2022 Annual Technology Survey

Results Report

February 1, 2023

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Introduction and Overview

The Annual Technology Survey gathers information about education technology in Vermont supervisory unions/districts (SU/SDs) and schools. The survey is a tool for the Agency of Education (AOE) to collect information on how schools are using technology and the challenges they are facing in providing the infrastructure and equipment needed to equitably and effectively utilize technology to support student-centered learning. The survey also enables the AOE to observe patterns of technology use and infrastructure across SU/SDs and explore opportunities to leverage state investments to support coherence and access across the state. The FY22 survey (2021-2022 academic year) was opened in July 2022 and closed on September 1, 2022. There was 100 percent participation in the survey from Vermont SU/SDs.

Survey results are reported both by SU/SD and by schools. SU/SD responses represent 54 districts—51 SU/SD and three regional technical center school districts. School responses represent 297 schools, including 12 technical and career centers that reported as separate schools.

The Survey Instrument

This is the sixth year for the annual technology survey. AOE utilizes a survey platform called Cognito. Cognito enables the online survey to be coordinated at the SU/SD level. It is the SU/SD education technology directors and information technology managers that typically administer the network systems and broadband connections and contracts for schools within a district. As such, the survey is directed to these individuals who are also well positioned to oversee the responses from individual schools. School specific inquiries address one-to-one programs, device use within a school, and specific school policies. District-wide questions address internet service providers, connectivity, network platforms and function, and technology administration. A list of survey questions is provided in the appendix section of this report.

AOE would like to thank the education technology directors and other educational staff members and leaders for their work to compile responses to the 2022 survey.

Summary of Key Findings

Importance of Home Broadband: As schools resumed in-person learning at the start of the 2021-2022 school term, the education community was challenged to evaluate the role home broadband plays in a student's learning process. The majority (57%) of SU/SDs characterized home broadband access as enhancing educational opportunities but was not required, while 35 percent indicated it was a requirement for providing students will full access to educational opportunities. The majority of SU/SDs did agree that home broadband allowed for remote learning, gave students access to resources to complete homework, and provided a connection for school-to-home communication. However, ensuring home connectivity for learning was viewed by schools as less urgent than earlier in the pandemic.

"Equitable opportunities for home to school/school to home communication is important for all students and families to access their education." – Survey Respondent

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Gains in Performance of School Broadband: The speed and capacity of SU/SD broadband connections increased. There was a 10 percent increase in the number of SU/SDs reporting upload speeds of 1 Gbps or greater over the previous survey. For the 2021-2022 school term, 83 percent of SU/SDs reported upload speeds of 1 Gbps or faster compared with the 2020-2021 survey where 71 percent reported such speeds. Broadband download speeds likewise increased. In last year's survey, 75 percent of SU/SD reported speeds of 1 Gbps or faster. In this year's survey, 81 percent of districts indicated such speeds. Fiber direct to the site remained the principal connection type for schools. Such gains in broadband speed and capacity reflect overall improvements by vendors to maintain and enhance their networks. Having a secure, reliable, and robust internet connection at schools remains of primary importance to ensure uninterrupted educational processes.

"Technology is used regularly and integrated into the curriculum . . . It is embedded in every program."
- Survey Respondent

Developing Cybersecurity Measures: SU/SDs made gains in the security of their school networks. The number of SU/SDs implementing multi-factor authentication (MFA) increased by 58 percent. Last survey, 19 SU/SDs reported they had implemented MFA compared with 30 this survey. There was also a 59 percent increase in the number of SU/SDs implementing regular employee cybersecurity training. Last survey, 17 SU/SDs reported they did regular training compared with 27 this survey. SU/SDs were also asked whether they had a data breach response plan in place. Twenty-six percent of SU/SDs indicated they had such a plan. Lack of staff time and funding were cited as the major barriers to implementation of a plan. The increase in cybersecurity measures by SU/SDs indicates an awareness that schools are increasingly the focus for attacks by cyber criminals.

"Between AOE, VSBIT and CoSN, we are slowly gaining knowledge and having discussions about this."
- Survey Respondent

Positioning for the Future: From classroom teachers to administrators, the pressures from the pandemic have challenged individuals in these roles to take on more responsibilities. Education technology directors and IT managers are not exempt from these pressures. Reflected in the data of this report are increases in device availability, platform implementation, educator technology training, and cybersecurity planning. These tasks have fallen on the education technology and IT staffs with little gains in staffing patterns or personnel noted. It is anticipated that the use of technology in education will only increase in the years ahead. These survey results sound a cautionary note for SU/SD administrators to consider how they will bolster funding and staffing for their teams now working to support functions that impact the entire system.

"The tech director has become the data manager, the E-rate coordinator, the district administrator for testing, for cybersecurity, the P-EBT administrator, and system administrator for countless systems – SIS, Google, anything online, not to mention oversight of the network and all digital assets."
– Survey Respondent

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Broadband Connectivity

Since the inception of this report, AOE has surveyed SU/SDs on their broadband connections to their schools. Broadband connectivity is essential to schools. Robust and reliable connectivity enables schools to run a multitude of programs and systems that are used for operational, business, safety, and educational processes. The pandemic catapulted schools nationwide to embrace educational technologies that enabled remote student learning. Such technology provided new tools to inspire learning that are still being expanded upon today.

"As we recover from the pandemic, educators are increasingly leveraging the breadth of active and innovative learning opportunities made possible through technology. In addition, schools are accelerating the implementation of whole learner approaches with technology, including connections to social and emotional supports, parent-educator engagement opportunities, tele-health and tele-mental health, and basic needs services. For such opportunities to become equitably and sustainably available at scale, we must do more to ensure all learners, families/caregivers, and communities have access to technology and the opportunities that it unlocks." – *Advancing Digital Equity for All, US DOE, Office of Educational Technology, Sept. 2022*

This section of the report includes questions and responses related to broadband connectivity. To provide clarity for the information that follows, this report provides the following definitions and concepts. Bandwidth is the rate at which the network can transmit information. Generally, higher bandwidth is desirable. The amount of bandwidth available to you can determine whether you download a photo in two seconds or two minutes. Bandwidth is traditionally expressed in bits per second (bps). Modern network links now have far greater capacity, which is why bandwidth is now more often expressed as megabits per second (Mbps) or gigabits per second (Gbps). The more bandwidth a data connection has, the more data it can send and receive at one time. In concept, bandwidth can be compared to the volume of water that can flow through a pipe. The wider the pipe's diameter, the more water can flow through it at one time. Bandwidth works on the same principle. The higher the capacity of the communication link, the more data can flow through it per second.

Internet Service & Connection

Question 1: Who is the primary Internet Service Provider [ISP] for this school?

Figure 1: Primary Internet Service Providers
Providers with five or less subscribing SU/SDs are not listed in this chart.
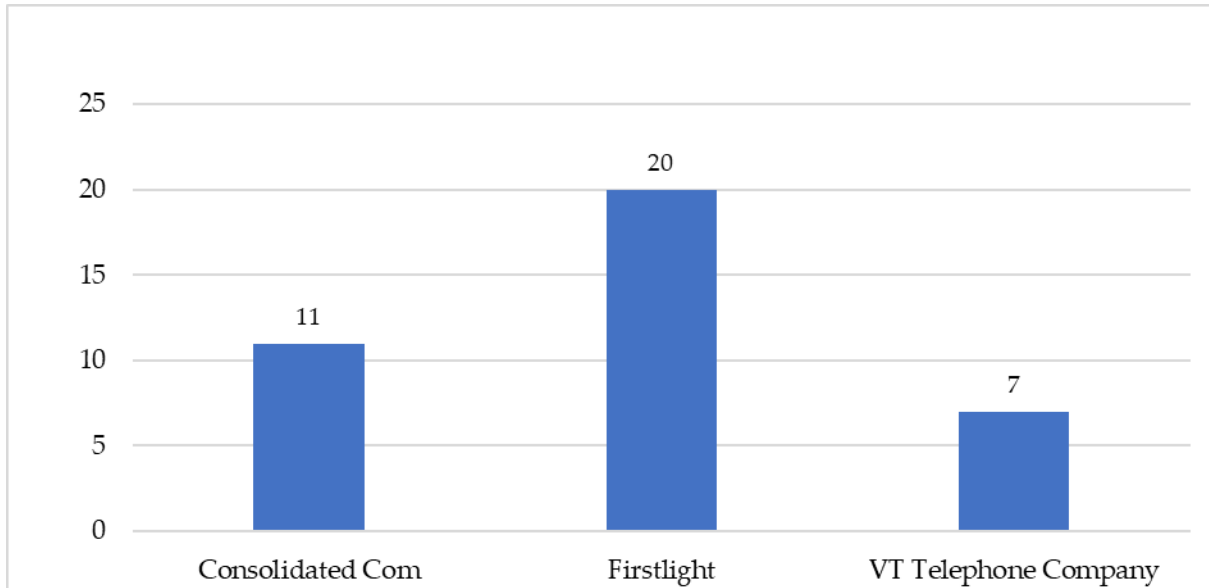
FirstLight and Consolidated Communications maintained their position as the primary internet service suppliers to schools. Both companies have a statewide presence. Other providers listed were VTel, ENA, Xfinity, Green Mountain Access, EC Fiber, Burlington Telecom, Century Link, Cox Communication, Fibercast and Spectrum. There is more information on internet access in Vermont on the Public Service Department website, [Public Service Department Interactive Broadband Map](#).

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Question 2: What is the primary connection type for schools in your SU/SD to connect to the internet?

Figure 2: Primary Connection Type
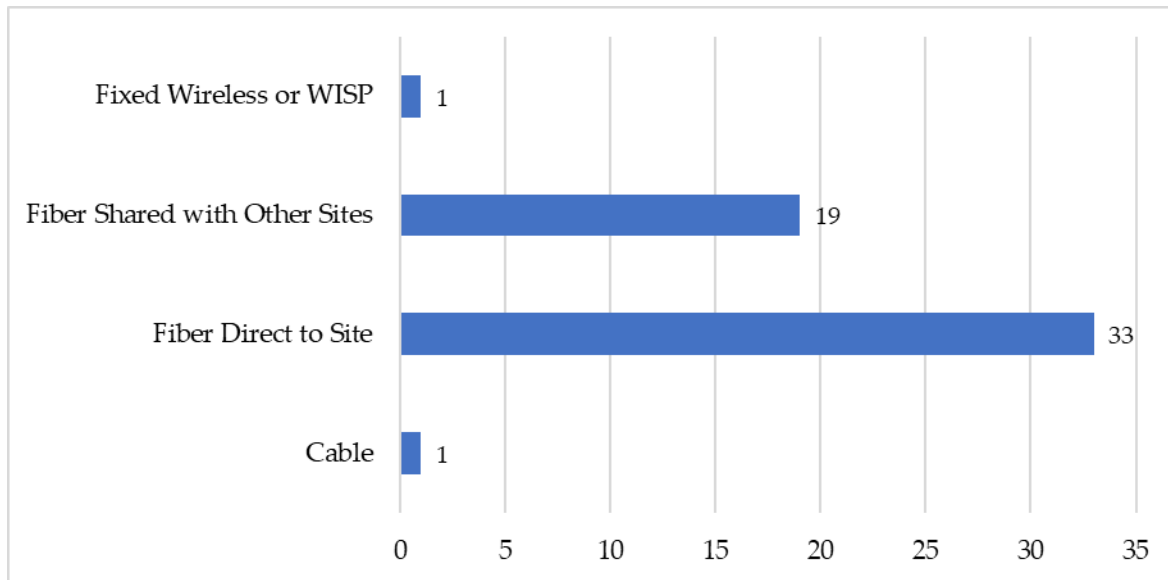
Fiber remains the primary connection type for schools. A direct fiber connection serves a single customer and provides the highest level of bandwidth and guaranteed speeds. A shared fiber connection supports multiple destinations and/or customers. Typically, the cost for a shared connection is less than a direct fiber connection. Last year's survey indicated that SU/SDs utilizing a shared connection detected no performance problems associated with that type of connection. Fixed wireless internet is a rural internet option that connects one location, like a farm or a house, to the internet via radio waves. Fixed wireless internet uses antennas that are attached to your location, such as a school. These antennas connect the internet signal from your computer to a fixed location, usually a fixed wireless hub attached to a tower. The antenna needs a clear line of sight to the tower. Any hills, trees, buildings, or other objects can cause problems with the signal.

Upload and Download Speeds

Both the download and upload speeds are important. Internet Service Providers (ISPs) offer different bandwidth limits for downloading and uploading. In many cases, the upload bandwidth is typically less than the download bandwidth in many cases as most user activities require downloading of data from the internet. However, video conferencing requires both robust upload and download speeds to ensure a good connection and video quality. According to the Federal Communications Commission (FCC), high speed internet is defined as a download speed at or above 25 Mbps and an upload speed not less than 3 Mbps. It should be noted that this definition is disputed by many groups. New technology developments and changes in internet use necessitate much higher speeds than those set by the FCC.

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In the 2021-2022 school year, Vermont SU/SDs reported notable gains in broadband speeds. Eighty-one percent of SU/SDs reported upload speeds of 1 Gbps or faster compared to the 2020-2021 school year where 71 percent reported such speeds.

Question 3: What is the current upload speed for schools in your SU/SD (as advertised by your provider)?

Figure 3: Broadband Speeds (Upload)

Data is based on 54 SU/SDs responding.
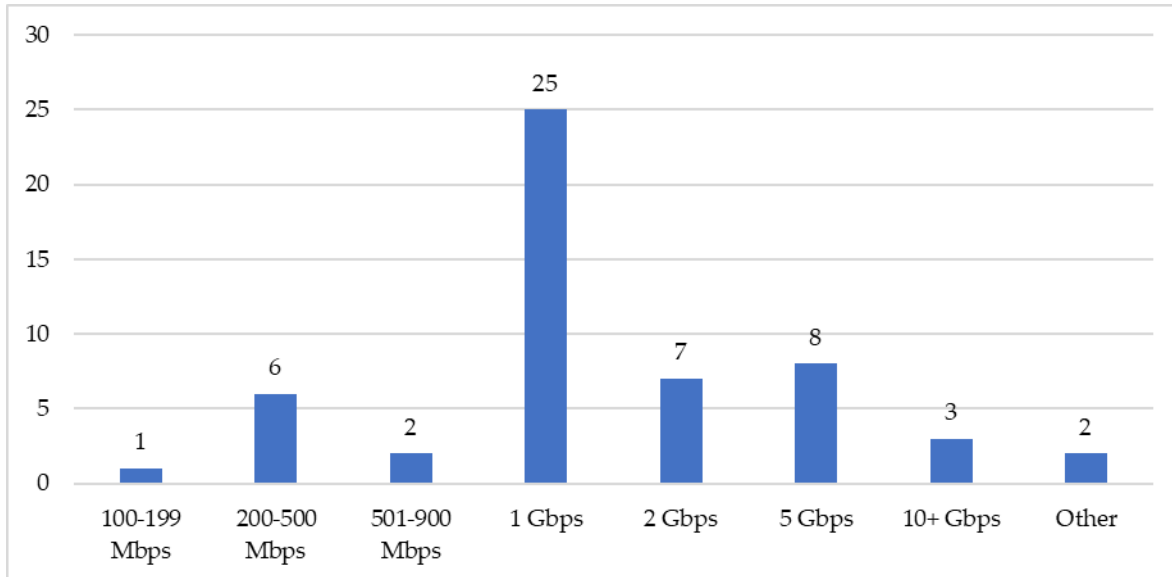
Table 3: Broadband Speeds (Upload)

Broadband Speed (Upload)	Number of Schools
100-199 Mbps	1
200-500 Mbps	6
501-900 Mbps	2
1 Gbps	25
2 Gbps	7
5 Gbps	8
10+ Gbps	2
Other	2

The Vermont Department of Public Service maintains data on broadband high-speed internet availability in the state. To review their data, go to Broadband High-Speed Internet Availability in Vermont | Department of Public Service.

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Question 4: What is the current download speed for schools in your SU/SD (as advertised by your provider)?

Figure 4: Broadband Speeds (Download)
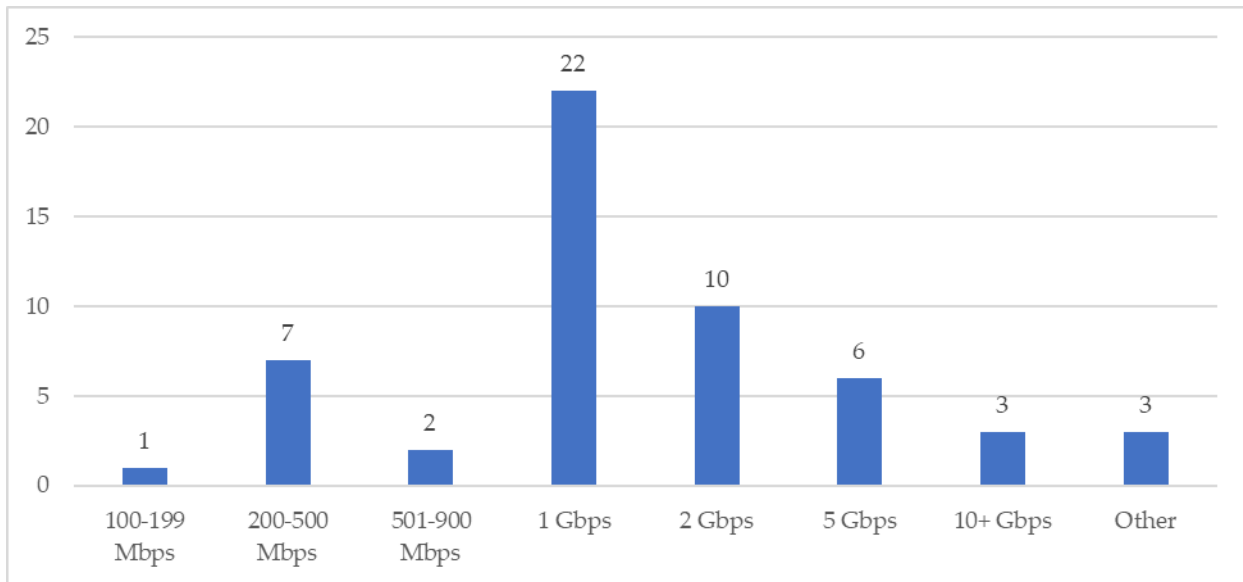
Data is based on 54 SU/SDs responding.

Table 4: Broadband Speeds (Download)

Broadband Speed (Download)	Number of Schools
100-199 Mbps	1
200-500 Mbps	7
501-900 Mbps	2
1 Gbps	22
2 Gbps	10
5 Gbps	6
10+ Gbps	3
Other	3

As with upload speeds, broadband speed gains were similarly noted by SU/SDs in the reported download data. In the 2022 survey, 81 percent of SU/SDs reported download speeds of 1 Gbps or greater as compared to 75 percent of the responses in the 2021 report.

Wi-Fi Access

As students returned to in-person learning at the school building, providing Wi-Fi access outside of the school became less of a priority. Also, the data revealed more communities have acquired public Wi-Fi than was indicated in the last survey. That is a positive trend for Vermont communities needing an expansion in internet connectivity. The specific answers to the Wi-Fi survey questions are provided below.

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Question 5: Do the schools in your SU/SD provide "guest" or "public" Wi-Fi access?

- 5 SU/SDs reported there **was no** public Wi-Fi access provided by district schools.
- 49 SU/SDs reported there **was** public Wi-Fi access provided by district schools.

Question 6: If schools in your SU/SD provide "guest" or "public" Wi-Fi, please select the option below that best describes the area served by the Wi-Fi.

Figure 6: Geographic Area Served by School Wi-Fi
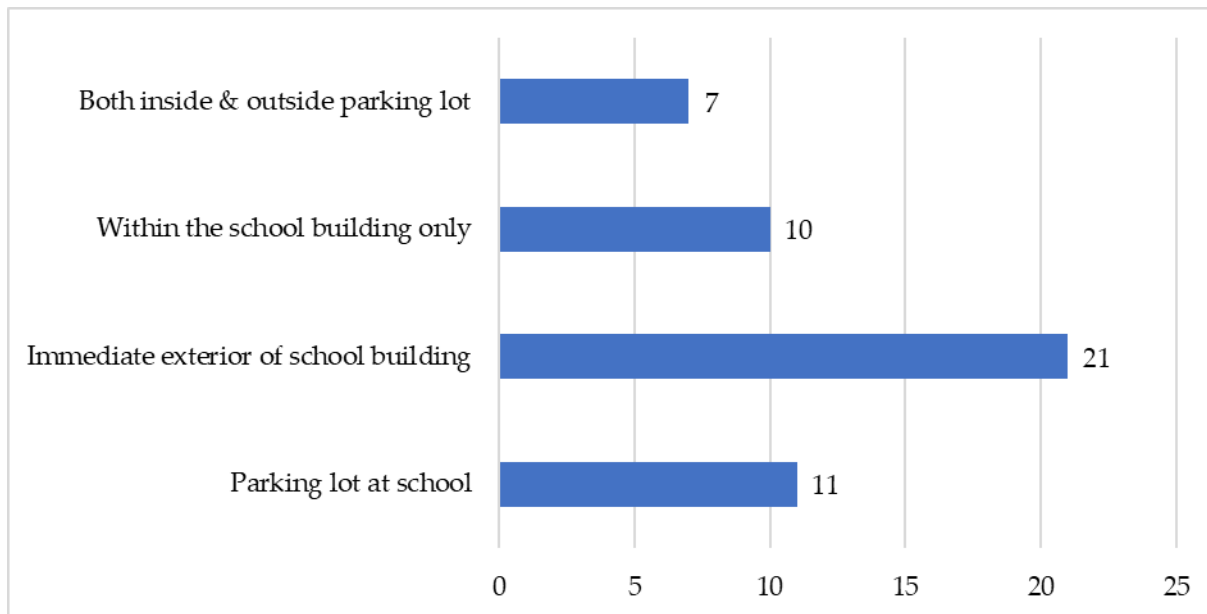
Last survey, 42 percent of schools provided free Wi-Fi access into the parking lot. The number of schools offering such access declined in the 2021-2022 school term. Thirty-three percent of SU/SDs indicated that schools in their district provided free Wi-Fi access into the school parking lot. It is assumed that as schools returned to in-person learning, providing Wi-Fi access to the parking lot became less of a priority.

Question 7: Is there another location in the community to access free Wi-Fi?

- 3 SU/SDs indicated there **was no** free Wi-Fi in their school communities
- 51 SU/SDs indicated that there **was other** free Wi-Fi in their school communities

While access to free Wi-Fi in the local school parking lot declined, the data indicates that more local communities were making free Wi-Fi available. Last survey, 10 percent of the schools indicated there was no free Wi-Fi in their community. That number dropped to 6 percent in this year's survey. Ninety-four percent of SU/SDs indicated there was free Wi-Fi access available in their school communities.

Cell Phone & Broadband Service

AOE surveys schools on the presence and quality of their cell service to ascertain the viability of phones being used as instructional tools or resources. The question of cell phone coverage also

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gives a sense of the viability of using cell towers as access to the internet for schools and students.

Question 8: What is the typical cell phone coverage at the schools in your SU/SD?

Figure 8: Cell Coverage Descriptive Category
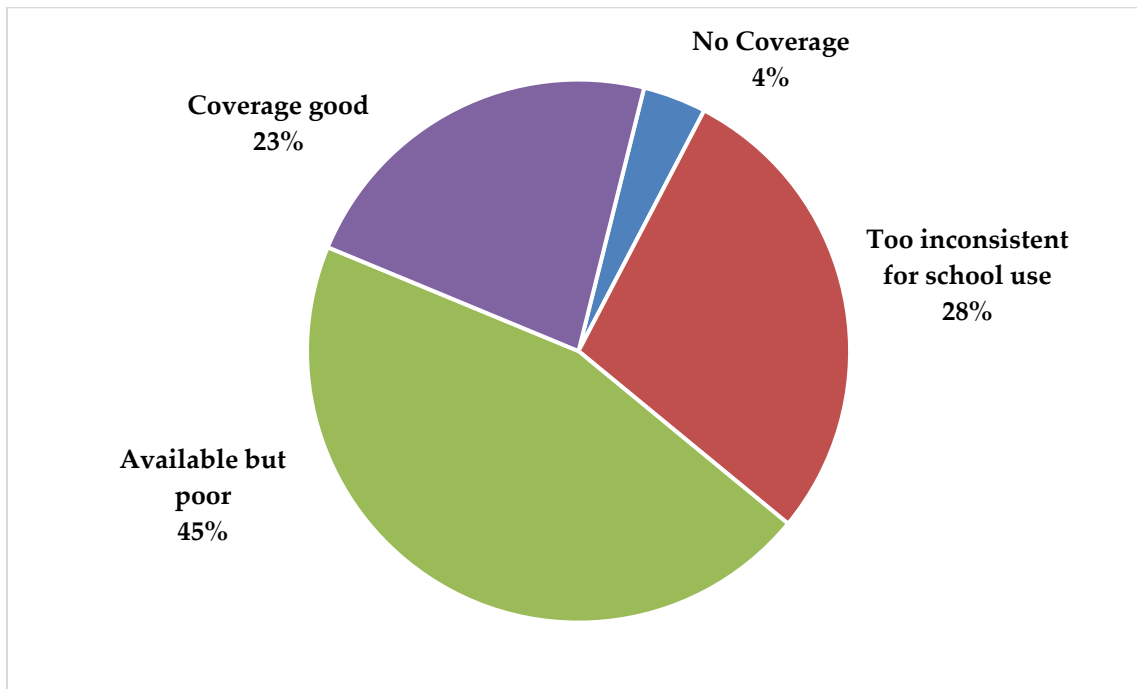
Improvement in local cell phone coverage was again noted in the 2021-2022 survey. The percentage of SU/SDs reporting that schools in their district had no cell phone coverage declined by 1 percent to 4 percent. The percentage of schools with cell phone coverage too inconsistent for school use declined from 40 to 28 percent. The percentage of schools reported to have good coverage increased from 14 to 23 percent.

For more information on cell coverage in Vermont, the Department of Public Service has an interactive mobile wireless map on their website.

Question 9: Does your SU/SD or individual schools survey students to determine their home broadband access?

- 21 SU/SDs reported they **do not** survey students for home broadband access
- 33 SU/SDs reported they **do** survey students for home broadband access

The number of schools reporting that they survey students for home broadband access has remained approximately the same as last year. Schools have previously indicated that they do maintain a list of student home addresses that have no/low broadband. It is assumed that these lists are kept up-to-date on an as-needed basis as schools become aware of needs.

Question 10: If yes, you do track home broadband access, select the option that best describes how your SU/SD or individual schools learn about this lack of connectivity.

Table 10: Options for Learning About Lack of Connectivity

Options	Number of Schools
Written or electronic parent survey	24
Written or electronic student survey	3
Request from student or family for assistance	3
Anecdotal accounts	1
Other	2

The results above do not differ greatly from what schools indicated were their common practices in last year's survey. Written or electronic parent surveys remained the most common approach to tracking home broadband access, followed by requests from a student or family, a student survey, and anecdotal accounts. Survey remarks indicate that schools continue to direct families to affordable home broadband options. As one survey participant noted, "Broadband is important for students at home. We believe it is important to help families learn about low-cost internet solutions and where they can access free Wi-Fi in the community."

Question 11: Entering into education recovery from COVID, how important is home broadband access for students to fully access SU/SD or individual school educational opportunities?

Figure 11: Importance of Home Broadband Access for Ed Opportunities
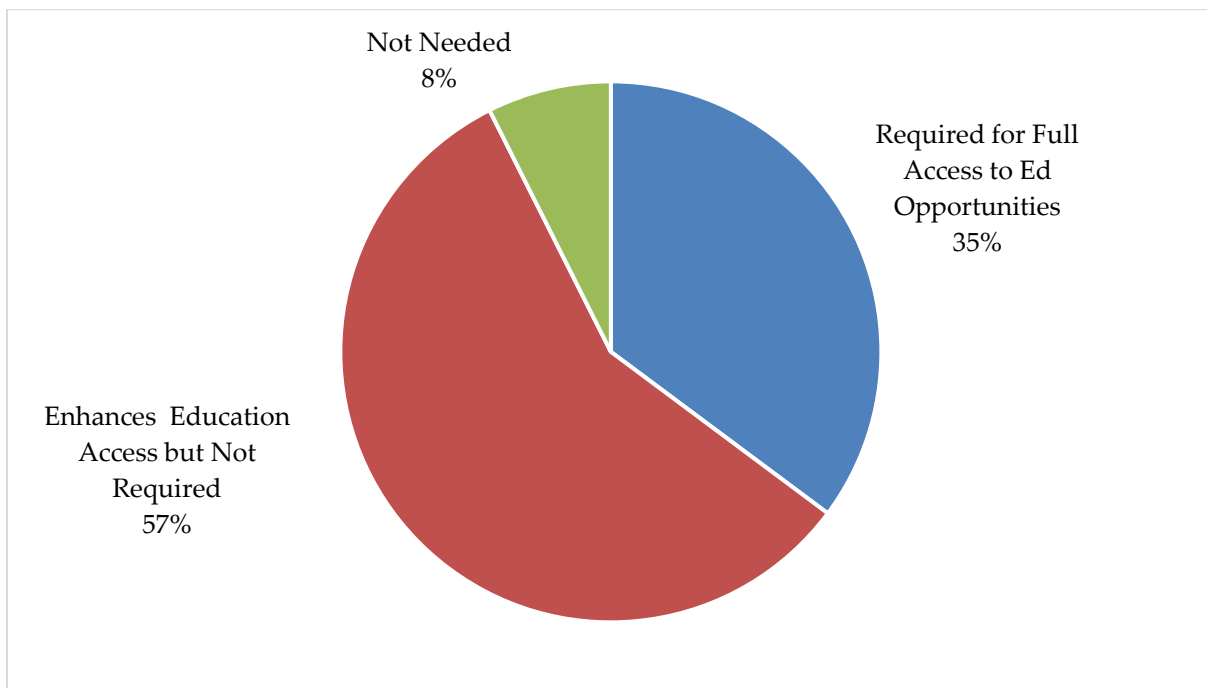
For the 2021-2022 school year, instruction shifted to in-person learning at the school building. With that shift, schools began evaluating the role of home internet access to ensuring educational opportunities for all students. While the majority of respondents recognized the

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importance of home broadband for a student's education, there was concern expressed regarding who is responsible for making sure that access is available. Here are a few of the observations made.

- Home broadband is not technically the responsibility of the school, but the school should use every means necessary to assist a family struggling with this access.
- If the curriculum does not require remote access to school resources or can be completed offline with a device that's not connected, then broadband is not the responsibility of the school. If the curriculum does require remote access to school resources, or there is not an alternative method for students to access those required school resources, then home broadband should be the responsibility of the school.
- The cost of providing adequate home internet access is prohibitive to schools and the process of deciding which households qualify is subjective.

Question 12: Below are possible reasons why student home broadband access may be important to a student's educational experience. Please indicate whether you agree or disagree with the statements listed below.

Table 12: Reasons Why Home Broadband Access Is/Is Not Important

Reasons Why Home Broadband Access Is/Is Not Important	Agree	Disagree
If needed, allows students to learn remotely	53	1
Allows student access to resources to complete homework	53	1
Provides connection for school-to-home communication	54	0
Provides connection for student-to-student communication	42	12
Home broadband is not the responsibility of the school	43	11
Home access is not important when there's in-person learning	8	45

School Technology & Device Availability

This section of questions focuses on the individual school device profile, one-to-one status, school device policies and classroom capabilities. There were 297 individual schools and CTE centers who responded to these questions.

Student Devices

Question 13: How many TOTAL devices are currently available for school use?

The number of devices available system-wide for school use compared to K-12 student enrollment remained greater than current enrollment figures. Schools reported there were 101,145 devices available for school use. The most recent enrollment for K-12 students was 74,403. The number of devices reported was down slightly from the previous survey. In last year's survey, schools reported 108,471 devices were available for school use. Schools continue to use federal pandemic funding to purchase and maintain devices. However, now two years

into the pandemic, schools have a better grasp of the number and type of devices needed for instruction. Likely, the reduced number of devices reflects the retirement of older devices and an adjustment in device inventory to meet the needs of each educational community.

Question 14: Please provide an estimate percentage (%) by type of devices your school has for student use – needs to add to 100%.

Figure 14: Percentage of Devices: Breakdowns 2022
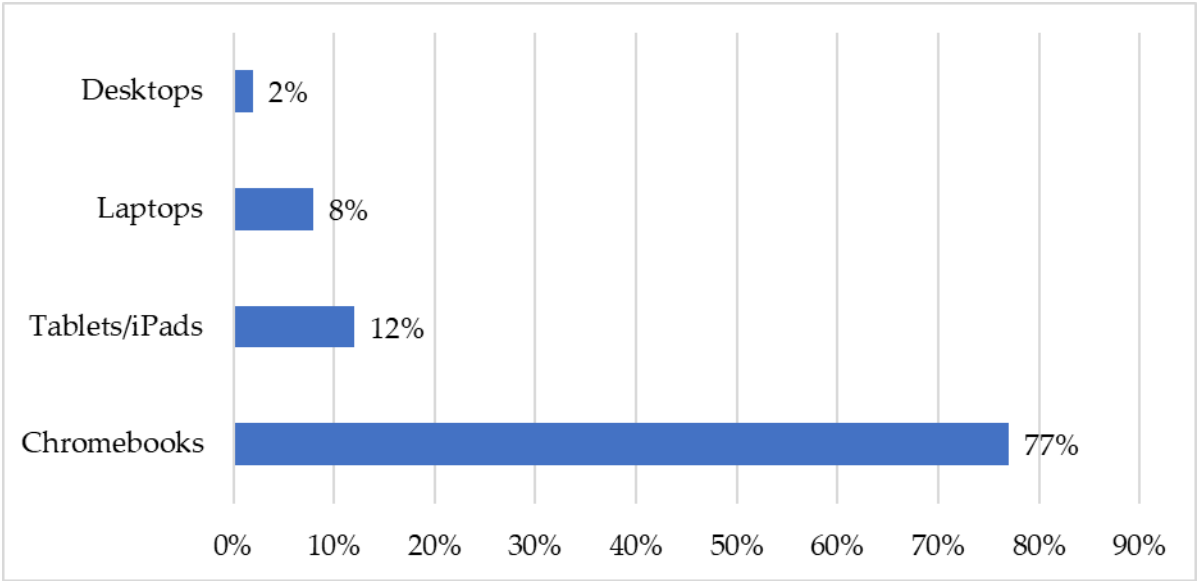
Chromebooks remained the dominant device provided to students. The 77 percent use reported in this survey is a slight decrease from the 81 percent Chromebook use reported last year. Cost and platform standardization continue to support school use of Chromebooks. Standardization enables students to work with a familiar platform throughout their school career. From a network perspective, standardization also makes it easier to update software, install new security patches, and facilitate file sharing protocols.

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Question 15: Which option most accurately describes the one-to-one status in your school?

Figure 15: 2022 1-to-1 Status as Reported by School
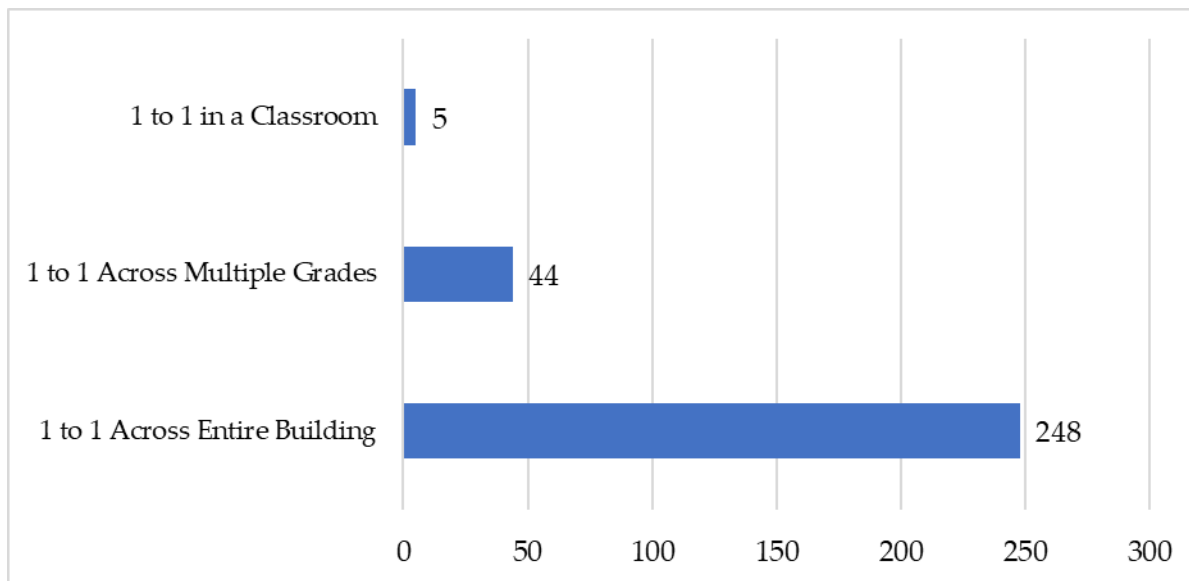
One-to-one computing is defined as a program where each student has a computing device dedicated to them over the course of a year, or multiple years, at their school. For the second year in a row, every school reported having one-to-one computing programs. Eighty-three percent of schools described their one-to-one program as across the entire building and 15 percent reported a program across multiple grades. As previously noted in this report, the increase in remote and hybrid learning necessitated schools provide devices to students to facilitate learning. Federal funding provided the financial means for schools to purchase the needed devices and related technology.

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Question 16: Does your one-to-one program allow students to take a device home?

Figure 16: Device Take-Home Policy by School
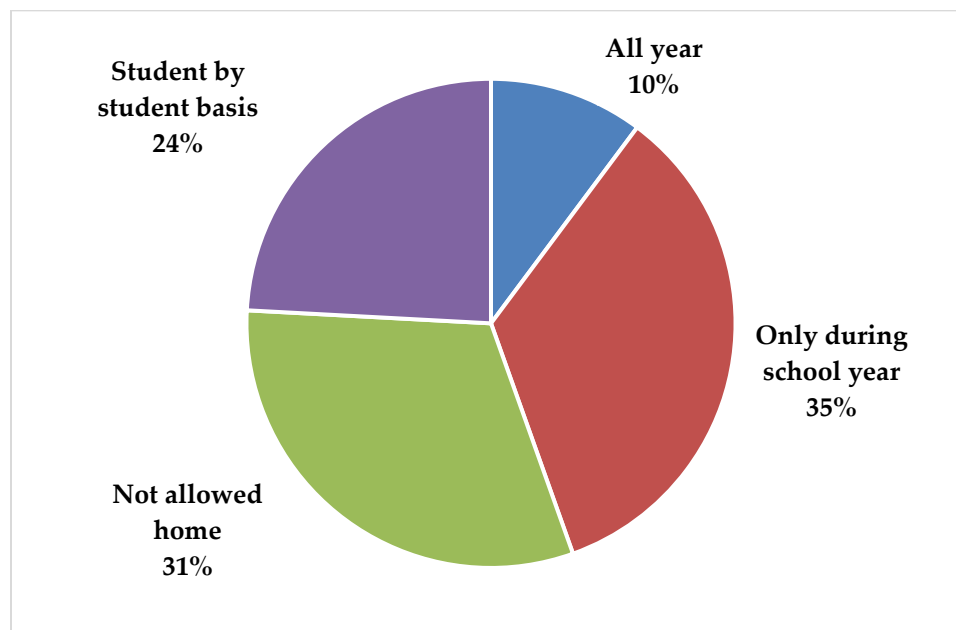
As schools shifted to in-person learning, there was also a shift in the number of schools that allowed students to take those devices home. Last survey, 60 percent of schools allowed students to take devices home during the school year compared with 35 percent in this year's survey. There was also significant change in schools that never allowed devices to go home. Last survey, 17 percent of schools held such a policy compared with 31 percent in this year's survey. However, there was an increase in the number of schools that made decisions on allowing a device home based on the individual student. Last year, 13 percent of schools determined whether a device could be taken home on a student basis compared with 24 percent in this year's survey. The percentage of schools that allow students to take devices home year-round remained unchanged at 10 percent.

Question 17: Does your school have the technology to support your academic programming?

One hundred percent of schools responded "yes" to this question.

Question 18: Does your school currently have a Bring Your Own Device (BYOD) policy?

BYOD policies allow a school to clarify when and how a student may use a personal device during the school day. This year's survey indicated a growing number of schools instituting a BYOD policy. Of the 297 school responses, 61 percent of schools indicated they had such a policy in place. Previously, a majority of schools (76 percent) indicated they did not have such a policy in place. In a follow-up question regarding whether a BYOD policy promoted equitable student access to technology, respondents overwhelmingly answered "yes." As schools have had to manage individual device distribution for all students during the past two years, it is likely this has increased awareness of the need for student access to devices of equal performance and quality. Also, it is possible that more families purchased devices for their

children as they had to complete more schoolwork from home. As these students bring their own personal devices to schools, a BYOD policy would provide guidelines for how and when they could be used.

Classroom Capabilities

Question 19: What capabilities are there in your school for in-classroom video/audio?

Figure 19: Classroom AV Capabilities
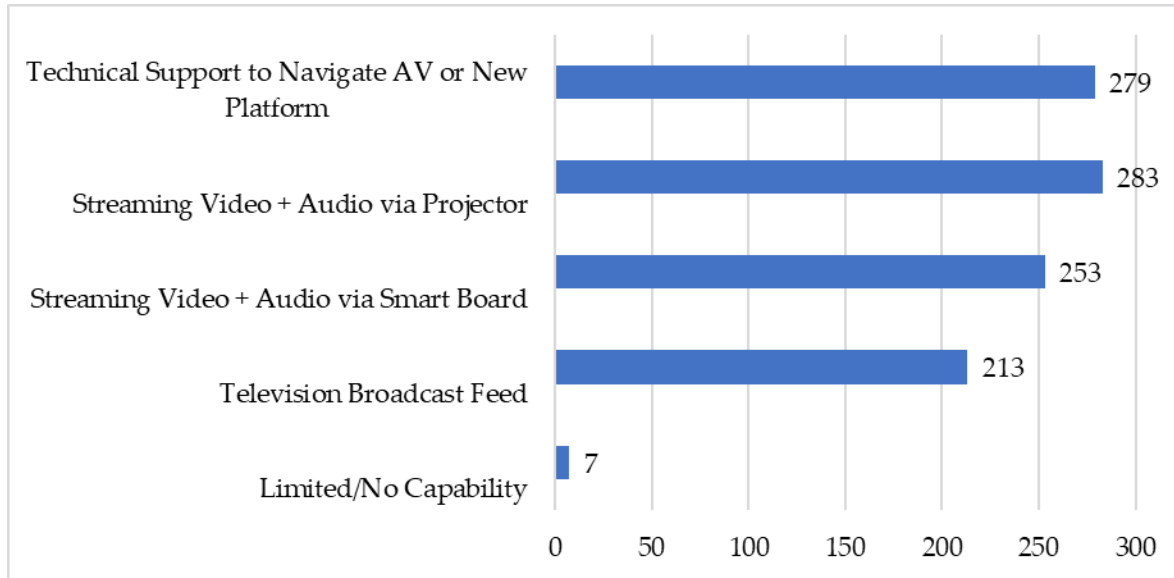
Table 19: Classroom AV Capabilities

AV Capabilities	Number of Schools
Technical Support to Navigate AV or New Platform	279
Streaming Video + Audio via Projector	283
Streaming Video + Audio via Smart Board	253
Television Broadcast Feed	213
Limited/No Capability	7

Responses to Question 19 were very similar to previous survey results. The only significant change in classroom capabilities was in the availability of television broadcast feeds. In this year's survey, 213 schools reported having access to this in the classroom compared with just 27 in the previous survey.

Technology Platforms & Functions

Questions in this section explore those learning and information platforms schools rely on to stay connected and deliver instruction. Responses in this section are by SU/SD.

Student Information Systems (SIS)

A Student Information System (SIS) is a software platform used to manage student data. Student information systems provide capabilities for registering students for courses;

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documenting grading, transcripts, results of student tests and other assessment scores; building student schedules; tracking student attendance; and managing many other student-related data needs in school.

Question 20: What technology platform(s) do the schools in your SU/SD use for an SIS? Listed below are online platforms previously reported to the AOE as in use within Vermont schools.

Figure 20: SIS Use by School District
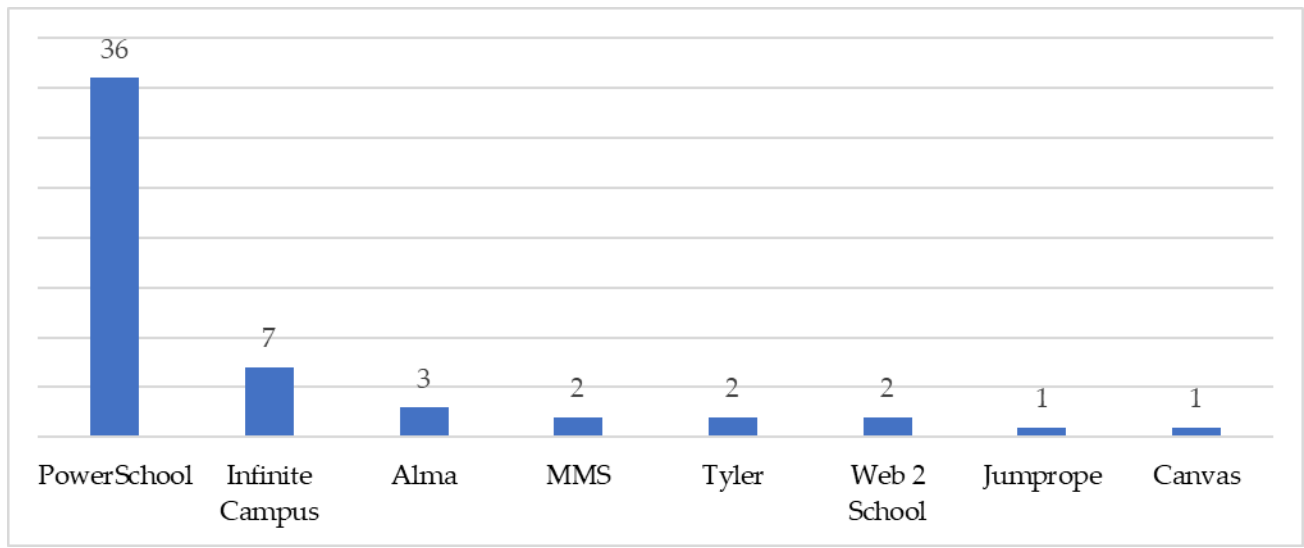
Table 20: SIS Use by School District

SIS	Number of Schools
PowerSchool	36
Infinite Campus	7
Alma	3
MMS	2
Tyler	2
Web 2 School	2
Jumprope	1
Canvas	1

As in previous surveys, the majority of Vermont SU/SDs reported using PowerSchool as their SIS. Infinite Campus remained a distant second. It is important to note that PowerSchool has certified on the Ed-Fi data standard. A data standard is a set of rules for the collection, management, and organization of educational data to allow multiple systems to share information in a seamless actionable way. *(Definition-SETDA, "State Education Leadership Interoperability")* AOE currently is piloting Ed-Fi as a standard to use in data reporting. If this is successful, districts using Ed-Fi certified platforms should find it easier to exchange and report data to AOE.

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Question 21: What could be some benefits to implementing a statewide SIS platform? Please respond to the following statements.

Figure 21: Benefit to Statewide SIS – Responses by SD

Table 21: Benefit to Statewide SIS – Responses by SD

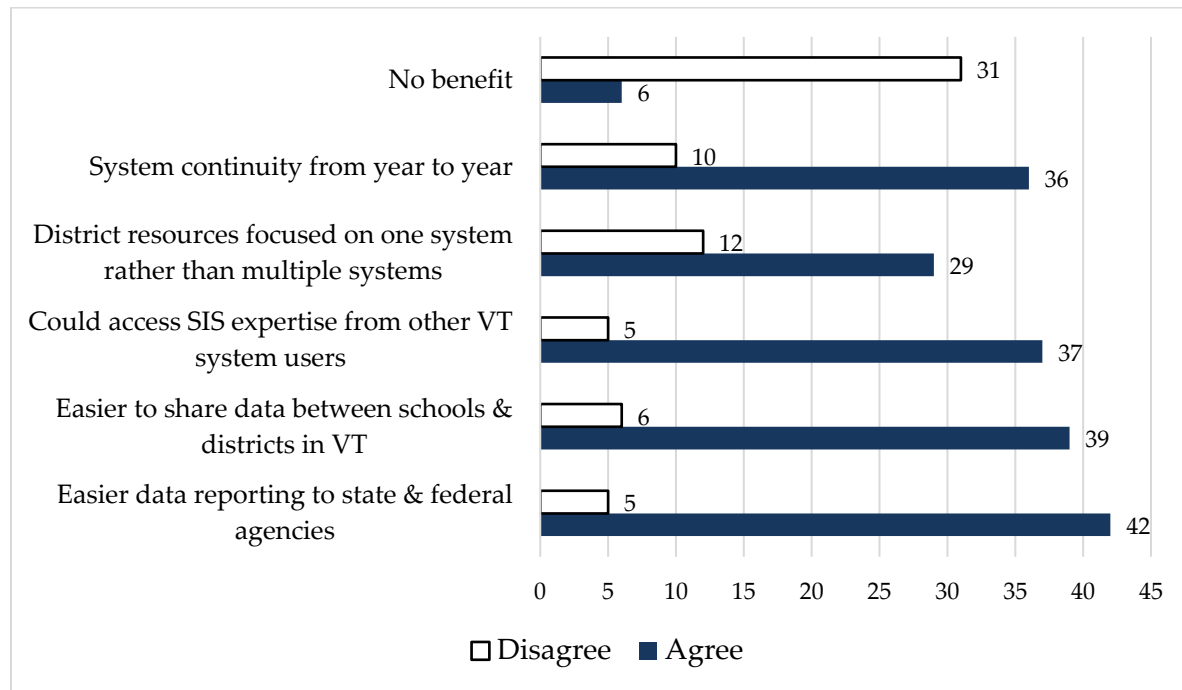| Benefit	Agree	Disagree
No Benefit	6	31
System continuity from year to year	36	10
District resources focused on one system rather than multiple systems	29	12
Could access SIS expertise from other VT system users	37	5
Easier to share data between schools and districts in VT	39	6
Easier data reporting to state and federal agencies	42	5

While SU/SDs recognized the benefits of a statewide SIS, many expressed concerns about such adoption, citing loss of time to switch to a new system, lack of training time for staff, potential loss of historic data, and worries that there would not be enough support and staff at the state level to manage such a change. Here are a few comments.

- This would only work if there was a mechanism for local customization and the state takes into consideration local needs.
- While all of the items listed above are benefits, that does not mean that forcing a statewide SIS is a good idea. It would force many schools to have to spend huge amounts of time converting over. Even though there are benefits, the time involved may outweigh them.
- I would be concerned about how customizable this would be. We currently have all our other data systems tied to this.

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For more details on the AOE examination of adoption of a statewide SIS platform, visit the agency's website. [Presentation: RFI Findings on Statewide Student Information System | Agency of Education (vermont.gov)](#)

Question 22: Does your grade book tool platform (SIS) track proficiency graduation requirements?

As in previous surveys, the majority of SU/SD reported that they have a platform in-place to track graduation proficiencies. This year's survey indicated 41 SU/SD, or 76 percent, had an SIS in-place that tracked proficiencies.

Learning Management Systems (LMS)

A Learning Management System is a software application for the administration, documentation, tracking, reporting, automation, and delivery of educational courses or learning and development programs.

Question 23: What technology platform(s) do the schools in your SU/SD use for an LMS? (Note: Google Workspace for Education is not listed as an option here, as the company does not describe itself as an LMS.)

Table 23: Technology Platforms Used as an LMS

LMS Platform	Using as LMS*
Alma	0
Canvas	9
JumpRope	6
ManageBac	0
Otus	1
PowerSchool	6
Schoology	10
Seesaw	23
Toddle	1
Unified Classroom	1
Web2School	1
Other	18

* Could select more than one LMS.

Seesaw remained the most cited LMS platform in use. This year, 23 SU/SD reported using Seesaw. While the "other" category had quite a few responses by districts, 15 districts cited Google Workspace for Education as their LMS. One SU/SD reported they were not utilizing an LMS. It should be noted that all Vermont SU/SD utilize Google Workspace for Education. While Google does not call its many individual applications an LMS, many districts consider Google as their LMS.

Google Application Use

Question 24: Google Workspace for Education is a popular application used by many Vermont schools. Google describes its applications as tools to be used with a school's LMS and not as an LMS. Please indicate for each application the PRIMARY use of the program by schools in your SU/SD.

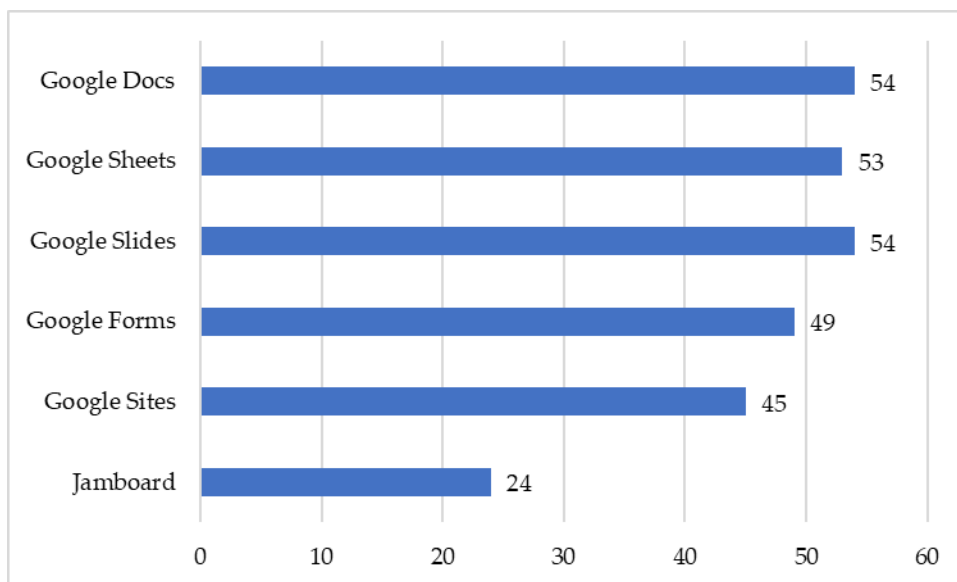**Figure 24: Schoolwide Use of Google Applications Reported by SU/SD**

Table 24: Schoolwide Use of Google Applications Reported by SU/SD

Google Applications	Number of SU/SDs
Google Docs	54
Google Sheets	53
Google Slides	54
Google Forms	49
Google Sites	45
Jamboard	24

All school districts, 100 percent, reported using Google Docs, Sheets, Slides and Forms. As the chart indicates above, these applications are being used schoolwide. Numbers less than 54 indicate a district's schools may be using the application but it is not available schoolwide. In this question, SU/SD indicated how the tool was *primarily* used in schools and they could choose from classroom only, student tool only, teacher tool only, schoolwide use, other, or don't know.

Google Docs is primarily a browser-based word processor. As a Chromebook partner, Google application use is strongly tied to this device, which is the dominant tool Vermont schools provide to students through one-to-one programs. Google Sites is an application that enables a user to create websites. Jamboard is a digital interactive whiteboard developed by Google to work with Google Workspace. While both applications were used schoolwide in some districts,

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they were also used as just a teacher tool or classroom only application in other districts. Seventeen districts reported that they did not know how Jamboard was being utilized.

Here are a few individual remarks from respondents.
- With the shift away from a "free" product, Google Workspace for Education is becoming expensive, especially on the security side. The fact that Google is now charging for "premium" security features is going against their mission of "doing no evil."
- We love Google - without it we would be lost. We use PowerSchool and a third party tool to automate account management, which is invaluable.
- We have moved from Zoom to Google Meet since we have purchased the GWfE plus level of service, providing additional videoconferencing capabilities.

Personalized Learning Plans

A Personalized Learning Plan (PLP) is a plan created by a student, with the support of parents/guardians, teachers/mentors, and peers, that defines the scope and rigor of academic and experiential opportunities that will lead to secondary school completion, postsecondary readiness, and civic engagement. In Vermont, Act 77 requires that every publicly funded Vermont student in grades 7-12 participate in the personalized learning planning process.

Question 25: What technology platform(s) are students in your SU/SD using to develop their Personalized Learning Plans (PLPs)? Listed below are online platforms previously reported to the AOE as in use within Vermont schools. Please indicate by each platform whether your school is using it to manage PLPs.

Table 25: Number of SU/SDs using PLP Platforms to Develop PLPs

SU/SDs could name more than one platform.

PLP Platform	Using for PLPs*
Alpine Achievement	1
bulb	0
Canvas	3
Dreambox Learning	2
Google Workspace for Education	44
Naviance	10
PowerSchool	7
SchoolHack/Lift	1

Other programs named as in use for PLP creation were FastBridge, Lexia, Managebac, Seesaw, and Schoology. Google Workspace for Education remained the dominant platform cited by schools to develop student PLPs.

Online Learning

Question 26: Have schools in your SU/SD invested in Online Teaching Specialist certification for teachers?

- 42 - SU/SD indicated they **had not** invested in this certification
- 12 - SU/SD indicated they **had** invested in this certification

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With the pandemic bringing increased emphasis to online learning, AOE asks this question to determine how schools are supporting professional standards for this area. All Vermont educators facilitating online course work with Vermont students must obtain the 5440-25 Online Teaching Specialist (OTS) endorsement. The holder of an OTS endorsement is authorized to teach students from a distance who are enrolled in online coursework. The endorsement is an add-on endorsement only and is limited to holders of PK-12 teaching endorsements. During the pandemic State of Emergency, the Vermont State Legislature waived the OTS requirement. It has since been reinstated.

Question 27: Do you use an online learning provider to support your educational process?

- 21 - SU/SD indicated they **do use** an online learning provider
- 31 - SU/SD indicated they **do not use** an online learning provider

Question 28: If you do use an online learning provider, list your provider.

Table 28: Online Learning Providers Used by SU/SDs

School districts could select more than one learning provider.

Online Provider*	Use
Brigham Young University Online	1
Community College of Vermont	2
Edmentum	1
Khan Academy	1
Virtual High School	8
VT Virtual Learning Cooperative (VTVLC)	16

Similar to previous surveys, VTVLC was the top online education partner used within Vermont schools. Among the 52 SU/SDs that responded to this question, 31 percent indicated they used this provider. The second most utilized provider was Virtual High School and third was the Community College of Vermont. There appeared to be confusion among some respondents as to what was an online learning provider. There were six SU/SD that listed online learning applications, rather than a provider. An online learning provider offers a breadth of curricular choices that a student may choose to enroll in, similar to an in-person class. An online learning application offers more singular options that may just allow a student to practice a particular skill or acquire knowledge through a gaming process. In next year's survey, AOE will provide a definition of online learning provider to mitigate this confusion.

Question 29: If you do use an online learning provider, how are you using the provider?

- 5 SU/SDs were using the provider for full-time learning.
- 9 SU/SDs were using the provider for hybrid learning with on-site staff.
- 9 SU/SDs were using the provider for limited to targeted interventions.
- 19 SU/SDs indicated they do not use a provider.

From the data above, it is important to note that 19 SU/SD do not utilize any online learning provider. AOE continues to support VTVLC with expanded resources for Special Education, as

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well as the expansion of K-6 curriculum, in addition to its existing K-12 curriculum. VTVLC is Vermont's partner in providing a range of online learning opportunities for students. AOE will explore with SU/SDs how use of this resource can be expanded to ensure all students are given access to this program.

VTVLC is an education organization at River Valley Technical Center in Springfield, Vermont that offers statewide access to online and blended learning opportunities. VTVLC works under a cooperative model with public schools and districts to offer this flexible pathway to students, as well as to provide access to accredited curricula and courses for schools to use. There are no fees associated with being a partner school but there are differences in the number of enrollments and options a partner school can offer to students at no cost based on whether they contribute teaching partners to the cooperative model. As a flexible pathway, online and blended learning offers schools, students and families access to a learning environment and structure that can address the diverse educational needs of individual students and groups of students. The pandemic demonstrated the need for rapid expansion of this flexible learning pathway and the AOE will continue to support growing and sustaining this pathway to meet the diverse learning needs of students statewide.

Question 30: Below are characteristics of online learning providers. Select "agree" for each characteristic that describes your provider.

Figure 30: Online Learning Provider Characteristics
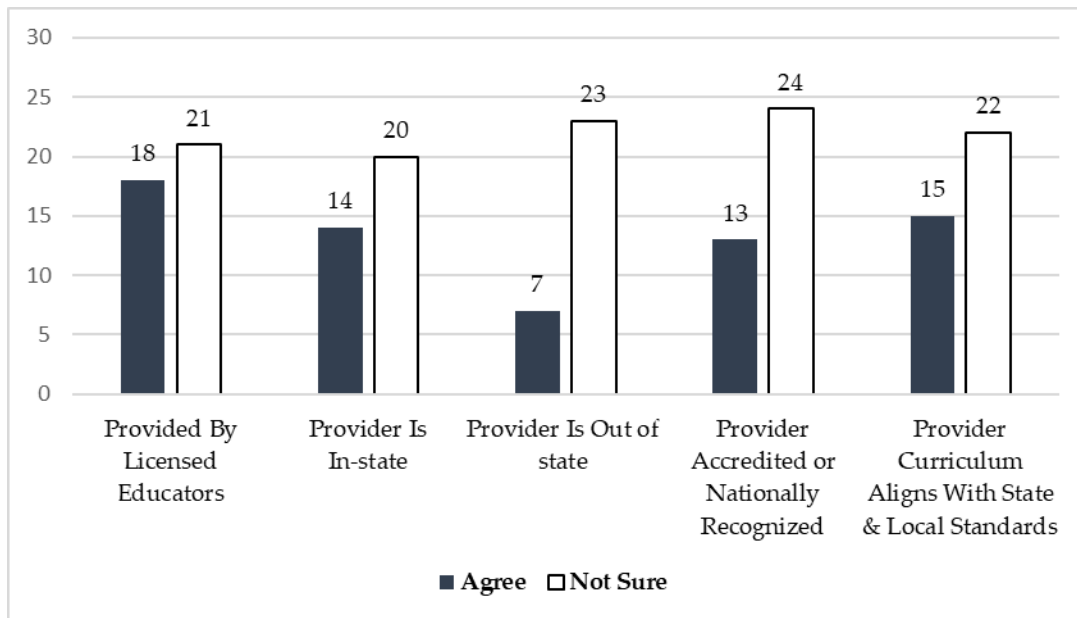
Table 30: Online Learning Provider Characteristics

Characteristics	Agree	Not Sure
Provided by Licensed Educators	18	21
Provider is In-state	14	20
Provider is Out of State	7	23
Provider Accredited or Nationally Recognized	13	24

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Characteristics	Agree	Not Sure
Provider Curriculum Align with State and Local Standards	15	22

As noted previously, some SU/SDs appear to be unfamiliar with online learning provider models and those quality measures that schools should consider in selecting a provider. AOE will continue work in the coming year to communicate information on the importance of quality measures and how schools can maximize their use of this resource.

Technology Administration

Questions in this section explore issues and functions that pertain to cybersecurity, student data privacy practices, digital learning plans, and assistive technology.

Cybersecurity

Vermont schools need to prepare for cyber incidents. During calendar year 2021, the K-12 Cyber Incident Map cataloged 166 publicly disclosed school incidents, including student and staff data breaches, ransomware and other malware outbreaks, phishing attacks and other social engineering scams, denial-of-service attacks, and a wide variety of other incidents. The threat to Vermont SU/SD school networks is real and district education technology directors and IT managers are responding to this challenge. The following are questions directed toward SU/SDs on their cybersecurity posture.

Question 31: Schools are increasingly the focus for attacks by cyber criminals. Listed below are measures SU/SD can take to improve their cybersecurity posture. Please indicate your SU/SD actions for the following measures. Which actions have your SU/SD implemented to improve your cybersecurity posture?

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Figure 31: Cybersecurity Measures Used by Vermont SU/SD
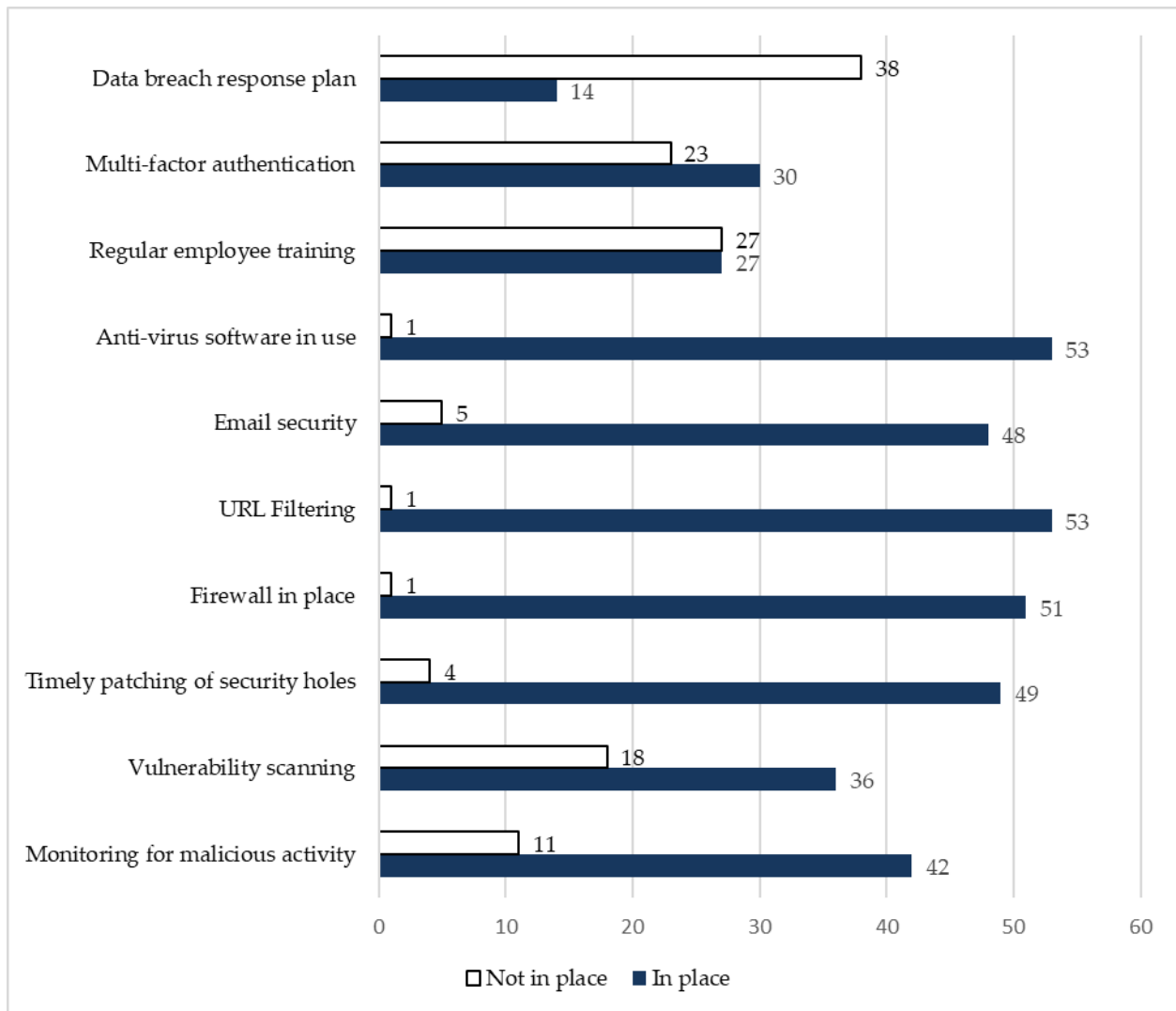
Table 31: Cybersecurity Measures Used by Vermont SU/SD

Cybersecurity Measure	Not in Place	In Place
Data breach response plan	38	14
Multi-factor authentication	23	30
Regular employee training	27	27
Anti-virus software in use	1	53
Email security	5	48
URL filtering	1	53
Firewall in place	1	51
Timely patching of security holes	4	49
Vulnerability scanning	18	36
Monitoring for malicious activity	11	42

The cybersecurity measures listed in the graph above are considered industry best practices for creating secure networks. SU/SDs made gains in the security of their school networks during

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the 2021-2022 school year. The number of SU/SD implementing multi-factor authentication (MFA) increased by 58 percent. Last survey, 19 SU/SDs reported they had implemented MFA compared with 30 this survey. There was also a 59 percent increase in the number of SU/SD implementing regular employee cybersecurity training. Last survey, 17 SU/SDs reported they did regular training compared with 27 this survey. SU/SDs were also asked whether they had a data breach response plan in-place. Twenty-six percent of SU/SDs indicated they had such a plan. Lack of staff time and funding were cited as the major barriers preventing implementation of a plan. The increase in cybersecurity measures by SU/SDs indicates an awareness that schools are increasingly the focus for attacks by cyber criminals.

Question 32: If you indicated that your SU/SD does not have a data breach response plan, please indicate the barriers to putting such a plan in place.

Table 32: Barriers to Data Breach Response Plan

Totals responses equal to less than 54 responses indicates number of no responses.

Possible Barrier	Is a Barrier	Not a Barrier	Don't Know
Lack of expertise	17	19	4
Lack of funding	24	11	5
Lack of staff time to execute a plan	38	3	1
Lack of administrative support for a plan	6	25	8
There is no need for a plan	1	33	4

AOE will continue work to identify and provide resources to SU/SDs to create a data breach response plan. The agency has recently offered several professional learning opportunities on cybersecurity and plans more in the upcoming year. Of note is a ESSER Cybersecurity Planning Grant released in October, 2022. AOE will use the plans and policies developed by the 10 SU/SDs who were awarded grants to facilitate the sharing of plan examples and best practices to all Vermont districts.

Question 33: What is the greatest need your SU/SD has in the area of cybersecurity? (open-ended)

- Training on security practices for teachers, staff, and students
- Funding for equipment and applications
- Funding for IT staff
- Vulnerability and penetration testing and outside expertise to help correct issues that are discovered

Data Privacy

Information that is tied to individual students is referred to as personally identifiable information, or PII, and is subject to federal laws and regulations. New technologies—including personal computers, mobile devices, apps, websites, programs, and online services—are used in classrooms in ways that cause new data to be generated about individual students that never

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existed before. AOE supports SU/SD implementation of policies and practices that protect PII. The following questions seek to document SU/SD interest and involvement in data privacy protection measures.

Question 34: Federal laws mandate the protection of student data. In Vermont, AOE supports the Vermont Student Privacy Alliance (VSPA), a collaborative group of SU/SD representatives sharing common concerns around student privacy. Is your SU/SD a member of the VSPA?

- 40 SU/SDs reported their district **was** a member.
- 14 SU/SDs reported their district **was not** a member.

Question 35: Does your SU/SD request online application vendors sign a student data privacy agreement?

- 28 SU/SDs reported their district **does** request signed data privacy agreements.
- 26 SU/SDs reported their district **does not** request data privacy agreements.

Digital Learning Plans

While digital learning plans are no longer required by the state or other entities, AOE supports the creation of such plans by SU/SD. The following questions seek to document the status of such planning among Vermont SU/SD.

Question 36: A digital learning plan is a guide for how your SU/SD will support digital learning. Digital learning is any instructional practice that effectively uses technology to strengthen a student's learning experience. Does your SU/SD have a digital learning plan in place?

- 21 SU/SDs **have** a digital learning plan in place.
- 33 SU/SDs **do not have** a digital learning plan in place.

Question 37: If you have a digital learning plan, how often is the plan updated?

Among those SU/SDs that reported having a digital learning plan in place, below is how often those plans are updated.

Table 37: Digital Learning Plan Update Timeframe

Timeframe	Number SU/SDs
Every year	5
Every 2-3 years	9
Longer than 3 years	8
Never updated	0

Among those SU/SDs that did not have a plan in place, below are their responses as to why they have no plan.

Table 37b: Why No Digital Learning Plan is in Place

Why No Plan in Place	Number SU/SDs
No apparent need	3
No staff or time to create one	16
Schools resistant to having SU/SD plan	0
No expertise to create one	1
Don't know	11

Question 38: Based on prior year experiences, what do you believe should be a fundamental component of a digital learning plan?

Table 38: Fundamental Components of a Digital Learning Plan

Component	Fundamental	Not Fundamental
Technology infrastructure and devices	43	1
Staffing and educational roles	43	3
Content and software	42	2
Digital learning innovations	32	10
Policy	33	8
Funding	36	5
Professional learning	43	2
Data protection and privacy	39	3

Question 39: How can AOE best support your SU/SD in creating and maintaining a digital learning plan?

- (Provide) very clear expectations
- Training, support, and leadership
- The AOE could supply examples and templates to create a digital learning plan
- Work sessions across the state and exemplars
- Providing time to work with other tech directors. Help us find ways to move past "many standards" being addressed with one to two foundational pieces that are not rooted or dated in Flexible Pathways.
- Provide a standardized digital learning plan framework/outline as a starting point from which schools can develop their own plans.

Assistive Technology

Assistive technology is a term for creative tools and strategies that help people accomplish tasks at home, school, work, and in the community. AOE works collaboratively with SU/SDs to support children and students with disabilities in their pursuit of a free appropriate education

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designed to meet their unique needs. The following questions seek input on measures implemented to provide assistive technology to students.

Question 40: Does your SU/SD invest in or provide assistive technology to students?

- 53 SU/SDs **invest in** assistive technology.
- 1 SU/SDs **did not** invest in assistive technology.

Question 41: What types of assistive technology does your SU/SD maintain?

Table 41: Types of Assistive Technology by SU/SD

Assistive Device	Provide
Alternative keyboards	24
Audiobooks & publications	43
Devices for writing (laptops/tablets)	47
Graphic organizers	23
Optical character recognition	24
Personal FM listening systems	30
Sip & puff systems	0
Speech synthesizers/screen readers	34
Talking calculators	7
Text to speech software	46

Question 42: How does your SU/SD or schools provide training in the use of assistive technology?

- We use in-house, peer-led training when needs arise.
- We have an assistive tech specialist.
- We have a dedicated individual on it.
- We focus on the built-in accessibility options of Chromebooks.
- Usually through SPED as students require it. This only when it is required through a 504 or IEP. My hopes and dreams are that this training would be provided for all staff so that all students could benefit when it is appropriate.
- Training is done individually as needed.
- This isn't covered well as a whole -- individual students or pockets of students are typically helped by outside organizations.
- Special Educators typically get training somehow when a student's IEP requires it.
- Special Ed still operates very separately from everything else so it is possible that any or all of the assistive technology types are in use but not generally known.

Technology Standards & Computer Science

In 2017, the Vermont State Board of Education adopted the International Society for Technology in Education (ISTE) Standards for Student Learning. These standards focus on student-driven processes that empower a student to take an active role in using technology and become a knowledgeable digital citizen, computational thinker and innovative designer, and a creative

global communicator and collaborator. The questions in this section examine how schools continue work to embed ISTE standards into curriculum and solicits experiential comments illustrating technology use. ISTE standards may be viewed at ISTE Standards for Students | Agency of Education (vermont.gov).

Question 43: How are schools in your SU/SD integrating ISTE standards into the curriculum?

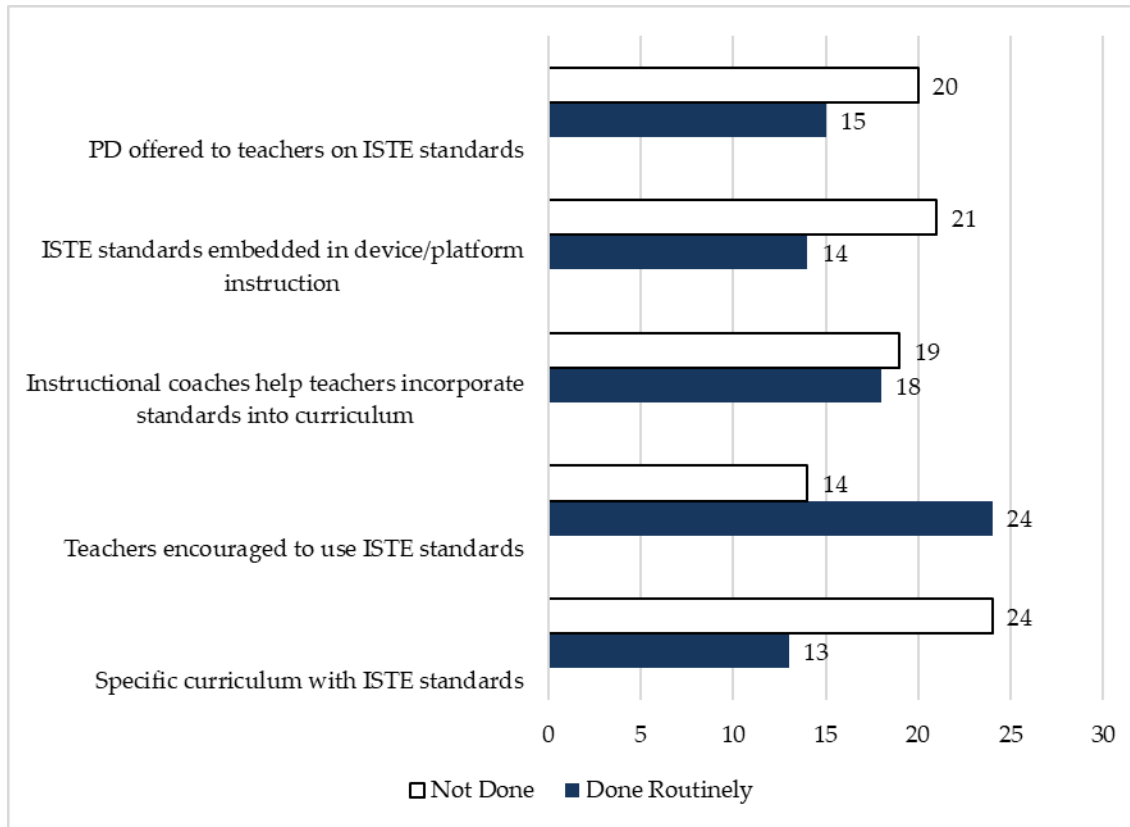**Figure 43: ISTE Standards Use in Schools as Reported by SU/SD**

Table 43: ISTE Standards Use in Schools as Reported by SU/SD

Standards Use	Not Done	Done Routinely
PD offered to teachers on ISTE standards	20	15
ISTE standards embedded in device/platform instruction	21	14
Instructional coaches help teachers incorporate standards into curriculum	14	24
Teachers encouraged to use ISTE standards	14	24
Specific curriculum with ISTE standards	24	13

Question 44: How has technology education been leveraged in your SU/SD to teach students how to use technology in meaningful ways?

- We have a Maker/STEAM space that provides hands-on activities. Technology is used regularly and integrated into the curriculum. There are cutting-edge technology classes offered at our school. It is embedded in every program.

- We are working with our new digital learning plan to move forward with ISTE Standards in the classrooms.
- These skills are taught through the district media specialist/ librarians.
- The ISTE standards for students parallel our mission-related goals and transferable skills expectations. Teachers are expected to integrate these standards into classroom instruction. Instructional coaches help teachers incorporate best practices into lesson design and delivery. We provide professional development and support to utilize system devices and platforms.
- Tech integration coaches regularly work with teachers to identify potentials for incorporation of STEAM topics as part of regular classroom instruction.
- In past years, I think that we spent more time training staff regarding use of Google Workspace and other tools than we're able to do now. There are just so many non-tech initiatives and foci that what little staff time is available for professional development needs to go in that direction.
- In library/media class students are using common sense media lessons to engage in this type of discussion, education, and exploration.
- Focus on digital citizenship.
- Introduction and exposure to a wide variety of tools to enable students' choices of expression to show what they know.
- By integrating library/media/tech integrationists into core instruction, whether that be Personalized Learning Plans, Project Based Learning, and/or core instruction. The goal is to ensure that devices/ed-tech is integrated into the learning process as a tool.

Computer Science

Computer science that deals with the theory and methods of processing information in digital computers, the design of computer hardware and computing applications. AOE will use the following information to better understand the work and needs of schools to further instruction in this area.

Question 45: Regarding Computer Science and STEM activities, please indicate what activities the schools in your SU/SD provide?

Table 45: School Activities in Computer Science and STEM as Reported by SU/SD

Activities	Offer	Do Not Offer
After school computer club or related "club"	32	14
Computer club during school	11	27
Extended learning opportunities	30	10
FIRST Lego League Challenge	12	29
Hour of Code activities	40	8
Other coding activities during the course of the year	39	4
Makerspace (in school or community)	46	5
Robotics	33	11
Summer offerings-camps	26	16

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Similar to last year's survey, the most popular activities offered within schools were Hour of Code, robotics programs and makerspaces. [Hour of Code](#) is promoted annually in December by AOE as part of the nationally observed Computer Science Education Week. Hour of Code is sponsored by the non-profit Code.org organization, whereby educators are encouraged to hold a one-hour coding activity to introduce students to computer science. A makerspace is a collaborative workspace inside a school, library or separate public/private facility for making, learning, exploring and sharing that uses a wide range of technical and non-technical materials for creative projects.

Question 46: Does your SU/SD offer computer science courses as defined as the science that deals with the theory and methods of processing information in digital computers, the design of computer hardware and computing applications?

A majority of SU/SDs indicated schools in their districts offered computer science courses. Fifty-nine percent of SU/SDs reported offering courses and 41 percent indicated their districts did not offer such courses. The most common grade level where students were offered computer science courses was at the high school level. Twenty-eight SU/SDs indicated such courses were available at the high school level. Nine districts indicated they offered computer science courses at the middle school level and four districts reported courses were offered at the elementary level. Only one SU/SD indicated they offered computer science courses to students at all grade levels. There were 19 no responses to this question.

Technology Assistance

Question 47: What professional learning or other resources would assist your SU/SD in the area of technology?

This open-ended question garnered a wide variety of responses. Below are some of the remarks. Comments that were repeated are listed only once.

- We would love to know more about what other schools are doing. What classes do they offer? How do they utilize the ITSE standards and embed them into practice? More communication to administrators/teachers about how to bring the ISTE standards into curriculum. Thank you for all that you already do - it's appreciated!
- We would benefit from having a Technology Integrationist in the district but are lacking funds for the position.
- Training to help staff understand how to include and utilize technology in their classes. Even after all these years, this is a challenge for most educators.
- Resources would always be welcome but at this time, time is the biggest obstacle.
- Perhaps there could be a listing of resources that could be called upon to provide PD at schools, either during in-service activities or after school hours? Along that line, funding to help compensate staff for training time outside of the school day/year and/or to bring resources to the school/district.
- Online modules for trainings, such as online safety, cyber security, digital citizenship, online bullying.

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- Greater funding for STEAM and maker spaces.
- Micro-credentials for various tech PD in asynchronous modules that earn licensure hours. Funding for maker spaces, software programs, and stipends for teachers to provide additional hours for after school activities such as E-sports coaches or after school programs.
- K-12 digital curriculum that weaves proficiencies with ISTE Standards and AASL standards.
- Video library of hardware and software how-to's.

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Appendix A

AOE utilizes a survey platform called Cognito. Cognito enables the online survey to be coordinated at the SU/SD level. The format of the survey does not lend itself to a simple numerical progression of questions. Rather, depending on the response to certain questions, a respondent would be directed to a different screen to continue the survey. Below are the questions represented within the survey. Not all drop-down options are listed. Where applicable, drop-down options are represented in the main body of this report as the results are reported.

AOE Tech Survey 2022

Please complete by September 1, 2022. This survey gathers information about education technology in supervisory unions/districts and schools for the 2021-2022 school year. The information is a tool AOE uses to determine how technology is supporting student-centered learning. The survey is in five main parts: school specific data; district-wide connectivity information; tech platform functions; tech administration; and survey conclusion. For the school specific data, please add as many schools per supervisory union as you are speaking to.

- Name
- Email
- Phone
- What is your Supervisory Union or District?
- What is your title?
- Are you the primary contact for technology related matters at your SU/SD?

School specific data (Complete this section for All Schools in your SU by clicking "Add School")

- What is the name of your school?
- Which option most accurately describes the one-to-one status in your school?
- Does your one-to-one program allow students to take a device home?
- Does your school have the technology to support your academic programming?
- If you answered no, your school does not have the technology to support your academic programming, please indicate what technology is needed.
- How many total devices are currently available for school use?
- Please provide an estimate percentage (%) by type of devices your school has for student use. (Please note that this question asks for percentages as opposed to whole numbers and the percentages need to add to 100%)
- What capabilities are there in your school for in-classroom video/audio?
- Does your school currently have a Bring Your Own Device (BYOD) policy?
- Without a Bring Your Own Device (BYOD) policy, do you believe technology can be distributed equitably within your student population?

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District Wide Information: Internet Service Provider, Wi-Fi, Connectivity Information

The remaining questions speak to district wide information.

- Who is the primary Internet Service Provider for this school?
- What is the primary connection type for schools in your SU/SD to connect to the Internet?
- What is the current upload speed for schools in your SU/SD (as advertised by your provider)?
- What is the current download speed for schools in your SU/SD (as advertised by your provider)?
- Do the schools in your SU/SD provide "guest" or "public" Wi-Fi access?
- If schools in your SU/SD provide "guest" or "public" Wi-Fi, please select the option below that best describes the area served by the Wi-Fi.
- Is there another location in the community to access free Wi-Fi?
- What is the typical cell phone coverage at the schools in your SU/SD?
- Entering into Education Recovery from COVID, how important is home broadband access for students to fully access SU/SD or individual school educational opportunities? Choose one.
- Below are possible reasons why student home broadband access may be important to a student's educational experience. Please indicate whether you agree or disagree with the statements listed below.
- If you have a reason why student home broadband access is or is not important that was not listed in the previous question, please provide it here.
- Does your SU/SD or individual schools track student home broadband access?
- If yes that you do track home broadband access, select the option that best describes how your SU/SD or individual schools learn about this lack of connectivity.

Technology Platforms & Functions

- What technology platform(s) do the schools in your SU/SD use for an SIS? A Student Information System is a software platform used to manage student data. Listed below are online platforms previously reported to the AOE as in use within Vermont schools. Please indicate by each platform whether your school is using it as an SIS. If you are not using an SIS indicate that in the next question.
- If the schools in your SU/SD use an SIS platform not listed in the previous question, please enter the platform name.
- What could be some benefits to implementing a statewide SIS platform? Please respond to the following statements.
- If you have other reasons why a statewide SIS would or would not be beneficial, please provide it here.
- Does your grade book tool platform (SIS) track proficiency graduation requirements?
- What technology platform(s) do the schools in your SU/SD use for an LMS? A Learning Management System is a software application for the delivery of educational courses or learning and development programs. Listed below are online platforms previously

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reported to the AOE as in use within Vermont schools. Indicate by each platform whether your school is using it as an LMS. Please note - Google Workspace for Education is NOT an LMS, see upcoming question.

- If schools in your SU/SD use a LMS platform not listed in the previous question, please enter the platform name below.
- Google Workspace for Education is a popular application used by many Vermont schools. In last year's survey, schools listed this suite of programs as their primary Learning Management System (LMS). Google describes its applications as tools to be used with a school's LMS and not as an LMS. Please indicate for each application the PRIMARY use of the program by schools in your SU/SD.
- Please share any additional information you would like about your SU/SD use of Google Workspace for Education.
- Have schools in your SU/SD invested in Online Teaching Specialist certification for teachers?
- What technology platform(s) are students in your SU/SD using to develop their Personalized Learning Plans (PLPs)? Listed below are online platforms previously reported to the AOE as in use within Vermont schools. Please indicate by each platform whether your school is using it to manage PLP.
- If schools in your SU/SD use a platform for PLPs not listed in the previous question, please enter the platform name below.
- Do you use an online learning provider to support your educational process?
- If you do use an online learning provider, list your provider.
- If you do use an online learning provider, how are you using the provider?
- Below are characteristics of online learning providers. Select "agree" for each characteristic that describes your provider.

Technology Administration

Cybersecurity & Data Privacy

- Schools are increasingly the focus for attacks by cyber criminals. Listed below are measures SU/SD can take to improve their cybersecurity posture. Please indicate your SU/SD actions for the following measures.
- If you indicated that your SU/SD does not have a data breach response plan, please indicate the barriers to put such a plan in place. Select "agree" if the barrier listed is preventing your plan.
- If you have a reason why your SU/SD does not have a data breach response plan that was not listed in the previous question, please provide it here.
- What is the greatest need your SU/SD has in the area of cybersecurity?
- Federal laws mandate the protection of student data. In Vermont, AOE supports the Vermont Student Privacy Alliance (VSPA), a collaborative group of SU/SD representatives sharing common concerns around student privacy. Is your SU/SD a member of the VSPA?
- Does your SU/SD request online application vendors to sign a student data privacy agreement?

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Digital Learning Plans

- A digital learning plan is a guide for how your SU/SD will support digital learning. Digital learning is any instructional practice that effectively uses technology to strengthen a student's learning experience. Does your SU/SD have a digital learning plan in place?
- If you have a digital learning plan, how often is the plan updated?
- If your SU/SD does not have a plan, please select the reason that BEST represents why you do not have one.
- Based on prior year experiences, what do you believe should be a fundamental component of a digital learning plan?
- How can AOE best support your SU/SD in creating and maintaining a digital learning plan?

Assistive Technology

- Does the SU/SD invest in or provide assistive technology to students?
- What types of assistive technology does your SU/SD maintain?
- How does your SU/SD or schools provide training in the use of assistive technology?

Technology Standards & Computer Science

- How are the schools in your SU/SD integrating ISTE standards into the curriculum? Below are options. Please indicate for each option whether it is something your schools are commonly doing.
- How has technology education been leveraged in your SU/SD to teach students how to use technology in meaningful ways?
- Regarding Computer Science and STEAM activities, please indicate what activities the schools in your SU/SD provide.
- Does your SU/SD offer computer science courses as defined as the science that deals with the theory and methods of processing information in digital computers, the design of computer hardware and computing applications?
- What grade ranges are computer science courses available?
- Who is the primary contact for computer science curriculum in your SU/SD?

Concluding Comments

- What professional learning or other resources would assist your SU/SD in the area of technology?

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