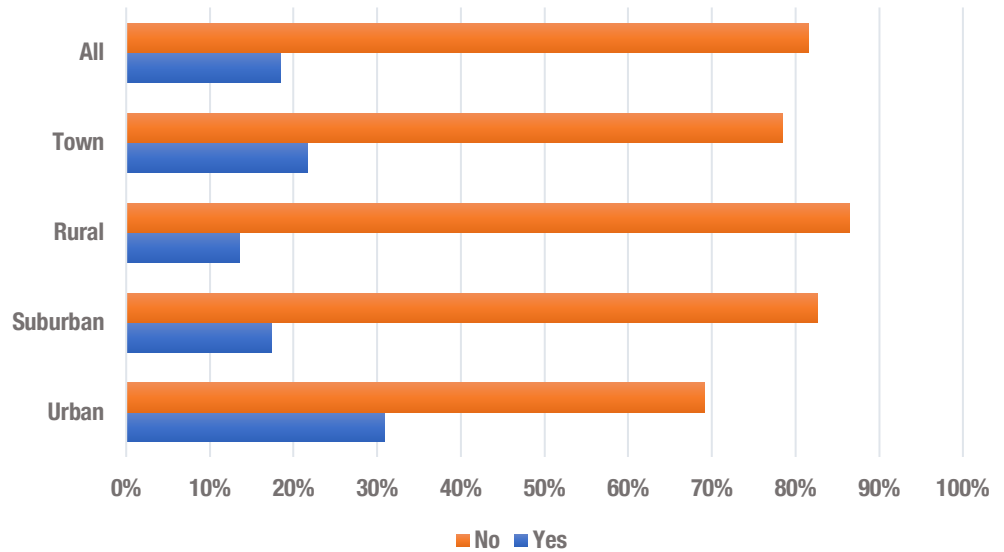
On a positive note, the majority of respondents feel they have adequate staffing for most of the other responsibilities. The functional areas with the best ratings are the fundamental IT functions—installation of applications (85%) and the maintenance of those applications (81%). The other categories where the majority of respondents indicated adequate staffing are maintaining network systems (73%), meeting department's yearly objectives (72%), planning for new technology (65%) and effectively supporting the needs of the district/school (64%).

TABLE: Staffing Levels by IT Function

| IT Function | Under-staffed | Adequate | Over-staffed |
|---|---------------|----------|--------------|
| Install applications | 13% | 86% | 2% |
| Maintain IT applications | 18% | 81% | 1% |
| Maintain network systems | 26% | 73% | 1% |
| Meet your department's yearly objectives | 27% | 72% | 1% |
| Plans for new technology | 34% | 65% | 1% |
| Effectively support the needs of the district/school | 36% | 64% | 1% |
| Implement new technology | 51% | 48% | 1% |
| Integrate technology into the classroom | 57% | 42% | 1% |
| Provide support to teachers on how to maximize technology tool for learning | 63% | 36% | 1% |

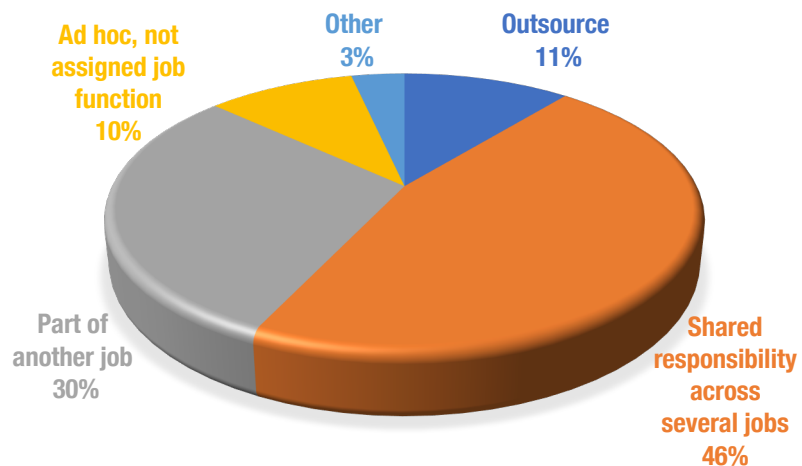
Less than a fifth of respondents (18%) have a dedicated full-time employee (FTE) whose sole job is network security. Urban districts are most likely to have a network security FTE, though still less than a third (31%) do, followed by towns (22%) and suburban districts (17%). The least likely to have a dedicated FTE for network security are rural districts with 14%.

% of Districts with Network Security FTE by Metro Status



Districts without a dedicated person on staff use a variety of methods to monitor network security. The most common approach is sharing the responsibility across several jobs (46%) followed by incorporating network security monitoring as part of another job (30%). Outsourcing is used by 11% of respondents. A concerning 10% of respondents have an ad hoc approach and do not have anyone assigned to monitoring their district’s network security. A makeshift approach to addressing cybersecurity is one reason why “school districts are proving to be particularly enticing to hackers.”⁶

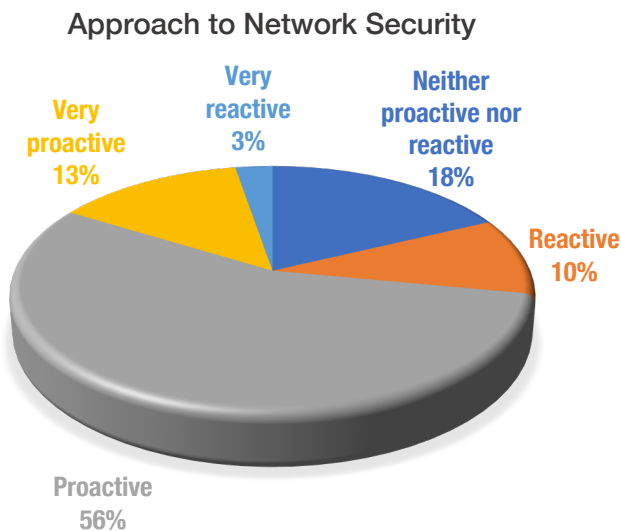
Network Security Monitoring Strategies (without dedicated person)



⁶ <https://www.nytimes.com/2019/07/28/us/hacker-school-cybersecurity.html?searchResultPosition=7>

Cybersecurity

When it comes to maintaining network security, 69% of districts say they are proactive or very proactive. This represents a significant increase over the prior year's 52%. Only 13% describe their activity as reactive or very reactive, a decrease from 23% the prior year. These year-over-year results indicate that districts are highly aware of increased network attacks in K-12 environments and are increasing efforts to thwart them. It is likely that lack of resources, not lack of awareness, is responsible for the 13% described as reactive/very reactive. As one respondent lamented: How is our small district able to fend off a multitude of possible cyber threats with the staff we have?



When asked to rate their perception of various risks to network security, respondents did not make significant distinctions between threat types. The largest segment fell into the Medium risk range—low/medium, medium, high/medium. With 49% rating it medium/high risk or high risk, phishing was deemed the greatest risk. It is surprising more did not consider it a greater risk. Phishing attacks have reached the “highest level in three years” with more than two-thirds of all phishing sites using SSL protection.⁷ With SSL decreasing as a reliable indicator of security, risks increase for users unable to spot phishing sites. Less than a third (31%) of respondents perceive ransomware attacks as medium/high risk or high risk. This risk level assessment is also likely lower than it should be as the FBI is reporting ransomware schemes are being specifically designed to target public schools.⁸ With less than a fifth of respondents rating *any* threat as high risk (phishing received the most with 16%), threats overall appear underrated. Only 5% assessed student data to be at high risk, yet, according the most recent data on reported K-12 cybersecurity incidents, “the most frequently experienced type of school-related cyber incident....were data breaches, primarily involving the unauthorized disclosure of student data.”⁹ With the number of reported K-12 cybersecurity incidents rising—nearly triple from 2018 to 2019¹⁰—perceptions in perceived risks should start to realign more closely with reality.

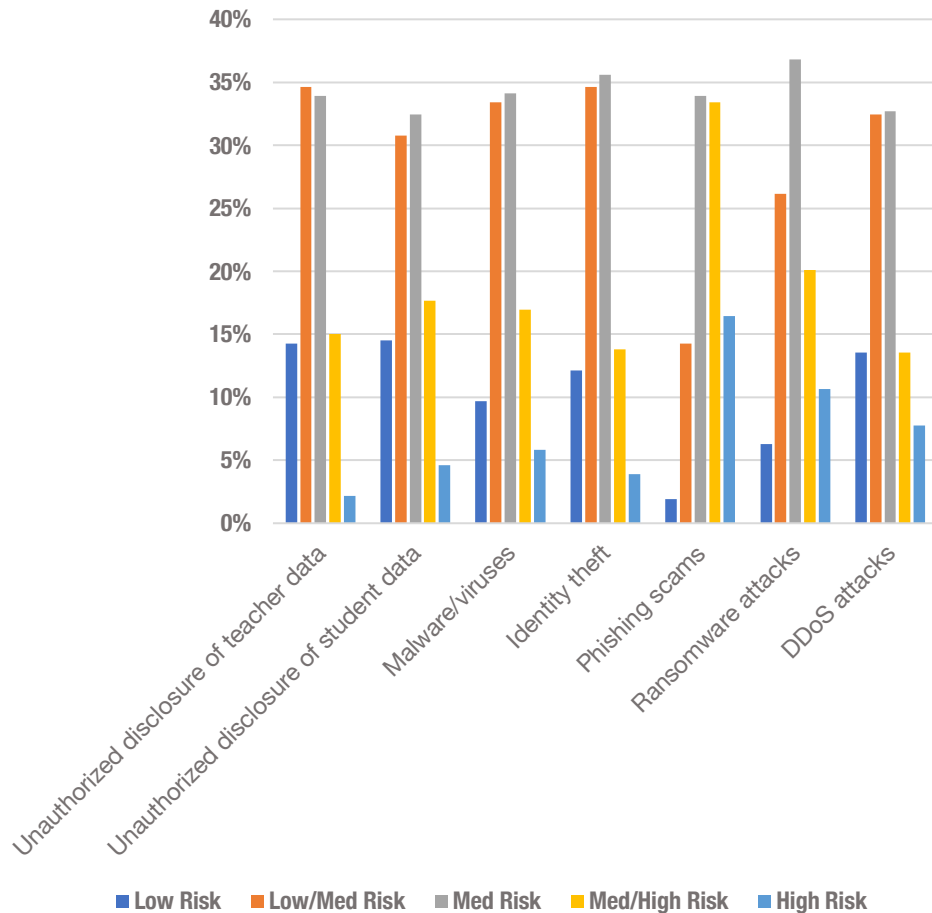
7 https://docs.apwg.org/reports/apwg_trends_report_q3_2019.pdf

8 <https://info.publicintelligence.net/FBI-CyberCriminalsSchools.pdf>

9 Levin, Douglas A. (2020). “The State of K-12 Cybersecurity: 2019 Year in Review.” Arlington, VA: EdTech Strategies, LLC/The K-12 Cybersecurity Resource Center. Available online at: <https://k12cybersecure.com/year-in-review/>

10 *ibid*

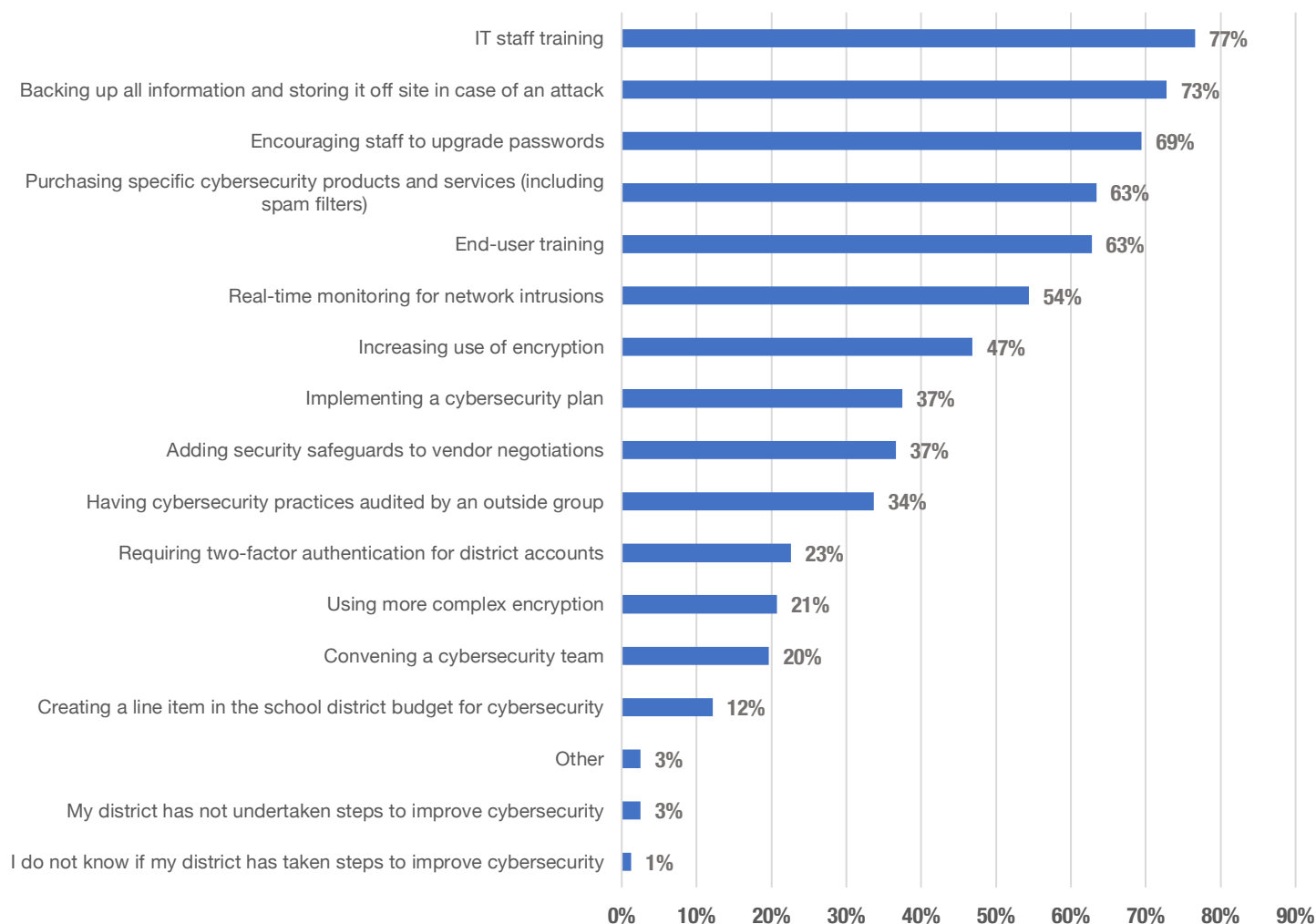
Perceived Risk to Network Security



Employed by more than three-quarters of respondents (77%), IT staff training ranked as the top cybersecurity practice. The second most common practice with 73% is the back-up and storing of all information offsite. This tactic, moving up from fourth place the prior year, signals a widespread understanding that all systems are vulnerable. As no network can be guaranteed to be 100% impenetrable, to avoid bitcoin ransoms or rebuilding from scratch, it is extremely wise to make offsite back-ups. Other top cybersecurity practices include encouraging staff to upgrade passwords (69%), purchasing cybersecurity products/services and end-user training, both with 63%, and real-time monitoring for network intrusions (54%). A large minority (47%) are increasing their use of encryption. More than a third of respondents (37%) are implementing cybersecurity plans. The same percentage (37%) are adding security safeguards to vendor negotiations. It is critical districts work with vendors to ensure they meet or exceed district cybersecurity practices, whether the data is hosted on the vendor's servers or in the Cloud.

About a third (34%) of respondents use external audits to assess their cybersecurity practices and almost a quarter (23%) require two-factor authentication for district accounts. The least employed practices are the increased use of complex encryption (21%), convening a cybersecurity team (20%), and creating a separate cybersecurity budget (12%).

Practices to Improve Cybersecurity



When asked if their districts require teachers or principals to go through training to help them model good cybersecurity practices, 44% said no. However, 56% provide or plan to provide training for both teachers and principals. This is an encouraging result as, noted by student data privacy experts: “The truth about many security incidents... is that they are often caused – or at least made possible – by our behavior.”¹¹ Only 1% of respondents work in districts that provide training only for principals or only for teachers.

11 Linnette Attai, Protecting Student Data Privacy: Classroom Fundamentals (Maryland: Rowman & Littlefield, 2019) 98

TABLE: Cybersecurity Training for Principals and Teachers

| Training Recipients | |
|--|-----|
| Yes (Principals only) | 1% |
| Yes (Teachers only) | 1% |
| Yes (both Teachers and Principals) | 36% |
| We plan to add required training for both Teachers and Principals during the 2019-20 school year | 18% |
| We plan to add required training for Principals during the 2019-20 school year | 0% |
| We plan to add required training for Teachers during the 2019-20 school year | 0% |

Emerging Technology

A new question regarding emerging technologies was included in this year’s survey. Respondents were asked to rate the degree of impact various technologies will have on teaching and learning in the next five years. Of the four technologies on the list, Artificial Intelligence (AI) and Augmented Reality (AR) were the top-rated opportunities. With a combined “significant” and “transformational” rating of 55%, artificial intelligence (AI) was rated the most likely to impact teaching and learning in the next five years. Augmented reality (AR) followed closely with 54% and virtual reality (VR) with 52%.

Of the four technologies, voice-assisted technology was rated the least likely to have an impact with a combined “significant” and “transformational” rating of 43%. This relatively high percentage is surprising given the known privacy issues regarding the use of current voice-assisted technologies in the classroom. The two most popular consumer voice-assisted consumer products were not designed for classroom use and both have received failing grades from the Common Sense Privacy Program.¹² It is not clear whether the relatively high ratings indicate that respondents feel that the benefits of voice-assisted technology in classrooms outweigh the risks, or that those risks are likely to be eliminated within five years. Consumer comfort in any technology probably affects the degree of acceptance for classroom use. Of the 21% of U.S. adults with smart speakers in their home, 75% with children at home use the devices daily.¹³

¹² <https://privacy.commonsense.org/>

¹³ https://www.nationalpublicmedia.com/uploads/2019/10/The_Smart_Audio_Report_Spring_2019.pdf

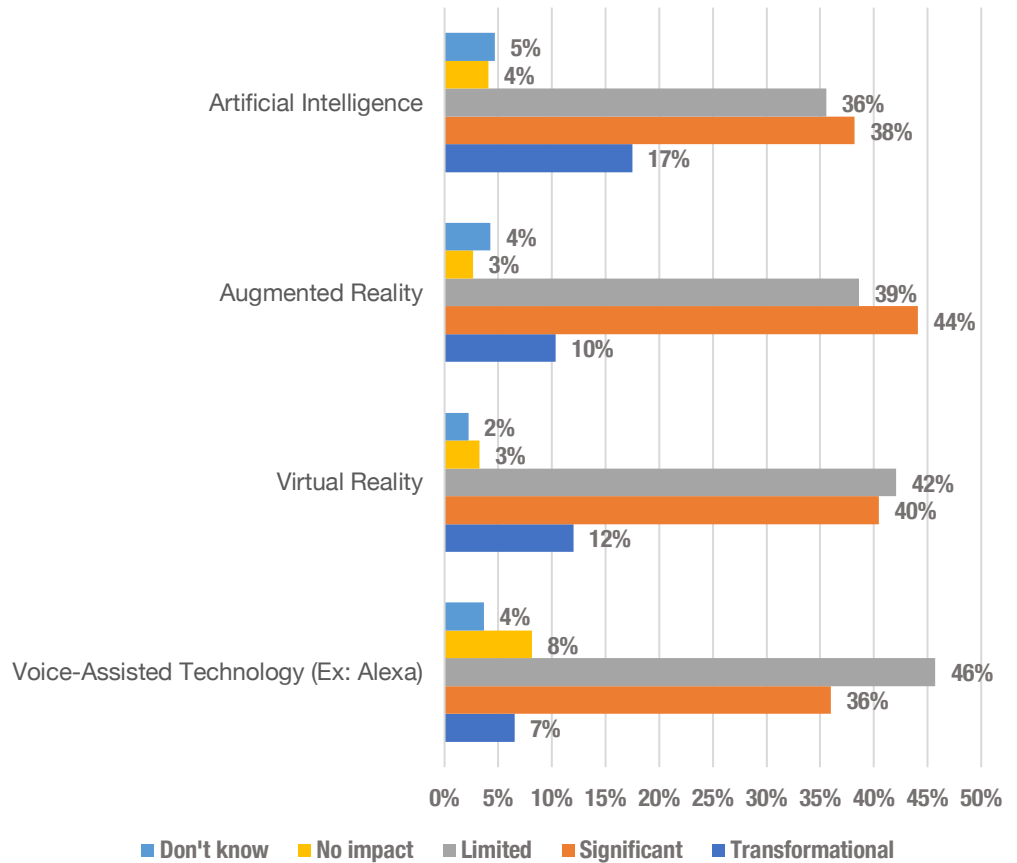


Degree of Impact of Emerging Technologies on Teaching & Learning in Five Years

The TLE Seal is the nation's only data privacy seal for school systems, focused on building a culture of trust and transparency. The Trusted Learning Environment (TLE) Seal Program was developed by CoSN in collaboration with a diverse group of 28 school system leaders nationwide and with support from AASA, the Association of School Business Officials International (ASBO) and ASCD.

The Program requires school systems to have implemented high standards for student data privacy protections around five core practice areas: Leadership, Business, Data Security, Professional Development and Classroom. School systems that meet the Program requirements will earn the TLE Seal, signifying their commitment to student data privacy to their community.

TLE Seal recipients commit to high standards and continuous examination and advancement of their privacy practices.



While AI was rated the mostly likely to impact teaching and learning, over two-thirds of IT Leaders expressed concerns about data privacy in use of AI. More than half (51%) of respondents rated privacy concerns their number one AI concern and 17% as their second biggest concern. An overwhelming majority (90%) do not believe AI will replace teachers. Less than half (45%) of respondents rated teacher training in AI as their top concern. Somewhat surprisingly, concern over poor AI decisions or the potential for bias was not of a higher concern. More than two-thirds (69%) of respondents considered it a low concern, despite well-publicized instances of AI going awry including a chatbot that became a racist¹⁴ and a recruitment tool that immediately started to discriminate against women.¹⁵ Even Sundar Pichai, CEO of Google and Alphabet, has stated reservations about the use of AI, "While AI promises enormous benefits, there are real concerns about the potential negative consequences."¹⁶ As AI is

14 <https://www.techrepublic.com/article/why-microsofts-tay-ai-bot-went-wrong/>

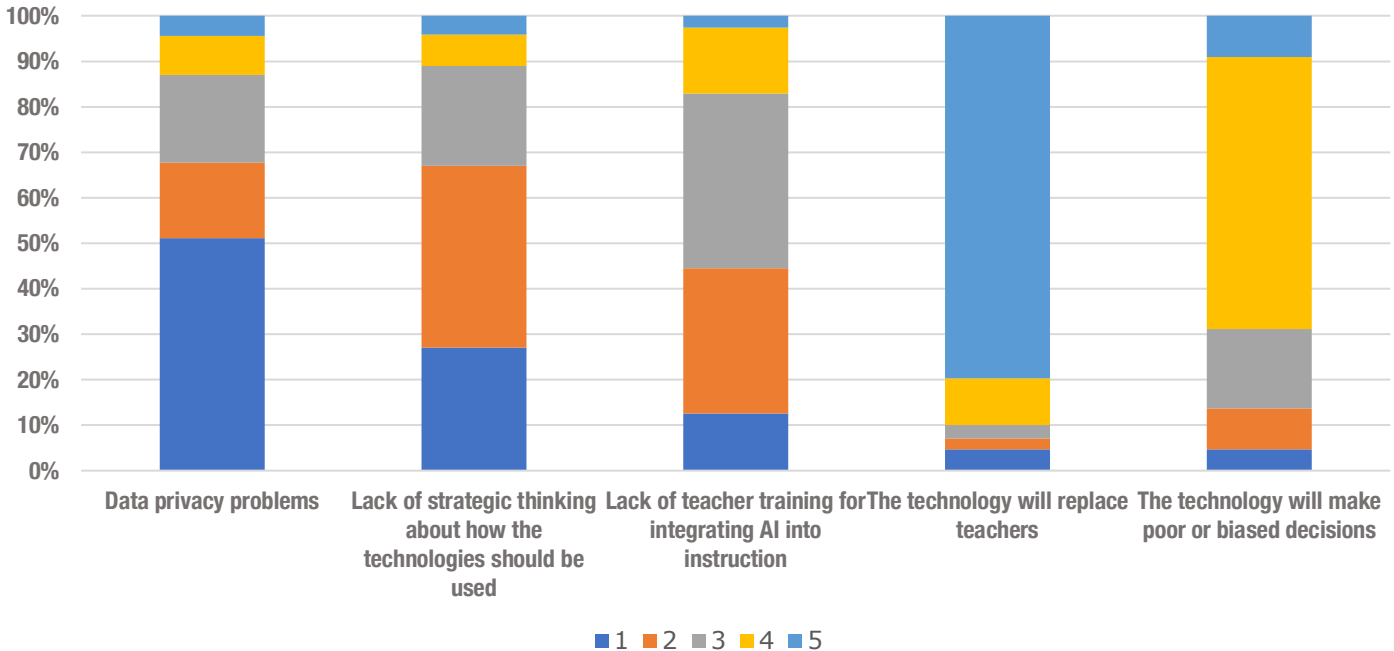
15 <https://www.tradetime.com/blog/stranger-than-fiction/amazon-ai-recruitment-system-shut-due-discrimination-women/>

16 <https://appleinsider.com/articles/20/02/17/apple-google-facebook-lobby-eu-over-ai-regulation-plans>

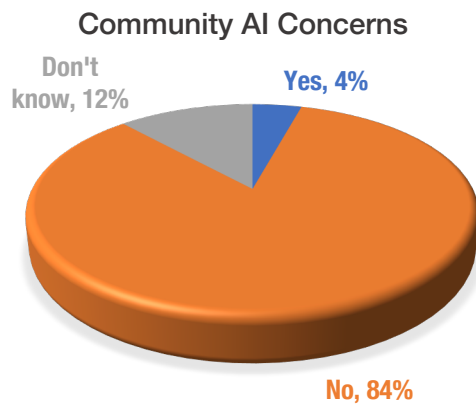
still in the early days for K-12 classroom application, problems with algorithms and those negative consequences need be addressed before any at-scale rollouts. As one respondent cautioned:

“With AI, if we continue to think in terms of data driving the decisions, we are setting ourselves up for some pretty large issues. We need the conversation to be centered on data informing. We still want people to own their decisions.”

Biggest Concerns Regarding AI (1 = biggest concern, 5 = least concern)



The various concerns that IT Leaders have regarding AI do not appear to be shared by stakeholders in their community. Only 4% of respondents indicated that their community had concerns about the district’s use of AI. The overwhelming majority (84%) report no community concerns. Perhaps the lack of concern is due to either the lack of use of AI in the district or a lack of awareness of its use.



Priorities & Policies

For the third straight year, IT Leaders have ranked cybersecurity as their number one technology priority. This high ranking aligns with other survey results that show the vast majority of districts (90%) have put resources in place for monitoring security and a large majority (69%) who describe their approach to network security as proactive or very proactive. These figures, combined with the 77% providing cybersecurity training to IT staff and the 56% providing training to both teachers and principals, serve to highlight the degree to which districts are taking steps to address this priority. Privacy and security of student data, was ranked as the number two priority, followed by data-driven instruction and decision-making in the number three slot. Broadband and network capacity, which had been tied as the number one priority in 2018, again failed to hit the top three list this year.

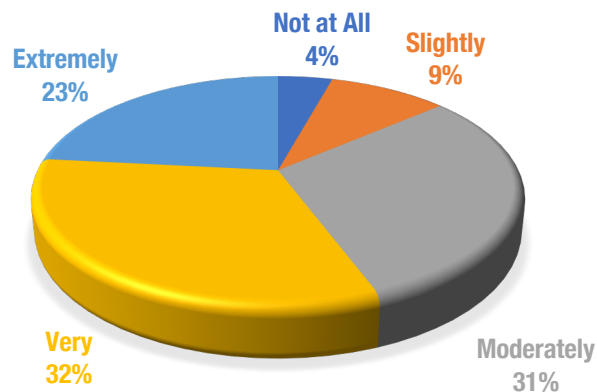
TABLE: Top Technology Priorities

| Rank | 2018 | 2019 | 2020 |
|------|--|---|---|
| 1 | Cybersecurity Broadband & Network Capacity* | Cybersecurity | Cybersecurity |
| 2 | | Cost-Effective/ Smart Budgeting | Privacy & Security of Student Data |
| 3 | Data Driven Instruction & Decision Making | Data Driven Instruction & Decision Making | Data Driven Instruction & Decision Making |

*Tie for number one

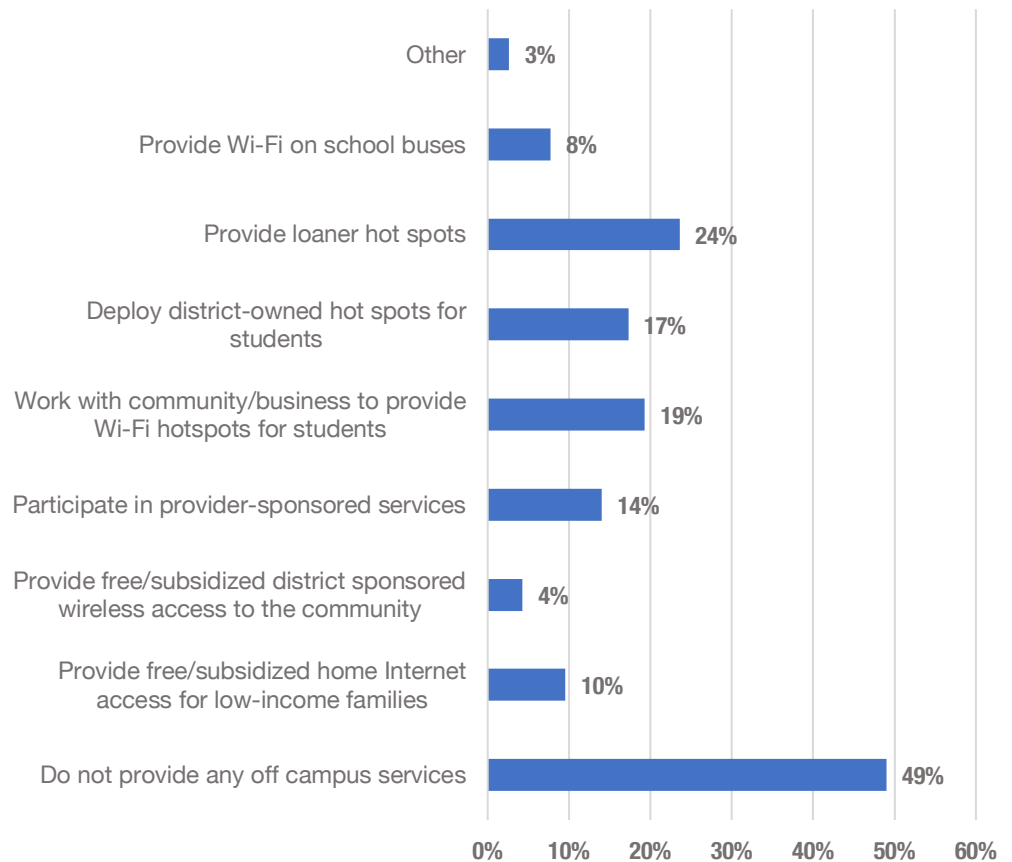
Digital equity remains a priority for nearly every IT Leader (96%), virtually the same as the prior year's (95%). However, the degree to which it is a priority has changed year-over-year. Eighty-six (86%) of respondents consider digital equity a moderately or eExtremely important priority, including 55% who consider it very or extremely important. In 2019, the rates were 70% and 41% respectively. The growing importance of addressing digital equity likely reflects the degree to which districts' ecosystems have become digital.

Degree to Which Digital Equity Is a Priority



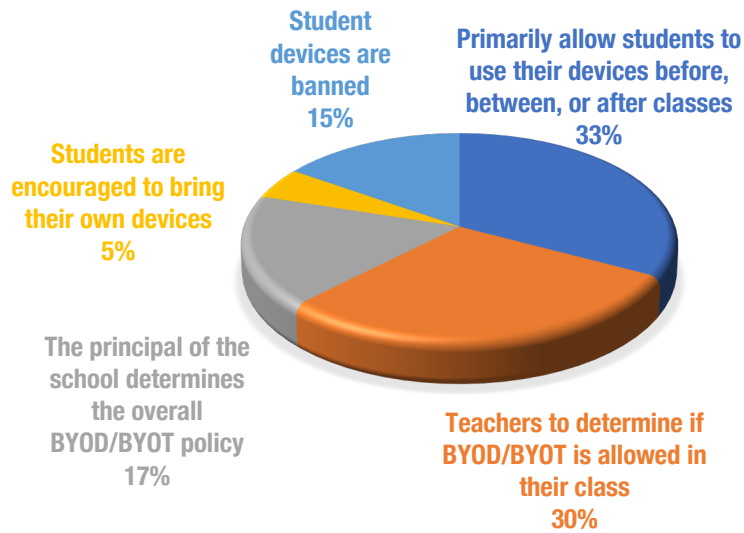
Half (51%) of districts employ strategies for increasing student access to broadband outside of school. The most common is providing loaner hot spots, used by almost a quarter (24%) of respondents. The next most popular strategy is working with the community/businesses to provide hot spots for students (19%) followed by deploying district-owned hot spots (17%) and participation in provider-sponsored services (14%). A tenth (10%) of districts provide free/subsidized district sponsored wireless access for low-income families, and 8% provide Wi-Fi on buses. Only 4% of districts sponsor free/subsidized wireless access to the community and 3% use other means not specified on the survey to provide off-campus services.

Strategies for Increasing Broadband Access Outside of School



Policies regarding students' use of personal devices in school have not really changed year-over-year. In 2019, about a third (31%) allowed students to use their devices in school, except during classes, compared to 33% this year. Classroom use of students' personal devices was a teacher-level decision in 2019 for 34% of districts compared to 30% this year. Principals made the decision about classroom use in 14% of districts in 2019 compared to 17% this year. Only 5% of districts encourage students to bring their own devices, while 15% ban student devices, the same percentages as the prior year.

Student Device Policy



Respondents were also asked to rank their priorities for making educational technology purchasing decisions. The top consideration was accessibility for students. Accessibility is an essential principle in delivering equal educational opportunities for all students, including those with disabilities and English language learners. Ranked second was costs, followed by cybersecurity in the number three slot. The lowest priority was the impact on bandwidth. This low ranking makes sense in light of the increased connectivity in schools.

TABLE: Ranking of Educational Technology Priorities

| Rank | Purchasing Considerations |
|------|-------------------------------------|
| 1 | Accessibility for students |
| 2 | Upfront cost |
| 3 | Cybersecurity |
| 4 | Interoperability |
| 5 | Vendor's level of technical support |
| 6 | Impact on bandwidth |

The top challenges to planning and implementing technology-enabled learning environments persist year-over-year. Since 2017, the number one challenge has been the lack of budget and resources, followed by the lack of relevant training and professional development (PD). Ranked third is the existence of district silos. While PD is largely budget-dependent, the existence of silos points to a failure in executive leadership. As outlined in CoSN's "Digital Leap Success Matrix," cross-functional executive team leadership is integral to the development of a successful digital learning environment. The executive team needs to meet "regularly to monitor progress, prioritize resources, and actively communicate progress on the digital plan to

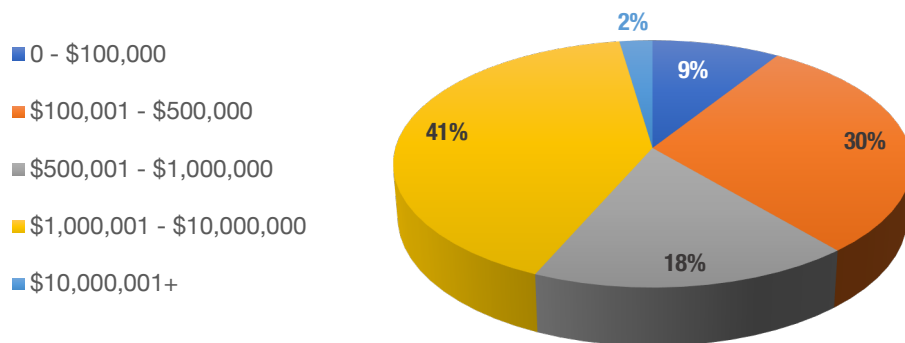
stakeholders.” Until these practices become common-place, IT Leaders will continue to face difficulty in achieving their district’s own technology goals.

| Rank | 2017 | 2018 | 2019 | 2020 |
|------|---|---|---|---|
| 1 | Budget Constraints & Lack of Resources | Budget Constraints & Lack of Resources | Budget Constraints & Lack of Resources | Budget Constraints & Lack of Resources |
| 2 | Relevant Training & PD Unavailable | Relevant Training & PD Unavailable | Relevant Training & PD Unavailable | Relevant Training & PD Unavailable |
| 3 | Existence of Silos in the District, which Make it Difficult to Work Together on Planning Technology | Existence of Silos in the District, which Make it Difficult to Work Together on Planning Technology | Existence of Silos in the District, which Make it Difficult to Work Together on Planning Technology | Existence of Silos in the District, which Make it Difficult to Work Together on Planning Technology |

Budgets

The majority (57%) of IT Leaders work in districts with technology budgets of one million dollars or less (not including salaries/benefits) for the 2019/2020 fiscal year. The largest segment of those (30%) have budgets between \$100K and \$500K. Less than a tenth of districts have budgets of \$100K or less. A plurality of IT Leaders work in districts (43%) that have budgets over a million dollars, including 2% with budgets greater than ten million.

Percentage of Respondents by Technology Budget Size



The majority (60%) of districts allocate less than 10% of their technology budget for network security. Thirty percent (30%) dedicate between 5 and 10% with the other 30%

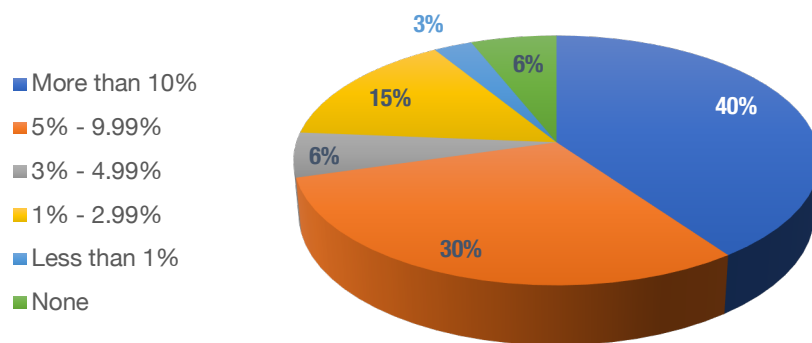


As currently structured, E-Rate—the largest funding source for technology in schools—builds networks and provides Internet access but does not provide essential funding to protect and secure those networks. This leaves school systems with significant funding limitations at risk of being unable to fully protect the networks they manage and subsequently the students, teachers, and administrators they serve.

CoSN’s report and filing to FCC last fall documented this failing and encourages E-Rate expansion to address cybersecurity costs.

dedicating less than 5%, including 6% that don’t set aside any funds for network security. However, a large minority (40%) of districts report allocating more than 10%. As threats to network security have only been increasing, we may see increases in network security spending. However, cybersecurity spending is not necessarily an indicator of a network’s security. Without good cybersecurity policies and controls in place, networks are still at high risk. According to analyst Paul Proctor, a vice president at Gartner, the bottom line is the “level of readiness.” “Readiness is not about how much you spend on controls, but how good your controls are at defending your organization.”¹⁷

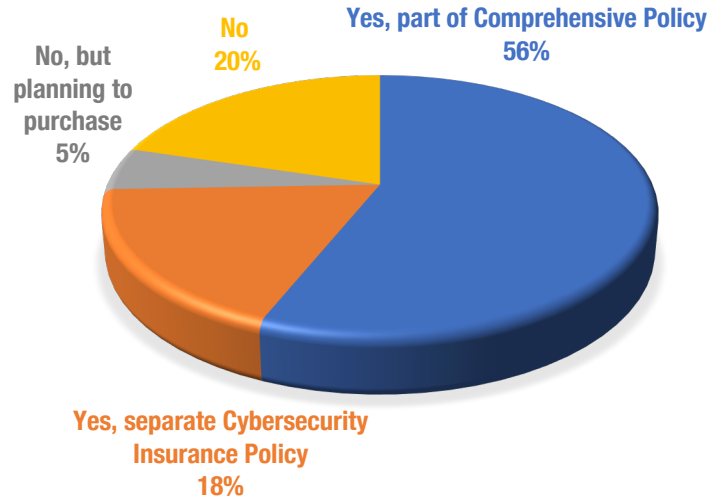
Percentage of Technology Budget Allocated for Network Security



Nearly three-quarters (74%) of respondents budget for cybersecurity insurance. More than half (56%) purchase coverage as part of a comprehensive policy and 18% purchase separate cybersecurity insurance. A fifth of respondents don’t carry cybersecurity insurance but another 5% have plans to purchase.

¹⁷ https://b2b.cbsimg.net/downloads/Gilbert/SF_sept2018_budgets.pdf

Cybersecurity Insurance



Compared to 2014 CoSN survey results, when 27% of respondents reported paying less than \$5 per month per Mbps for internet, districts this year have fared much better with 71% in that same cost range. However, this year's 71% is a decrease from 74% the prior year. At the other end of the spectrum, we see a similar anomaly. Compared to 2014, when almost a third (32%) of respondents paid \$50 or more, there has been significant improvement this year with only 10% paying the most expensive internet rates. However, that 10% is an increase from 6% in 2019. While the overall trend shows a decrease in costs over the years, this year's results show some increases. Hopefully, they do not indicate a new trend in connection costs. In looking at WAN costs, there have been significant decreases from 2014, when 46% paid less than \$5 compared to 69% this year. Those paying the most—\$50/Mbps or more—decreased from 22% in 2014 to half that (11%) this year, though it is a year-over-year increase from 8%. Otherwise, WAN costs are essentially unchanged or show slight year-over-year improvement.

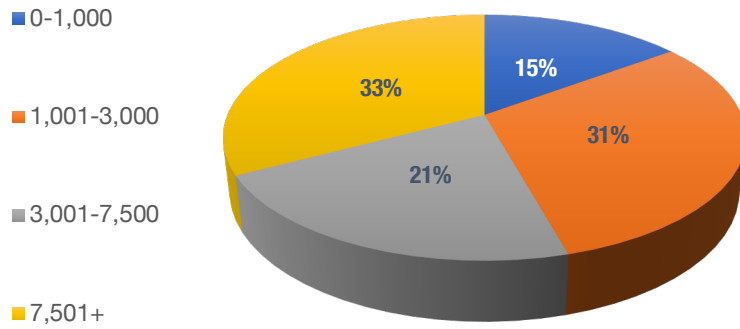
TABLE: Pre-E-Rate Discount Pricing

| Cost per month per Mbps | Internet | | WAN | |
|-------------------------|----------|------|------|------|
| | 2019 | 2020 | 2019 | 2020 |
| Less than \$1 | 22% | 25% | 31% | 32% |
| \$1 – \$2.99 | 34% | 36% | 25% | 24% |
| \$3 – \$4.99 | 18% | 10% | 12% | 13% |
| \$5 – \$9.99 | 12% | 9% | 8% | 8% |
| \$10 – \$14.99 | 5% | 7% | 6% | 6% |
| \$15 – \$19.99 | 2% | 1% | 3% | 2% |
| \$20 – \$49.99 | 3% | 2% | 7% | 4% |
| \$50 or more | 6% | 10% | 8% | 11% |

Devices

A majority of respondents (54%) support more than 3,000 devices (including district-owned and BYOD student devices, administrators, teachers, and other educators). This includes a third (33%) who are responsible for more than 7,500 devices. Nearly another third (31%) manage 1,001-3,000 devices. Only 15% support 1,000 or less.

Total Number of Devices Supported by Districts



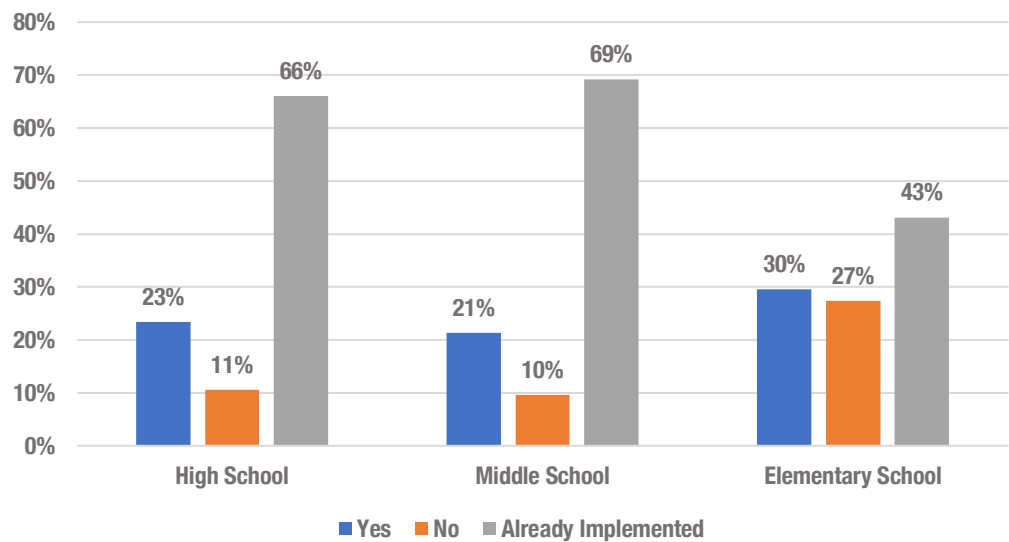
When asked about device-to-student ratios, nearly half (49%) of respondents report having one device for each student (1:1) environments, the same as the prior year. Environments with one device to two students continue to decline, while environments with two devices for one student increased. These positive shifts are anticipated to continue with a third of districts (33%) projecting two devices per student in three years, and environments of less than one device per five students will be eliminated.

Table: Device Projections

| Device-to- Student Ratio | Today | In Three Years |
|--|-------|----------------|
| Less than one device per five students | 4% | 0% |
| One device per two students | 18% | 3% |
| One device per student | 49% | 38% |
| Two devices per student | 26% | 33% |
| Three devices per student | 2% | 18% |
| More than three devices per student | 0% | 6% |

When looking at 1:1 (whether provided by district program or BYOD) by grade level, two-thirds (66%) of High Schools and more than two-thirds (69%) of Middle Schools have implemented the practice. Only 43%, Elementary Schools have implemented 1:1 environments. An additional 30% have a 1:1 goal for elementary students, with nearly the same percentage (27%) not planning to implement 1:1. These elementary results mirror a general philosophy regarding “screen time concerns” in schools—of school leaders who didn’t think students were spending the right amount of time on devices at school, about half thought students spend too much time and the other half not enough.¹⁸

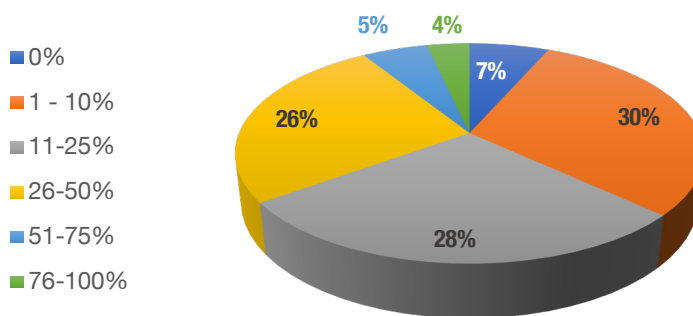
1:1 Goals per School Type



Districts appear to have good device refresh practices. Less than a tenth of respondents report a majority of their district-owned devices are five or more years old. Only 5% have older devices for 51-75% of their inventory and just 4% have older devices comprising 76-100% of their inventory. The majority of respondents (65%) have newer devices, with 25% or less having inventory five years or older, including 7% whose entire inventory is newer than five years.

¹⁸ https://blogs.edweek.org/edweek/DigitalEducation/2018/05/principals_student_screen_survey.html

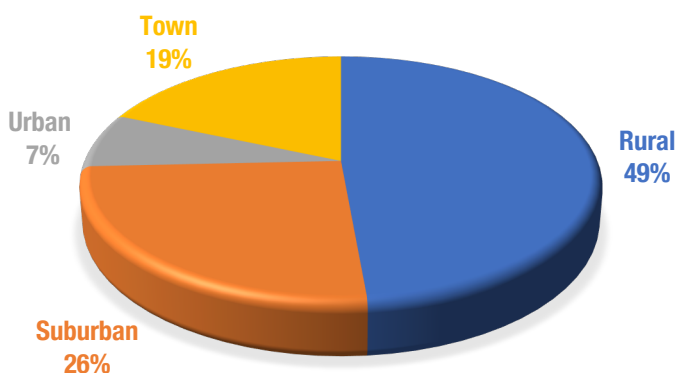
Percentage of Devices Five Years or Older



E-Rate

Of districts with one (or no) provider for E-Rate category 1 telecom services, almost half (49%) are from rural districts. More than a quarter (26%) of suburban districts have one or no providers. With 7%, urban districts struggle the least. (Note that due to rounding, percentages are greater than 100%.)

Percentage of Districts with 0 or 1 Category 1 Providers



Year-over-year the breakdown of E-Rate discounts received by districts shows a slight decrease—from 9% the prior year to 5% this year—in districts receiving the highest discount of 90% and above. The 80% - 89% range remains the most common discount, received by more than a quarter of respondents both this year (26%) and the prior year (27%). Districts receiving the lowest discount of less than 30% increased to 4% this year, up from 2% the prior year. Overall, recipients receiving discounts of less than 50% has risen from 20% in 2019 to 26% this year.

FCC Goals & Connectivity

TABLE: E-Rate Discount Rates

| Discount | 2019 | 2020 |
|---------------|------|------|
| 90% and above | 9% | 5% |
| 80% - 89% | 27% | 26% |
| 70% - 79% | 11% | 11% |
| 60% - 69% | 17% | 16% |
| 50% - 59% | 15% | 16% |
| 40% - 49% | 16% | 20% |
| 30% - 39% | 2% | 2% |
| Less than 30% | 2% | 4% |

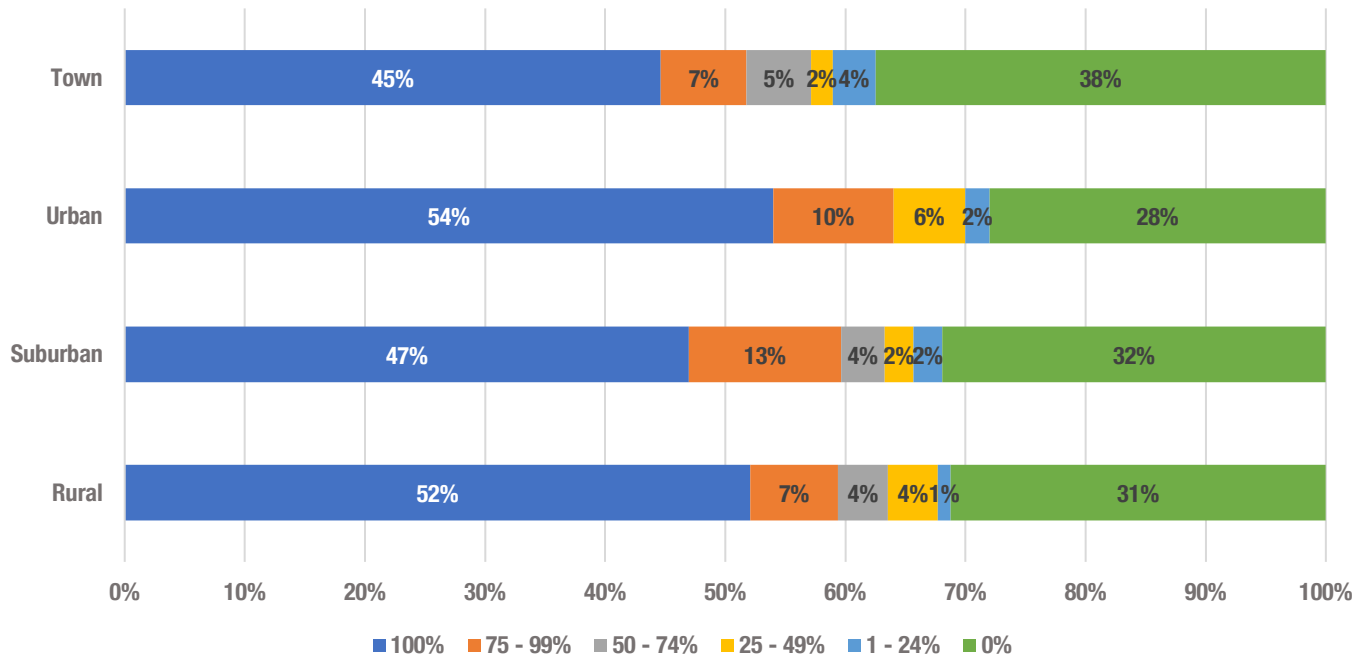
When it comes to districts' existing infrastructure, more districts are meeting the FCC long-term goal of 1 Gbps per 1,000 students. Nearly half of respondents (49%) report all their schools have met this target, a significant increase compared to 36% the prior year. There was also a modest increase in districts with 75 – 99% of their schools achieving the 1 Gbps benchmark, growing to 10% from 8% the prior year. A third (33%) of districts have not achieved 1 Gbps in any of their schools. However, that is an improvement over 38% in 2019.

TABLE: Schools Meeting FCC Long-term Goal

| Percentage of Schools | 2019 | 2020 |
|-----------------------|------|------|
| 100% | 36% | 49% |
| 75-99% | 8% | 10% |
| 50-74% | 7% | 3% |
| 25-49% | 7% | 3% |
| 1-24% | 4% | 2% |
| 0% | 38% | 33% |

When looking at results by metro status, districts most likely to have achieved the 1 Gbps target in all their schools are in cities, with 54%. Somewhat surprisingly, the majority (52%) of rural schools have also hit the 1 Gbps benchmark in all their schools. Thirty-one percent (31%) of districts have no schools at 1 Gbps. With 28%, urban districts have the smallest percentage of districts with zero schools having 1 Gbps. Towns have the largest percentage (38%) of “zero schools” districts.

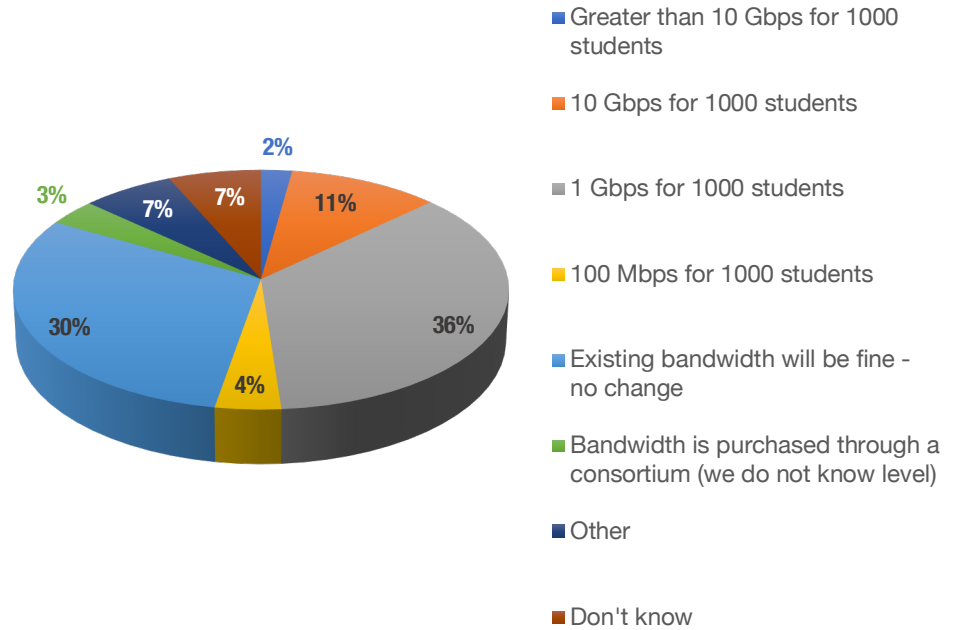
Metro Status of Respondents



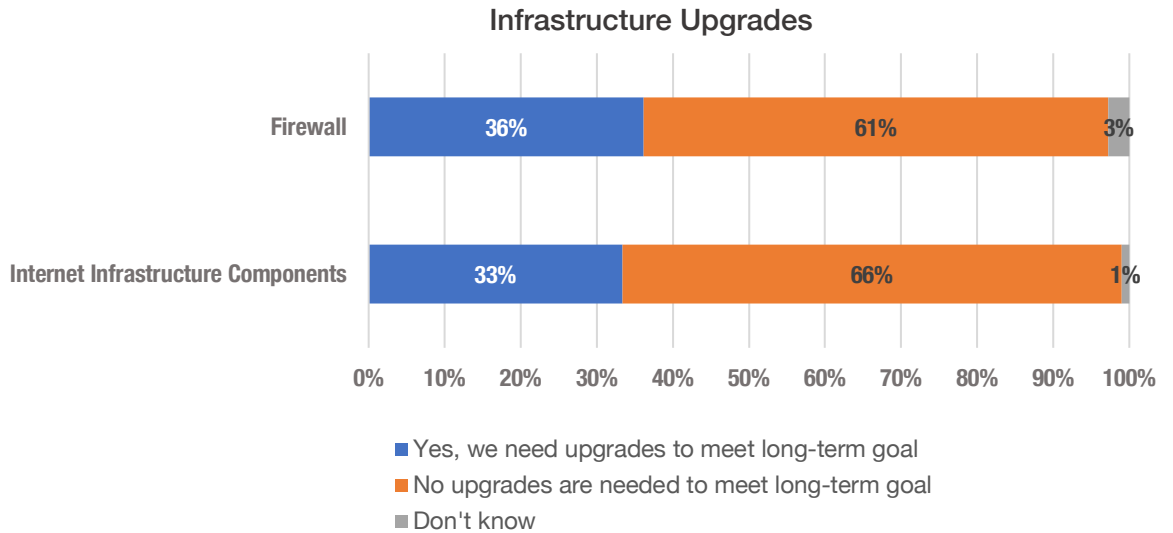
Nearly a third of respondents (31%) expect their current bandwidth to still meet their needs in three years. Only 4% of respondents cite a future goal of 100 Mbps per 1,000 students (FCC’s short-term target) with more than a third (36%) targeting more robust 1 Gbps for 1,000 students (FCC’s long-term target). More than a tenth of respondents hope to have 10 Gbps per 1,000 students and 2% are targeting more than 10 Gbps. It’s important to keep in mind, as one respondent pointed out, the targets set by FCC don’t necessarily directly align to a district’s needs:

“This bandwidth need premise is about as true as the idea of 10,000 steps per day for each and every individual to remain healthy...Our district actually monitors our bandwidth and we purchase the bandwidth that we need, no more, no less. It’s actually a concept that works well for us and our taxpayers.”

Internet Bandwidth Goal for 1,000 Students in the Next Three Years



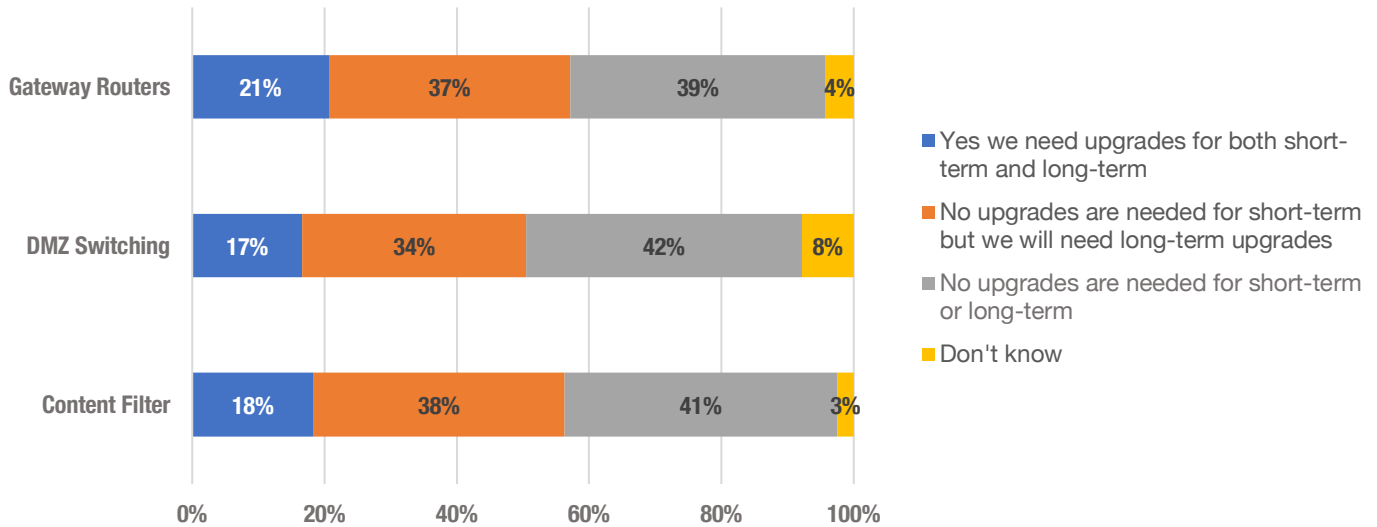
When asked about Infrastructure upgrades needed to achieve the FCC long-term goal, respondents reported needing firewall and infrastructure components upgrades in about equal measures, 36% and 33% respectively.



A majority of districts need to update all key components of their infrastructure —58% gateway routers, 51% DMZ switching, and 56% content filter—to achieve the long-term FCC goals. In terms of the FCC short-term goals, the large majority of districts do not

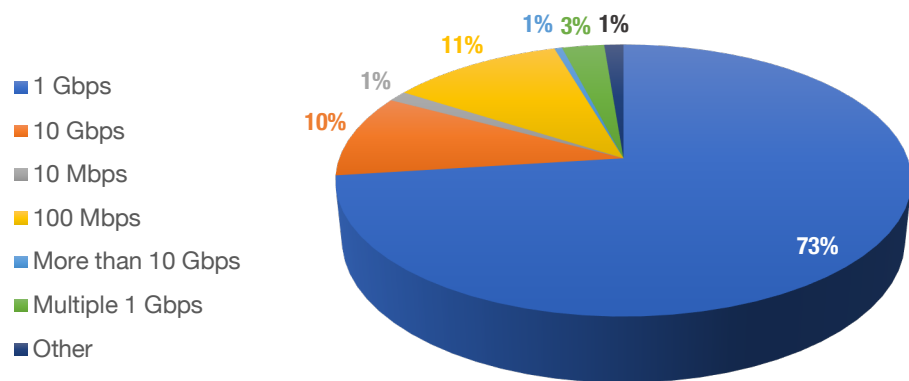
need to upgrade components. To achieve 100 Mbps per 1,000 students, only 21% report needing to upgrade gateway routers, 17% DMZ switching, and 18% content filter.

Infrastructure Upgrades: Long & Short Term



The most typical connection speed between the wireless access point (WAP) and the local area network (LAN) switch port is 1 Gbps. With 73% of respondents, it is by far the top speed. A distant second with 11% is 100 Mbps, followed by 10 Gbps with 10%. Only 1% report speeds faster than 10 Gbps and, fortunately, only 1% report speed of 10 Mbps.

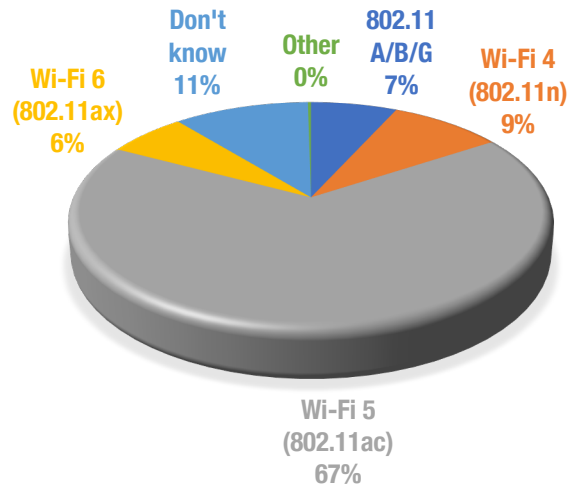
Connection Speed Between WAP and LAN Switch Port



Six percent (6%) of respondents report that Wi-Fi 6 (802.11ax)—the newest generation of Wi-Fi— is the standard that will be used in the majority of WAPs in their network by September 2020. This new standard is reportedly 30% faster than its predecessor and

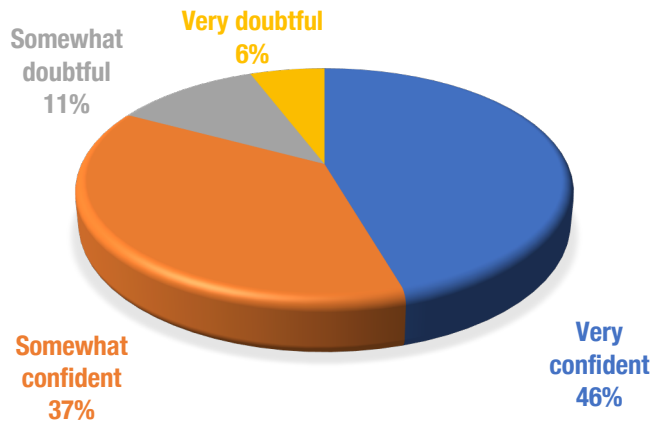
is designed to better deliver more data to multiple devices. Wi-Fi 5 (802.11ac) which is three times faster than its predecessor, is used by about two thirds (67%) of respondents. Older and slower standards will still be used by a small minority of districts. Wi-Fi 4 (802.11n) will be used by 9% and the slower standard of 802.11a/b/g by 7%.

Standard used for WAP



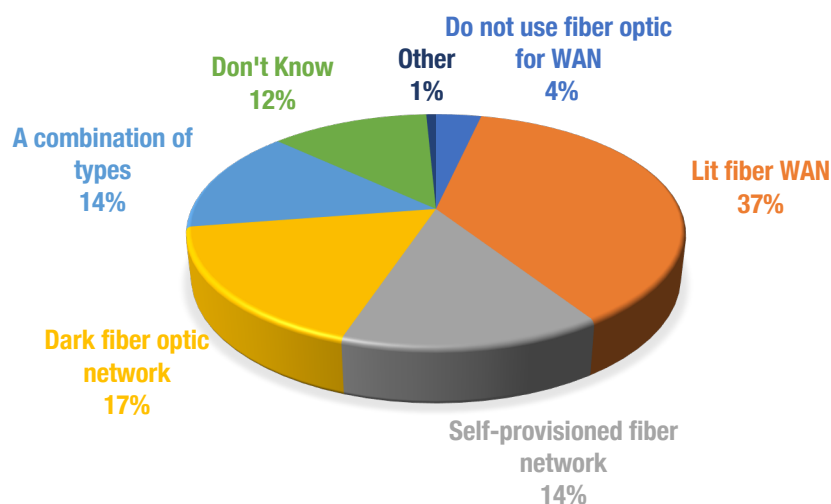
Districts are confident that their wireless networks have the capacity to handle two devices or more per student. More than a third (37%) report being somewhat confident, with 46% reporting being very confident. These percentages suggest preparation on the part of IT Leaders. As previously described survey results indicate, only 26% of districts currently need to support two devices per student.

Confidence that Wireless Networks can Handle Two Devices per Student



The use of fiber for WAN transport is prevalent, with only 4% of respondents indicating they do not use fiber optic. Lit fiber is the most common with 37%. Dark fiber is a distant second with 17%. Self-provisioned fiber is used by 14% of districts with another 14% of districts using a combination of fiber types.

WAN Fiber Types



District Initiatives

The vast majority (84%) of respondents have fully or partially implemented single sign-on (SSO). Data interoperability follows as the most implemented interoperability initiative with 74%. However, it has been fully implemented at a much lower rate—7% compared to 29% for SSO. Data dashboards, with 74% fully or partially implemented, also has a relatively low fully implemented rate of 11%. Content interoperability is the least fully implemented with 6%. However, when combined with its 61% partially implemented rate, it shows more than two-thirds (67%) of districts are working to enable content interoperability across systems.

TABLE: Interoperability Initiative

| Interoperability Initiative | Fully Implemented | Partially Implemented | Planning | Not at All | Don't Know |
|-----------------------------|-------------------|-----------------------|----------|------------|------------|
| Single Sign-On | 29% | 55% | 8% | 7% | 1% |
| Data interoperability | 7% | 67% | 11% | 9% | 6% |
| Data Dashboards | 11% | 52% | 19% | 13% | 5% |
| Content Interoperability | 6% | 61% | 14% | 12% | 7% |

When ranking barriers to improving data interoperability, budget constraints topped the list. As stated in CoSN's own RFP Guidelines for Interoperability,¹⁹ most providers can provide data in a standards-aligned format. However, many may charge for a one-time fee and/or on-going fees for providing that data. Districts should require that providers disclose any additional associated costs for initial and/or ongoing data integration before final procurement. IT Leaders also need to advise providers what standards their district uses or intends to implement in the future. The second biggest barrier to improving data interoperability is the lack of widely agreed upon technical

¹⁹ https://cosn.org/sites/default/files/RFP_Considerations_v6_0.pdf

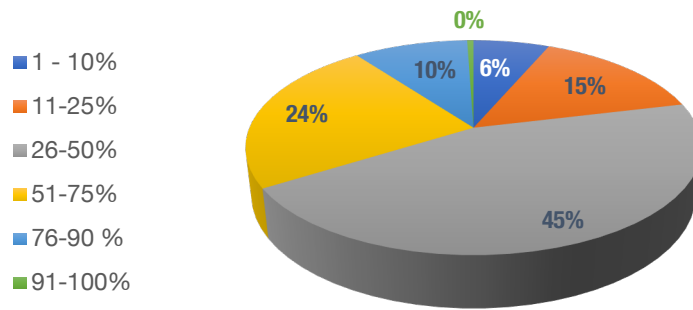
standards. Until a common set of standards becomes ubiquitous, data interoperability will be a challenge for districts (and providers). Lack of awareness/understanding by school leaders rounded out the top three barriers to improving data interoperability.

TABLE: Barriers to Improving Data Interoperability

| Rank | Barrier |
|------|---|
| 1 | Budget constraints |
| 2 | Lack of widely agreed upon technical standards |
| 3 | Lack of awareness/understanding by school leaders |

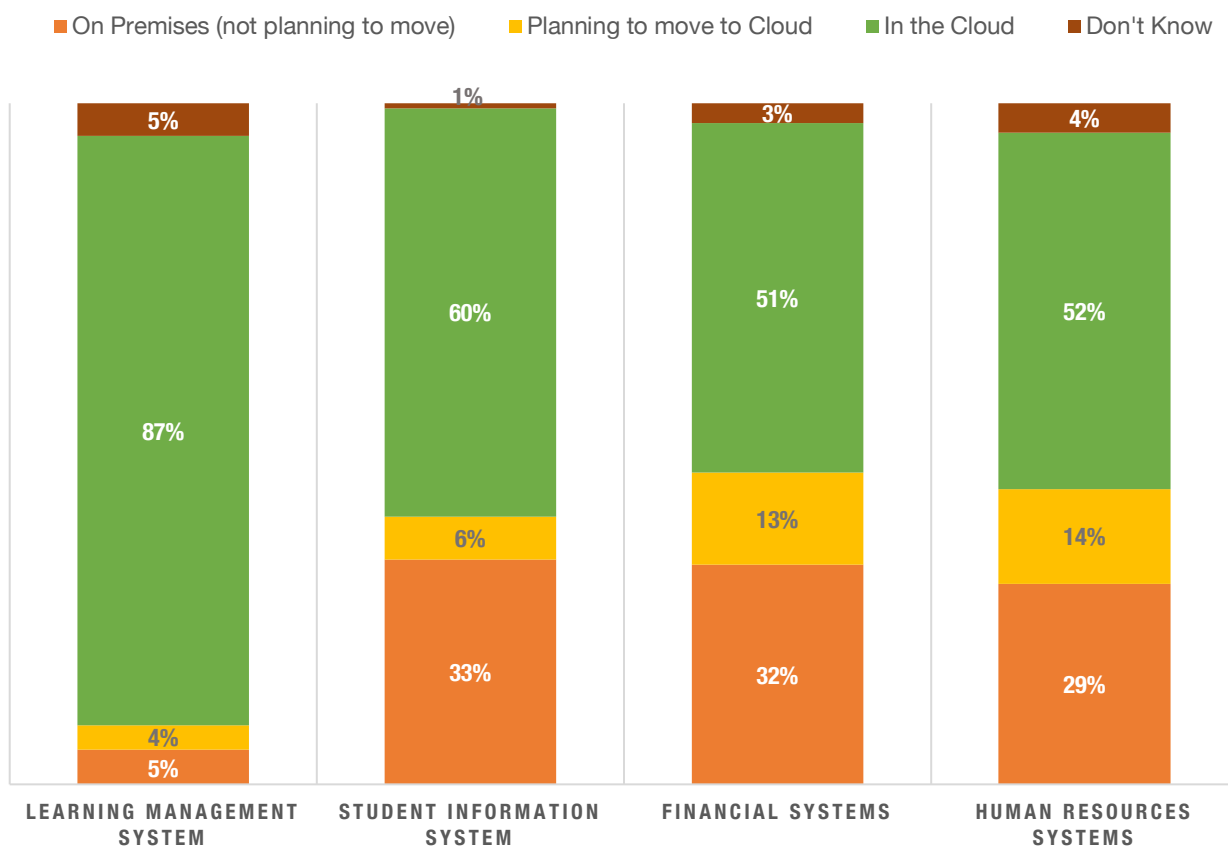
Despite increasing infrastructure capacity, digital instructional materials are still largely print-based. Only a third (34%) of respondents report the majority of their instructional materials are in a digital format, including just 10% that are over 75% digital. Districts that are 26-50% digital comprise the single largest category, with 45%. The persistence of print likely accounts for the low percentage of districts that have fully implemented content interoperability.

Percentage of Instructional Materials in Digital Format



The majority of districts use Cloud hosting strategies for key enterprise systems. The system type most likely to be in the Cloud is the learning management systems (LMS), with an overwhelming majority—97% already in the Cloud and another 4% planning to move there. This high penetration rate for Cloud hosting is likely related to the popularity of Google Classroom and the plethora of LMSs developed as Cloud-native. Student information systems (SISs) follow, with two-thirds (66%) of respondents hosting or planning to host in the Cloud. Financial systems closely follow SISs with 64% hosting or planning to host. Though human resource (HR) systems are the least likely to be Cloud hosted, a majority (51%) of districts do so with another 14% planning to move to the Cloud.

Hosting Strategies



Due to rounding not all columns total 100%.

Summary

Over the years, great progress has been made—with the help of E-Rate, improved Wi-Fi standards, and declining costs for broadband and devices—in creating tech-enabled digital ecosystems. Districts express increasing confidence in their infrastructure being able to support 1:1 (and many 2:1) with devices that tend to be newer. Emerging technologies, such as AI, hold great promise for enhancing teaching and learning.

However, positive scenarios are not universal. As one survey respondent commented, “We are still in the stone age when compared to other parts of the state and wealthier districts.” Another commented, “K-12 Educational IT staff are overburdened with no end in sight.” These quotes highlight that budgets and resources are still insufficient. They have persistently ranked as the top challenge IT Leaders face. From the lack of common use of agreed-upon data and content technical standards to relentless pressure of cybersecurity threats, issues IT Leaders face have never been more complex or difficult. Yet, despite their challenges, IT Leaders are still willing to expand their roles beyond school system infrastructure. They are implementing innovative solutions in an effort to address the digital inequity that exists outside of their classrooms. It is their persistence and willingness to explore new technologies to solve problems are what make IT Leaders what they are.... leaders.

About the Survey

Results from this year's survey were compiled from 513 surveys. With the help of our partner MDR, the 54-question survey was deployed on November 17, 2019 and closed on January 15, 2020.²⁰ Our partner Forecast5™ Analytics collected more than 40,000 data points and generated the charts and graphs.²¹

The largest segment (45%) of respondents who submitted completed surveys work in suburban districts, followed by rural (26%), towns (16%) and urban districts (13%). While the smallest segment of respondents come from urban districts, they are over-represented in the results as urban account for 6% of U.S. districts. Suburban districts are also over-represented, as they account for 23% of districts. Districts with town classifications align with the national breakdown of 18%. Rural districts are under-represented as they comprise more than half (53%) of U.S. districts. However, rural districts account for only 19% of U.S. students, less than half of suburban schools (40%). Urban schools account for 30% of U.S. enrollments.



CoSN is the premier professional association for school system technology leaders and educational leaders to leverage technology to realize engaging learning environments. Visit cosn.org or email membership@cosn.org to find out more about CoSN's focus areas, annual conference and events, advocacy and policy, membership, and the CETL™ certification exam.



A trusted partner to school districts of every size, CDW-G has more than 300 dedicated K-12 account managers, including a core group of education strategists and learning environment advisers. Our team's experienced teachers, principals, superintendents and chief technology officers understand what it's like to stand in your shoes – and are uniquely qualified to partner with you to architect, implement, and manage technology.



The Ed-Fi Alliance is a nationwide community of leading educators, technologists, and data advocates connecting student data systems in order to transform education. A not-for-profit organization founded in 2012, by the Michael & Susan Dell Foundation, Ed-Fi aims to boost student achievement by empowering educators with real-time, comprehensive insight into every student.

Ed-Fi technologies streamline data management in school districts and states across the country. By allowing schools to integrate data previously siloed within disconnected tools and software—and organizing it through a single, secure data standard —Ed-Fi solves one of the country's most perplexing educational challenges: how to get a complete, accurate view of individual student achievement, so that every student can receive the support they need when they need it most.

²⁰ Results have a +/- 3.5 reliability.

²¹ Due to rounding, not all totals within charts equal 100%.



AASA, The School Superintendents Association, founded in 1865, is the professional organization for more than 13,000 educational leaders in the United States and throughout the world. AASA advocates for equitable access for all students to the highest quality public education and supports school system leaders.



MDR is a full-service school and community engagement partner. A division of Dun & Bradstreet, MDR is a different kind of integrated marketing services agency that combines rich data with unique digital, creative, and branding capabilities. They have been connecting brands through data and marketing services to educators, youth and parents for 50 years. MDR's database and digital communities, including EdNET, SchoolData, WeAreTeachers, WeAreParents and School Leaders Now enable brands to connect with educators.



Forecast5™ Analytics provides decision support tools for school leaders. Our analytics technology helps you identify strategic and financial opportunities with highly visual outputs and dashboards in the areas of financial performance, compensation, student performance, and enrollment/demographics. More than 2,000 school districts across the country are using Forecast5 tools to maximize data insights.

About Survey Report Author:

Paula Maylahn is an education industry consultant with thirty-five years' experience across the K-20 spectrum. She is the project director for CoSN's interoperability initiatives. Paula is a contributing author on two books, "The Experts' Guide to the K-12 Market" and "The Experts' Guide to the Postsecondary Market", and authored the publication, "Interoperability: Definitions, Expectations, and Implications." Paula chairs the education council of the United Design Guild where she also serves as a member of the board. She is a council member of the Women's Education Project, a current board member of the Education Division of the Software & Information Industry Association, and a former executive council member of the PreK-12 Learning Group of the Association of American Publishers.