

Sudbury Public Schools Technology Plan

2014-2019

Updated January 2014

TABLE OF CONTENTS

[Introduction](#)

[Planning Foundations](#)

[Mission of the Sudbury Public Schools](#)

[Technology Mission Statement](#)

[Technology Vision](#)

[Technology Goals](#)

[Current Status](#)

[Learning Technologies](#)

[Curriculum / Technology Integration](#)

[Connectivity and Communications](#)

[Technology Staffing and Support](#)

[Professional Development](#)

[Data Management](#)

[Policies, Procedures and Planning](#)

[Initiatives and Assessment](#)

[Learning Technologies](#)

[Curriculum/Technology Integration](#)

[Connectivity and Communications](#)

[Technology Staffing and Support](#)

[Professional Development](#)

[Data Management](#)

[Policies, Procedures and Planning](#)

[Budget Trends](#)

**Sudbury Public Schools
Technology Plan
January 2014**

I. Introduction

Not long ago, the term “technology” was synonymous with simply desktop computers and e-mail. Today, this term has broader connotations including high-speed Internet access, Web 2.0 resources offering personalized learning, media-rich digital publishing, student assessment tools and a wide variety of mobile devices. Advancing technologies prompt fresh visions of learning environments as we move away from Industrial Age teaching and learning, and begin to embrace the promise that the Digital Age offers. Furthermore, as standards-based education progresses, instruction is becoming progressively differentiated and learner-driven.

The Sudbury Public Schools (SPS) Technology Plan is a blueprint for change. It proposes actions that encourage the use of emerging technologies to support the achievement envisioned by Sudbury’s Learning Expectations, Common Core Standards and NETS (National Educational Technology Standards). Beyond supporting teaching and learning in pursuit of an equitable education for all students, technology has the additional promise to expand and enrich the curriculum and provide challenging experiences for our district’s most capable learners. Current technologies can also provide increased access to traditional educational opportunities for specific subgroups of students (e.g. ELL, SPED). As technologies evolve, the district needs to continually assess its instructional resources and accept the understanding that the only constant may indeed be **change** itself. The planning process must accordingly be reflective, dynamic and in alignment with identified learning outcomes.

II. Planning Foundations

A. Vision of the Sudbury Public Schools

We are committed to excellence in educating students to be knowledgeable, creative, independent thinkers who are caring, collaborative members of the school and wider communities.

B. Technology Mission Statement

The mission of the SPS Technology Department is defined by four points:

- To offer technology resources that enhance teaching and learning.
- To provide tools that promote achievement, creativity and collaboration for all students.
- To provide the data resources needed to support assessment and inform instruction.
- To support the full range of technology services needed in a modern school environment.

C. Technology Vision

The Sudbury Public Schools seeks to make real a compelling vision of student engagement in learning through technology. Sudbury's classrooms should be places that help students become:

- active, independent learners
- inquisitive and creative
- confident and articulate communicators
- able to collaborate with others

Existing and emerging technologies facilitate these skills, which are now woven throughout the Common Core curriculum. Sudbury's learning environments will be changing to accommodate new strategies for collaboration and investigation.

They will be more capable of accessing many sources of information and become more involved in their own learning. Higher availability and access to new instructional resources will allow students to become more proficient problem solvers in a number of subject areas. Using a wealth of digital resources, students will search for current data, text information, and visual media for:

- creating individual and group projects

- solving complex, multi-dimensional problems
- supporting their hypotheses
- developing and publishing reports and presentations

Students will acquire and use effective presentational skills using various forms of multimedia. They will learn to work successfully both independently and in teams. Cooperative skill building will be enhanced through study groups and a variety of small and large group projects as technology enables collaboration and communication beyond the classroom.

Technology will provide teachers with additional flexibility for addressing multiple intelligences, multi-disciplinary approaches, and student-centered learning. Educators will have access to easy to use systems that accommodate curriculum mapping and that link learning standards and benchmarks to student information, learning resources, lesson plans, and assessment strategies.

- Students will have regular access to electronic writing tools, both within classrooms and in special locations. Development of their language arts skills, improving style and grammar, enhancing editing skills, will greatly impact their proficiency across all curriculum areas.
- Individual needs within special populations (Title I, Special Education, ELL etc.) will be addressed more readily through targeted instructional applications that also help track achievement.
- In Science, probes and other data gathering and reporting devices will be readily available for classroom/ laboratory experiments, enabling students to think critically and create their own learning. Inquiry tools will become part of how students view new worlds and explore micro-systems.
- Understanding in science and math will be combined with Technology/Engineering skills as students engage in the design and development of models, prototypes, and machines as solutions to problems within given constraints.
- Software to enhance all students' work with graphing, statistics, geometric representations, and tables of information will enhance development of math skills reflecting both national and state learning standards.
- Fine Arts students will have new tools to directly observe international examples of excellence and to create and compose their individual works through powerful design and composition technology media and tools. Digital technology will be accessible to help students capture, edit, and enhance images for effective video communications and also to express new visions and perspectives.
- Social Studies students will use technology to engage in process skills that enhance their ability to learn about their community, state, and country as well as other time periods, world civilizations, and major worldwide

events. Through access to up-to-the-minute information, students will learn of economic, political, and social belief systems of the past and present. Understanding and acceptance of diversity will be enhanced.

- Connections to localized information will involve students more immediately with the issues, problems, and accomplishments within their own community and build citizenship and involvement.
- Interpersonal linkages to contacts from different regions and nations as well as quality experiences in listening, speaking, and engaging in various languages will form the basis of strong understanding of different peoples and cultures in enhancement of world language programs.
- Enhanced decision-support systems will enable educational and administrative initiatives to be more research- and evidence-based.
- Video on-demand will provide high levels of engagement along with immediate reinforcement of educational content.

A broad range of assessments, to include writing samples, multimedia projects, artistic creations, read-aloud samples, group reports, test data, and other assessment information, will be stored electronically to assist in instructional design and in parental communication. Opportunities will increase for teachers to share successful practices and learn from each other. Exemplary lessons and instructional units will be made available online to support the exchange of ideas and teaching approaches.

Professional development for enhancing staff technology skills will be ongoing, utilizing on-line resources, tutorials, and distance learning models. Student mastery of grade level technology standards will be assured through a well-prepared teaching force. Teachers will work together on thematic and project-based learning, utilizing technology to identify and align resources that meet curriculum objectives. Support for these classroom efforts will be ongoing through the guidance and modeling of our curriculum integration specialists. Efforts will be supported by qualified technical staff to trouble-shoot and solve problems in a timely manner.

Administrative efficiency and communications will be enhanced through distributed access to appropriate decision-making data and information. Electronic forms management and e-purchasing strategies will help reduce paperwork, increase efficiency, and achieve cost-effectiveness. Access to timely information on school, program, and district web sites will improve parental awareness and involvement. E-mail services, guided by standards for appropriate use, will greatly enhance home/school communications both generally and in regard to specific student issues and concerns. Using web-based approaches, school leadership will be able to readily inform and query the staff, school community, and public on important issues.

Fulfillment of this Technology Vision will contribute much to the District's core mission of improved learning for all Sudbury students. It will help our children make full use of their learning potential, explore new frontiers, and ultimately contribute more effectively to society.

D. Technology Goals

Several key points summarize the goals of the technology department:

- To enable technology to effectively support teaching and learning in classrooms and schools.
- To provide equitable opportunity for all students to acquire appropriate technology skills and knowledge within a curriculum context.
- To improve communications and help build partnerships within and among schools and between the schools and the community.
- To enhance user access to important information at all levels in helping to improve decision-making.
- To effectively maintain and support the infrastructure and technology resources throughout the District.

III. Current Status

A. Learning Technologies

There are now roughly 1500 computers and tablets in use by staff and students system-wide. All elementary schools have a computer lab and the middle school has three general labs and two specialized labs (robotics and music). There are also class-sized mobile labs composed of laptops available for student use at in all of the schools covering grades 3-8. The district is also piloting Chromebooks in a 1:1 configuration with one team at the middle school, with a plan in place to scale up over two years to all middle school students having 1:1 devices.

Peripherals such as scanners, networked laser printers, document cameras, student response systems, and cameras are available at all schools.

There are over 130 classrooms with interactive white boards. Most classrooms in grades K-5 are equipped with this particular technology. Math and science teachers in grades 6-8 also all have interactive whiteboards in their classrooms.

In addition, close to 300 staff members have laptop computers for their professional use.

B. Curriculum / Technology Integration

Both the NETS (National Technology Standards for Students) and the Common Core State Standards are designed to prepare students for life in a technological society. The NETS Standards are comprised of 6 major categories:

- Creativity and Innovation
- Communication and Collaboration
- Research and Information Fluency
- Critical Thinking, Problem Solving and Decision Making
- Digital Citizenship
- Technology Operations and Concepts

Technology is not taught as a separate strand but is embedded into every aspect of our curriculum in all content areas. Technology that is embedded into the everyday classroom will show students researching, demonstrating creative thinking, constructing knowledge, publishing and collaborating on work. Students will use digital tools and resources to present their understanding in all content areas. As demonstrated in many of our classrooms, and in particular, the 1:1 pilot

at our middle school, students are becoming more independent, self-directed and collaborative learners, skills that are critical for success in our current society.

Currently, the K-5 and 6-8 technology standards are being updated to reflect Common Core and 21st Century Digital Literacy skills and concepts. We have worked closely with the Health and Wellness Coordinator to incorporate Cyber Safety curriculum, the district Librarian staff to incorporate Research and Digital Literacy curriculum, and the Content Area Curriculum Coordinators to incorporate technology into their respective areas.

STEM/Technology/Engineering learning standards continue to be delivered through formal coursework at the middle school level.

The middle school computer courses are being revised from teaching basic computer skills that will be folded into the classroom curriculum and focusing more on current technology topics such as coding, media literacy, gaming, animation, app invention, and video production, for example.

C. Connectivity and Communications

Internet access is available from all computers in all schools, with wired infrastructure in most locations and secure wireless coverage universal. Current servers in schools are replaced and upgraded on a regular basis. Most school communications are electronic, using Google Apps for Education and Constant Contact. This impacts the timeliness and quality of communications among constituencies. Feedback and opinions are gathered through use of on-line surveys, a feature accessible in every Google Apps account. The district web site has been revised in order for all school stake holders to be able update their own relevant sections. The district can now also conduct emergency phone notifications using Blackboard Connect.

D. Technology Staffing and Support

There are currently 3.0 FTE technology staff—a director, a data specialist and a technician—who are responsible for the roughly 1500 computers and tablets, all servers and data service equipment. The ratio of support staff to computers is far below the DESE benchmark, which recommends 1.0 FTE for every 200 computers. This is also considerably below the staffing level in several similar districts.

There is also a 1.0 FTE Instructional Technology Specialist who works with all staff to support effective use of technology in instruction. The DESE benchmark is 0.5 FTE for every 30 - 60 staff members. Currently, the technology staff wears

many hats and tries to respond to an increasing number of requests for assistance to make technology an effective tool in the classroom. The requirements for data reporting and maintenance from sources such as the DESE have increased exponentially.

As SPS seeks to implement 1:1 computing at the middle school, the addition of 1.0 FTE technician and 1.0 FTE curriculum specialist is a critical part of making that initiative successful and are included in current budget plans.

E. Professional Development

Professional Development is provided in a variety of ways to meet the availability and learning styles of our staff members. This professional development is offered at various times during the day and year; ILAP and building based workshop days, after school and during the summer.

F. Data Management

iPass is used at all schools and by all staff for attendance, report cards, nurse visits and discipline reports. This system is also the method by which the State Mandated SIMS, EPIMS and SCS reports are generated. The iParent portal, in iPass, for parent access to student data serves as a single point of contact for parents to update the email address and phone numbers that SPS uses in its community emails and phone calls.

eSped is being used by the SPED staff to develop IEP for Sudbury students. Data within eSped is being cleaned up with the goal of automatic synchronization with iPass occurring.

NutriKids is used by the Food Service staff while TransFinder is used for managing bus routes. The district's HVAC systems have also been configured so that the maintenance director can manage them remotely over the school's networks.

The district uses Follett Destiny, a web-based Library Automation system for both library circulation management and as an asset management for the technology department.

G. Policies, Procedures and Planning

A concerted effort has been made over the last several years to clarify which technology resources are acquired and maintained at the school level vs. at the

district level. Hardware and software are no longer acquired by schools that are incompatible with available or planned systems.

School-based acquisitions are required to be approved by the SPS technology unit. Donations must be approved and accepted by the Sudbury School Committee.

The current process for funding technology now aligns well with long-term planning for technology and better provides for major upgrades. The DESE strongly recommends a separate technology budgetary line item in its guidelines and the SPS have moved in this direction.

IV. Initiatives and Assessment

A. Learning Technologies

Current Status

There are now roughly 1500 computers and tablets system-wide in use by staff and students. All elementary schools have a computer lab and the middle school has three general labs and two specialized labs (robotics and music). There are also class-sized mobile labs composed of laptops available for student use at in all of the schools covering grades 3-8. The district is also piloting Chromebooks in a 1:1 configuration with one team at the middle school.

Peripherals such as scanners, networked laser printers, document cameras, student response systems, and cameras are available at all schools.

There are over 130 classrooms with interactive white boards. Most classrooms in grades K-5 are equipped with this particular technology. Math and science teachers in grades 6-8 also all have interactive whiteboards in their classrooms.

In addition, close to 300 staff members have laptop computers for their professional use.

Major Initiatives

- Provide each classroom with an interactive presentation device and supporting peripherals
- Continue to deploy Web 2.0 and cloud-based resources to enhance and support the curriculum K-8

- Transition document management, parent information and student materials to electronic formats to minimize need for printer resources and promote “green” solutions
- Implement 1:1 computing at the middle school

Implementation Approaches

Interactive whiteboards have proven to be a major success in terms of providing a technology tool that enhances classroom instruction, and we plan to complete deployment of similar interactive presentation resources to classrooms that have not yet received them.

To maintain the schools' capacity to deliver full classroom access, computer lab equipment will need to be maintained and upgraded as needed. These computers are refreshed on a rotating basis, providing a regular infusion of replacement equipment. As labs are replaced, the former lab machines are going out to the school libraries and in some cases classrooms.

Class sets of student wireless laptops will be shared by each grade level at the elementary schools in grades 3-5. By dedicating one cart of laptops per grade level, this makes the resource available for frequent use right in the classroom environment. The results from the carts that have been deployed so far strongly support the extension of this initiative.

Taking deployment a step beyond laptop carts, the district also plans to implement a 1:1 Chromebook program at the middle school. Feedback collected from teachers, students and parent regarding the 1:1 pilot has been extremely positive. This initiative holds great potential for very powerfully impacting both teaching and learning in our classrooms.

There has been a dramatic shift in curriculum materials away from installed software packages to dynamic, Internet-based sources. Discovery Education, Glogster and other Web 2.0 resources are increasingly providing teachers and students with tools for information, content creation and collaboration. These tools offer a far greater differentiation of instruction for different learners and provide resources that teachers and students can also access from home.

There are presently several dozen networked laser printers around the district that offer students and teachers with many locations on which to print out hard copies of electronic materials. The district needs to develop systems for distributing information, processing forms and delivering notices that reduce the amount of toner and paper resources being used radically. These "green" changes make sense from both a budgetary perspective and match the initiatives being undertaken in the wider society to make our processes more sustainable.

B. Curriculum/Technology Integration

Current Status

Both the NETS (National Technology Standards for Students) and the Common Core State Standards are designed to prepare students for life in a technological society. The NETS Standards are comprised of 6 major categories:

- Creativity and Innovation
- Communication and Collaboration
- Research and Information Fluency
- Critical Thinking, Problem Solving and Decision Making
- Digital Citizenship
- Technology Operations and Concepts

Technology is not taught as a separate strand but is embedded into every aspect of our curriculum in all content areas. Technology that is embedded into the everyday classroom will show students researching, demonstrating creative thinking, constructing knowledge, publishing and collaborating on work. Students will use digital tools and resources to present their understanding in all content areas. As demonstrated in many of our classrooms, and in particular, the 1:1 pilot at our middle school, students are becoming more independent, self-directed and collaborative learners, skills that are critical for success in our current society.

Currently, the K-5 and 6-8 technology standards are being updated to reflect Common Core and 21st Century Digital Literacy skills and concepts. We have worked closely with the Health and Wellness Coordinator to incorporate Cyber Safety curriculum, the district Librarian staff to incorporate Research and Digital Literacy curriculum, and the Content Area Curriculum Coordinators to incorporate technology into their respective areas.

STEM/Technology/Engineering learning standards continue to be delivered through formal coursework at the middle school level.

The middle school computer courses are being revised from teaching basic computer skills that will be folded into the classroom curriculum and focusing more on current technology topics such as coding, media literacy, gaming, animation, app invention, and video production, for example.

Major Initiatives

- Expand the deployment of interactive presentation tools.
- Reschedule lab times to allow for true project-based learning.

- Identify lessons, units, resources and projects that maximize value and time that are linked to the learning standards in various curriculum standards
- Develop assessment strategies by grade level to help determine successful attainment of technology standards
- Increase awareness of the K-8 Student Technology Standards and reinforce their delivery in each grade level
- Make more efficient use of the school-based advisory groups that assess instructional needs, help identify quality software that aligns with standards, address the needs of special student populations, and support inquiry teaching and learning
- Identify software applications that address the needs of special student subgroups and populations (ELL, Title One, SPED, gifted, etc.)
- Evaluate the needs of the system in providing adequate support, taking into consideration past staffing levels and addressing mandates from state and federal government recommendations for staffing and support
- Review and upgrade the course offerings in both the Computer and Technology/Engineering departments at the Curtis middle school
- Expand technology curriculum specialist staff by 1.0 FTE to meet the growing needs created by the middle school 1:1 computing model.

Implementation Approaches

In order to better support teachers in the acquisition of skills and the integration of the technology standards within their respective curricula, as well as to act proactively with ever changing hardware and software technologies, improved strategies and models for technology infusion have been identified through a variety of pilot programs (see Learning Technologies section). These pilot programs not only incorporated the use of different technologies, but also explored different ways to schedule, incorporate and integrate technology into the classroom and curriculum.

A variety of lab and classroom access to resources were utilized and integrated projects were designed to support those models. Assessments and rubrics for the technology skills were developed as the units were delivered. These assessments were added to the current K-8 Technology Standards documents as a means to support teachers in their successful implementation of such.

Keyboarding skills have been difficult if not impossible to develop in a meaningful way due to a variety of reasons: time on task (scheduling), access to sufficient computers/keyboards, teacher training and awareness, etc. Research implies that students should be provided age/physiological appropriate keyboarding

training as soon as they are expected to keyboard. However, as with any “skill-based” training, practice is necessary over a long period of time, several times a week. This cannot be accomplished easily given the scheduling and access available to our students, both at the elementary and middle school levels. An improved approach will be tried and assessed that will help determine its feasibility within the school day.

Technologies that support inquiry based teaching and learning, differentiated instruction and promotes higher-level thinking and problem solving will be a priority.

Our current model of having 1.0 FTE technology curriculum specialist is not adequate to properly support and promote the successful integration of technology district-wide. We are planning to add a 1.0 FTE position to support the increased demand that will be created by 1:1 initiative at the middle school.

C. Connectivity and Communications

Current Status

Internet access is available from all computers in all schools, with wired infrastructure in most locations and secure wireless coverage universal. Current servers in schools are replaced and upgraded on a regular basis. Most school communications are electronic, using Google Apps for Education and Constant Contact. This impacts the timeliness and quality of communications among constituencies. Feedback and opinions are gathered through use of on-line surveys, a feature accessible in every Google Apps account. The district web site has been revised in order for all school stake holders to be able update their own relevant sections. The district can now also conduct emergency phone notifications using Blackboard Connect.

Major Initiatives

- Continue to transition network services to “cloud computing” resources on the Internet to provide access to documents to teachers and students at home.
- Develop strategies for using technology effectively to increase communication among Sudbury Public School staff, the administration, the School Committee, and the public.

Implementation Approaches

As technology advances and changes, the infrastructure supporting this technology must also stay current. By keeping pace with these improvements, full use of the capabilities of the new technologies will be available to students, staff, and the Sudbury community. With the deployment of upgraded hardware this past year, the district now has 1 Gb/s connectivity between buildings and can take advantage of this capacity to make more cost effective solutions in terms of locating network resources more centrally or on the Internet.

While the traditional client-server model of delivering connectivity to the classroom and lab environments remains an important part of the way the district delivers file storage and collaboration to students and teachers, an increasingly large amount of our services are being transitioned to the Internet. This “cloud computing” model provides significant financial savings in terms of infrastructure costs. It also offers greater availability of services for students and teachers, since many of these same resources are accessible from home. The district’s library services and Google Drive were the first two major services that were rolled out following this newer network paradigm, and other services will be identified and transitioned as appropriate. The district’s transportation software, Transfinder, was relocated to the Internet this past year and we are looking for solutions that move the lunch room point of sale software, Nutrikids to a robust, Internet-hosted solution.

Through tools such as Constant Contact, BlackBoard Connect, Survey Monkey and the district web site, the Sudbury Public Schools has been laying the groundwork for a strong set of communication tools with the public. As staff become proficient in the tools offered online in their Google Apps suite, there is an increasing level of teacher web page development, surveys, messaging, forms and collaboration that can occur between all parties in the broader school community--administrators, teachers, students and parents. The iParent module of iPass that was deployed this year offers a platform for offering greater parent access to grading, biographical and other data in the coming year.

D. Technology Staffing and Support

Current Status

There are currently 3.0 FTE technology staff—a director, a data specialist and a technician—who are responsible for the roughly 1500 computers and tablets, all servers and data service equipment. The ratio of support staff to computers is far below the DESE benchmark, which recommends 1.0 FTE for every 200 computers. This is also considerably below the staffing level in several similar

districts.

There is also a 1.0 FTE Instructional Technology Specialist who works with all staff to support effective use of technology in instruction. The DESE benchmark is 0.5 FTE for every 30 - 60 staff members. Currently, the technology staff wears many hats and tries to respond to an increasing number of requests for assistance to make technology an effective tool in the classroom. The requirements for data reporting and maintenance from sources such as the DESE have increased exponentially.

As SPS seeks to implement 1:1 computing at the middle school, the addition of 1.0 FTE technician and 1.0 FTE curriculum specialist is a critical part of making that initiative successful.

Major Initiatives

- Continue to assess the organizational support structure for technology that effectively addresses data management, network management, instructional support, maintenance and repairs and program oversight.
- Add 1.0 FTE technician and 1.0 FTE curriculum specialist to support the middle school 1:1 computing initiative.

Implementation Approaches

As technology plays a more central role in the classroom, the exact role of all staff members will be adjusted to match that which best serves the school community.

The new Technician position will be adjusted to best provide technical assistance to the Information Technology Director, relief to the Data Specialist as data requirements from the state and local parties grows and backup to the Instructional Technology Specialist as the need for support and training grows.

Although the technology department has a strong command of the hardware resources currently owned and supported by the schools, there is a lack of data in terms of tracking funding sources and departmental allocations. Since so much of the technology hardware is purchased by PTO, grant and other non-budgetary sources, the district is planning to carefully track inventory with this data being a focus. There is also a need to more carefully flag equipment as having been designated for special education versus general education use.

E. Professional Development

Current Status

Professional Development is provided in a variety of ways to meet the availability and learning styles of our staff members. This professional development is offered at various times during the day and year; ILAP and building based workshop days, after school and during the summer.

Major Initiatives

- Offer professional development opportunities directly linked to the achievement of identified standards and in support of educational initiatives and programs, such as 21st Century Skills and Common Core expectations
- Provide ongoing and in-depth professional development to the participants of the various pilot programs as outlined in the Curriculum Integration and Learning Technologies sections of this plan
- Offer professional development opportunities for administrators directly linked to the achievement of identified competencies
- Continue to implement a training model for new teachers and staff

Implementation Approaches

We will continue to offer training and support to staff members in a variety of ways and at different levels to help staff master skills in using technology for curriculum integration as well as for staff productivity and communication. New teacher training is offered during the summer and throughout the year. The publication of a 'SPS Technology in the Classroom' blog will continue to provide resources and information in support of technology in the classroom. Online support materials and resources will continue to be developed.

F. Data Management

Current Status

iPass is used at all schools and by all staff for attendance, report cards, nurse visits and discipline reports. This system is also the method by which the State Mandated SIMS, EPIMS and SCS reports are generated. The iParent portal, in iPass, for parent access to student data serves as a single point of contact for parents to update the email address and phone numbers that SPS uses in its community emails and phone calls.

eSped is being used by the SPED staff to develop IEP for Sudbury students. Data within eSped is being cleaned up with the goal of automatic synchronization with iPass occurring.

NutriKids is used by the Food Service staff while TransFinder is used for managing bus routes. The district's HVAC systems have also been configured so that the maintenance director can manage them remotely over the school's networks.

The district uses Follett Destiny, a web-based Library Automation system for both library circulation management and as an asset management for the technology department.

Major Initiatives

- Expand iParent access from report cards and basic biographical data to include gradebook and other components to improve home-school connections.
- Investigate EDWIN and other data warehousing and assessment opportunities to supplement or replace our current system, TestWiz.
- Implement technologies so that the student information system can propagate data to other systems.

Implementation Approaches

The iParent component of iPass was opened up districtwide in Sudbury during the 2012-2013 academic year. We hope to implement the product more widely in the coming years. This product offers parents access to their children's biographical and grading data in iPass. Access to update their biographical data should provide a mechanism by which parents can reliably make changes to phone numbers and email addresses so that iPass will contain definite contact information, rather than parents having to manually update it in numerous separate systems. The ability to check grading data online helps move Sudbury into alignment with many other communities, allowing parents to have a better handle on their children's academic performance and helping move the district away from costly paper/postage methods of delivering grades.

We presently use TestWiz to warehouse our standardized testing scores. As we seek to expand the opportunities for use data to make timely formative assessments, we will keep abreast of new opportunities, such as DESE's new EDWIN resource, to make exploring data more accessible and successful for administrators and teachers.

As the number of systems has propagated, technologies to communicate data

between those systems has not kept pace. Race To The Top grant money will be helping fund SIF technology in the iPass system, so that iPass can instantly communicate and verify data up to the DESE as changes are made, rather than going through long manual processes. We will also configure iPass and eSped so that those systems can cross-update data as needed. A similar process will take place online, as we are actively seeking to use Web 2.0 services that authenticate back to staff and student Google Apps accounts.

G. Policies, Procedures and Planning

Current Status

A concerted effort has been made over the last several years to clarify which technology resources are acquired and maintained at the school level vs. at the district level. Hardware and software are no longer acquired by schools that are incompatible with available or planned systems. School-based acquisitions are required to be approved by the SPS technology unit. Donations must be approved and accepted by the Sudbury School Committee.

The current process for funding technology now aligns well with long-term planning for technology and better provides for major upgrades. The DESE strongly recommends a separate technology budgetary line item in its guidelines and the SPS have moved in this direction.

Major Initiatives

- Establish a well-defined budgetary line item for technology within the district.
- Identify which decisions regarding technology are school-based and which are district-wide.
- Determine policies and guidelines on responsibilities regarding staff use of SPS-owned equipment.
- Produce a parent sign off document that includes the acceptable use policy, defines district policies concerning student data privacy and expands the scope of student equipment policies to include home use.

Implementation Approaches

The district will create a well-defined budgetary line item, as recommended by the State Department of Education. However, it will be necessary to think about a technology budget in the context of planned long-term improvement rather than on

a one-year-at-a-time basis. Otherwise, in times of fiscal restraint, the decision to cut or reduce the technology budget will always be tempting when the alternative is to reduce or maintain levels of service in other areas. Maintenance contracts, software upgrade licenses new acquisitions, and training activities are examples of items that may be included in the budget line item.

Instructional software, as other teaching and learning resources, needs to be carefully aligned with the district's learning expectations. The current procedure for software procurement, also subject to periodic review, needs to be adhered to and reinforced. Another critical function of the Advisory Group will be to review and update Sudbury's Technology Plan on an annual basis.

The district needs to update its policies regarding staff use of school equipment at home. Most teachers have laptops that function both inside and outside of the school network. This opens up new areas of concern about acceptable use of that equipment outside of school hours and property, as well as questions concerning proper physical handling and repair costs of the laptops.

As we now create a broad range of student accounts in online systems and are expanding the presence of school-owned technology into homes, the need to articulate clear guidelines for both student data privacy has become extremely important. We need to involve both parents and students, particularly now that students will be taking home school-owned devices as part of a 1:1 program.

V. Evaluation

The primary mission of the technology department is to promote the use of technology tools to enhance teaching and learning in the schools. Our first tier for evaluating the success for the initiatives we are assessing is teacher feedback about technologies that promote student creativity, collaboration, communication and critical thinking.

Both administrators and teachers will be able to use data to make both formative and summative assessments concerning student performance in a broad range of areas.

Finally, we will also evaluate all of the initiatives with considerable budgetary prudence. Our focus is on providing the resources most needed to improve student performance.

VI. Budget Trends

A variety of budgetary sources fund the mission of technology in the Sudbury Public Schools. Technologies and price points have changed radically over the last half decade and we expect similar changes during the next five years. These budget numbers offer, at best, a rough sketch of future expenditures.

Our recent costs have fallen into three main categories, with the following approximate funding levels:

- Hardware for teachers and students (laptops, labs, tablets, etc.), ~\$100,000
- Hardware for network infrastructure and Internet service, ~\$50,000
- Online subscriptions and services, ~\$100,000

We expect recent trends to continue in terms of costs, namely:

- Hardware for teachers and students has trended downward.
- Hardware for network infrastructure has remained constant; some costs have come down but increased investment has been needed to facilitate the third trend, specifically,
- Online subscriptions and services have gradually replaced most computer software and local servers

Important note: the Sudbury Public Schools participates in the E-Rate program. Funds from E-Rate are used for qualifying technology purchases in our schools.