**Sandwich Public Schools**

# Technology Plan

**2010-2015**

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# Benchmark 1: Commitment to a Clear Vision and Implementation Strategies

## District Technology Goals

### Long Term Goals

- Develop and implement a standards-based curriculum for technology integration in the K-8 grade levels which provides students with essential 21st Century Skills while ensuring consistency of learning opportunities throughout the district.
- Implement additional assistive technologies and utilize universal design to respond to the diverse needs of learners.
- Dedicated digital projection equipment for all K-12 classrooms (LDC projectors, Smartboards, Apple TV, etc.)
- Increase availability of shared hardware devices (cameras, handheld electronic devices)
- Hang LCD projectors from classroom ceilings or use short-throw arms
- Increase the number of High School students receiving online, web-based instruction
- Increase the percent of teachers self-assessing at Developing, Proficient, and Advanced to 25% each or 50% divided between Developing and Proficient.

### On-going Goals

- Designate funds in the district budget for Technology Program.
- Increase the number of staff receiving formal and on-going technology professional development
- Provide professional development for low-scoring TSAT topics
- Increase the number of staff using instructional technology with students.
- Systematic yearly replacement purchases based on A, B, C guidelines
- Increase network and Internet speed
- Improve wireless accessibility
- Improve wireless security
- Strengthen collaboration between schools

### 2014-15 Goals
- Create and fill the Technology Director position
- Create and fill an Assistive Technology Specialist position
- Open complete access to PowerSchool Data Portal for students and parents
- Move teacher and student files to the cloud
- Move toward use of Internet and cloud based applications (Web 2.0/Google Apps) and have less reliance on licensed / installed software
- Provide technology integration and technology support to implement new STEM Academy

- Provide each teacher with a working laptop and LCD Projector
- Upgrade high school teacher desktop computers
- Complete transition to 1:1 Learning Environment for grades 7-12
- Provide technical support to district testing coordinator for PARCC
- Continue to support staff in creating an online presence through use of tools such as Edline, Edmodo, Schoology, and other teacher websites.
- Improve replacement cycle procedures (include computers as well as 1:1 devices)
- Upgrade XP operating systems in elementary computer labs.
- Provide cart of devices (iPad/Chromebooks) for elementary classroom use
- Provide iPads for teacher use
- Upgrade computer lab color printers at elementary level

**2013-2014 Goals**
- Create and fill the Technology Director position
- Create and fill an Assistive Technology Specialist position
- ✓ Provide professional development that supports STEM programming
- ✓ Update and improve network infrastructure
- ✓ Implement a web-based Student Information System
- Provide professional development for effectively managing technology and curriculum integration strategies
- Develop more efficient technology inventory and implementation procedures
- Improve repair and replacement cycle procedures.
- ✓ Work toward implementing a 1:1 learning environment beginning at the high school, and working toward implementation for the entire district
- ✓ Continue to offer technology workshops for teachers focused on integration of technologies into the classroom
- ✓ Offer series of parent/student/teacher/community members workshops on using technology to enhance the learning environment
- ✓ Coordinate EdCamp Style Summer "Un"Conference in order to promote Professional Development around educators using technology
- ✓ Continue to research, share and visit other districts offering 1:1 learning environments
- ✓ Support School Counseling Office with implementation of Accuplacer Exam
- ✓ Provide effective technology training and support for all staff
- Educate Students, Parents, Teachers, and Community members about Digital Citizenship
- ✓ Provide a safe online learning environment for activities on our school network
- All classrooms will contain an LCD projector with a device where they can share/display content, web resources, student/staff creations, etc.
- ✓ Improve district technology coordination, district websites, and access to online district resources
- ✓ Full conversion of student and staff data to X2 (formally known as PowerSchool) with implementation in Fall of 2013
- ✓ Provide support for staff working on Curriculum Mapping with Atlas Software
- ✓ Provide support for staff as we implement use of SmartEdu Software for tracking

Professional Development Points(PDP's)
- ✓ Assist teachers in collecting electronic evidence for new teacher evaluation system
- ✓ Move toward use of Internet and cloud based applications(Web 2.0 tools) - much less reliance on licensed / installed software
- ✓ Support staff in creating an online presence through use of tools such as Edline, Edmodo, Schoology, and other teacher websites.


## 2012-2013 Goals

- Develop a written or online evaluation process for researching and procuring technology.
- Create and fill the Technology Director position
- Allow teachers to track their own TSAT progress online and see their advances.
- Provide and support online technology professional development opportunities
- Technology mentors in each school in addition to technology staff
- ✓ Informal small group support and learning experiences
- Improve replacement cycle procedures
- ✓ Explore the use of handheld devices for teaching and learning
- ✓ Provide online, web-based instructional experiences for 7th and 8th grade students
- ✓ Web server access will be managed for efficiency and security


## 2011-2012 Goals

- ✓ Acquire Technology Grant and donation funds
- ✓ Focus on software and subscription spending based on use and impact.
- ✓ Provide one-half instructional technology specialist per 40 staff.
- Fill the Technology Coordinator position.
- ✓ Provide professional development for effectively managing technology and curriculum integration strategies
- ✓ Continue to provide professional development that connects technology to content areas
- ✓ Stay at proficient level for student/computer ratio
- Provide a list of places students can use technology outside of school
- Complete student technology use survey for all grade levels.
- District-wide rolling inventory procedure
- Schedule High School student technology support teams in K-8 buildings
- ✓ District website redesign will be universally accessible and represent all major departments and programs.
- ✓ Provide and support up-to-date AUPs for students and staff

**2010-2011 Goals**

- ✓ Provide fundamental technology lessons for students in grades K-8.
- ✓ Increase availability to interactive white boards and document cameras in the classroom
- • Improve wireless network and Internet connection in all buildings.
- ✓ Provide professional development for teachers that support new hardware purchases.
- ✓ Create a District Technology Committee with teacher and administrator volunteers.


**2009-2010 Goals**

- ✓ Hire Technology Integration Specialists to focus on the K-8 schools buildings
- ✓ Increase availability to interactive white boards and document cameras in the classroom
- ✓ Provide each K-8th grade teacher with a professional laptop and projector
- ✓ Provide mobile laptop carts for each K-8th building.
- ✓ Install a wireless network and Internet connection in all buildings.
- ✓ Provide professional development for teachers that support new hardware purchases.
- • Create a District Technology Committee with teacher and administrator volunteers.


**Progress Evaluation Plan**
The district technology team and Administration will review goals annually and evaluate progress through discussion and surveys. Input will be encouraged from all buildings.

# Technology Planning Team

Michele Austin, Business Manager
Dr. Richard Canfield, Superintendent
Diana Ganju, Technology Integration Specialist (K-8)
Carly McGrail, Technology Integration Specialist (K-8)
Karen McGrath, Technology Teacher (9-12)
Terri Palombo, Technology Integration Specialist (K-8)
Lee Savery, District Network Administrator

# Technology Needs Assessment

### Strategies for Identifying Needs

Hardware Inventory: Technology staff conducted a full inventory of hardware in the classrooms in Fall 2009. This inventory made the dire need of new teacher computers apparent. Continuous inventory snapshots are taken as we prepare for PARCC using the tech readiness tool.

Workshop Evaluations: All professional development workshops conclude with an evaluation. Evaluations are reviewed and workshops are adjusted based on findings and suggestions.

TSAT: All K-12 grade teachers are asked to complete the TSAT or equivalent survey 2010, 2012, and 2014.

Technology Staff: Network Administrator, Technology Integration Specialists, and Technology ESPs and collaborate on a Google spreadsheet documenting current and future technology needs during the annual budget process.

Teacher Needs Survey: A Teacher Survey was distributed June 2009 requesting input on hardware and software needs. Teachers also identified areas of focus for professional development. The results were evaluated and presented to the School Committee during the process of making new hardware decisions.

# Budget

**Budget Levels**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Budget for hardware and software purchases and professional development. | **Budget for hardware and software purchases (new and replacement) and professional development, minimal staffing support, and some ongoing costs.** | Budget for purchases, professional development, adequate staffing support, and ongoing costs. Other state, federal, and local programs directed to support technology funding. Business partnerships, donations, and other local funding designated for technology. | Budget for purchases, incentives for professional development, sufficient staffing support, and ongoing costs. Appropriate budget to support district technology plan. |

Status

- 2013-2014: Developing Tech
- 2012-2013: Developing Tech
- 2011-2012: Developing Tech
- 2010-2011: Developing Tech
- 2009-2010: Developing Tech

Goals

- Designate funds in the district budget for Technology Program, including:
    - hardware replacement cycle
    - increased technology staffing
    - general technology supplies based on evaluation of needs
- Acquire Technology Grant and donation funds

Strategies

- Evaluate past and current spending
- Forecast and plan for major expenses when possible
- Use formal evaluation process for researching and procuring technology
- Designate a percentage of a technology staff position to the procurement and management of technology grants.

**Budget Allocated for Technology**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Less than $175 per student. | Between $175- $300 per student. | Between $300 - $425 per student | $425 or more per student |

Status

- 2013-2014: Early Tech $99.93 per student
- 2012-2013: Early Tech $37.93 per student
- 2011-2012: Early Tech $50.82 per student
- 2010-2011: Developing Tech $191.50 per student
- 2009-2010: Developing Tech $184.78 per student

Goals

- Focus on software and subscription spending based on use and impact.
- Acquire Technology Grant and donation funds

Strategies

- Evaluate spending on software licenses and subscriptions
- Survey teachers regarding use and impact
- Explore low-cost and free alternatives
- Take advantage of volume purchasing
- Designate a percentage of a technology staff position to the procurement and management of technology grants.

**Evaluation of Purchases**

Status
Purchases are researched and options are evaluated by the Technology Integration Specialists, the Network Administrator, and Technology ESPs. Technology staff works closely with sales representatives to understand specifications, and at time, trial purchases before ordering.

Goals

- Develop a written or online evaluation process for researching and procuring technology.

Strategies

- Research procedures at similar districts
- Collaboratively draft an evaluation process with the technology staff
- Request input from Administration and the Business Office on purchasing process

# Benchmark 2: Technology Integration and Literacy

## Technology Integration

**Patterns of Teacher Use**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| 85% of teachers use technology as a productivity tool (e.g., email, grades) and/or as a classroom supplement (e.g. drill and practice). | 85% of teachers explore using technology to support curriculum goals (e.g. research, lesson planning). | 85% of teachers use technology for research, lesson planning, multimedia and graphical presentations, and simulations. Teachers share technology uses with colleagues. | 85% of teachers integrate evolving technologies that transform the teaching process by allowing for greater levels of access, interest, inquiry, analysis, collaboration, creativity, and content production. |

Status

- 2013-2014: Developing/Proficient Tech
  - Early 13%
  - Developing 39%
  - Proficient 39%
  - Advanced 13%
- 2011-2012: Early/Developing  Tech
- 2010-2011: Early/Developing  Tech
- 2009-2010: Early Tech

| Use of technology for professional activities | Estimated Percent |
|---|---|
| nearly every day | 84% |
| about once a week | 9% |
| about once a month | 6% |
| rarely or never | 1% |

| Use of instructional technology with students | Estimated Percent |
|---|---|
| nearly every day | 50% |
| about once a week | 29% |
| about once a month | 11% |
| rarely or never | 10% |

<u>Goals</u>

- Increase the number of staff using instructional technology with students.
- Provide professional development for effectively manage technology and curriculum integration strategies
- Continue to provide professional development that connects technology to content areas
- Technology mentors in each school in addition to technology staff

<u>Strategies</u>

- Invite teachers to observe technology lessons taught by specialists or mentor
- Design and provide professional development specific to integration strategies and management of technology
- Request for and provide professional development for teachers to be technology mentors in each school

# Technology Literacy

**Patterns of Student Use**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Less than half of students show proficiency in all Massachusetts Technology Literacy Standards and Expectations for their grade. | More than half of students show proficiency in all Massachusetts Technology Literacy Standards and Expectations for their grade. | Almost all of students show proficiency in all Massachusetts Technology Literacy Standards and Expectations for their grade. | All students show proficiency in all Massachusetts Technology Literacy Standards and Expectations for their grade. |

<u>Status</u>

- 2013-2014: Early Tech
  - 32% of grade 8 students stated they can demonstrate 40/49 or 85% of the standards.
  - 72% of grade 8 students stated they can demonstrate 25/49 or 50% of the standards.
- 2011-2012: Early Tech
- 2010-2011: Early Tech
- 2009-2010: Early Tech

<u>Goals</u>

- Develop and implement a standards-based curriculum for Technology at the K - 8 schools.
- Complete student technology use survey for all grade levels.

- Create a District Technology Committee with teacher and administrator volunteers
- Evaluate Technology Literacy Standards identifying what standards can be taught by the classroom teacher and what should be taught by a Technology Integration Specialist.
- Design a collaborative schedule with specialists to integrate technology curriculum into the school day.
- Design pre and post assessments to obtain student mastery data for technology literacy standards.

# Capabilities of Educators

Status

| Level of Mastery | Estimated % of Teachers |
|---|---|
| Early technology | 81% |
| Developing technology | 9% |
| Proficient | 5% |
| Advanced | 5% |

Goals

| Level of Mastery | Estimated % of Teachers |
|---|---|
| Early technology | 25% |
| Developing technology | 25% |
| Proficient | 25% |
| Advanced | 25% |

- Increase the percent of teachers self-assessing at Developing, Proficient, and Advanced to 25% each or 50% divided between Developing and Proficient.
- Provide professional development for low-scoring TSAT topics
- Allow teachers to track their own progress and see their advances.

Strategies

- Request for and provide professional development for teachers to be technology mentors in each school
- Offer online professional development
- Design and provide professional development specific the management of technology
- Encourage teachers to take the TSAT annually
- Identify needs based on detailed evaluation of TSAT data
- Design professional development for using spreadsheets implementing ethics and safety standards.

# Technology Staff

**Technology Integration Specialist**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | Developing Tech | Proficient Tech | Advanced Tech |
| **No district level Technology Director. Local instructional technology support is inconsistent.** | District level Technology Director. One-half instructional technology specialist per 60-120 staff. | District level Technology Director. Dedicated instructional technology specialist—one half person per 30-60 staff. Dedicated staff at district level for data management and assessment. | District Technology Director. Dedicated instructional technology specialist—one half person per 30-60 staff. Dedicated staff at district level for data management and assessment and to help produce integrated curriculum content. |

Status

- 2013-2014 Early Tech
    - No district level Technology Director
    - One-half instructional technology specialist per 26 staff

- 2012-2013 Early Tech
    - No district level Technology Director
    - One-half instructional technology specialist per 26 staff

- 2011-2012 Early Tech
    - No district level Technology Director
    - One-half instructional technology specialist per 30 staff

- 2011-2012 Early Tech
    - No district level Technology Director
    - One-half instructional technology specialist per 30 staff

- 2010-2011 Early Tech
    - No district level Technology Director.
    - One-half instructional technology specialist per 78 staff

- 2009-2010 Early Tech
    - No district level Technology Director.
    - One-half instructional technology specialist per 59 staff.

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Goals

- Create and fill the Technology Director position
- Create and fill an Assistive Technology Specialist position

Strategies

- Request consideration for a Technology Director position from administration and the School Committee.
- Identify salary funds for Technology Director
- Interview possible candidates currently on the district technology team for the for Technology Coordinator position.
- Cleary delineate responsibilities of existing technology staff
- Request consideration for an Assistive Technology Specialist position.

# Benchmark 3: Technology Professional Development

## District Staff Reached

<u>Status</u>

|  | 2012-2013 |
|---|---|
| Staff who have received formal technology professional development | 50% |
| Staff who have been reached by ongoing technology professional development, such as coaching, mentoring, and co-teaching activities | 47% |
| Staff who have taken online technology professional development courses | 12% |

<u>Goals</u>

- Increase the number of staff receiving formal and on-going technology professional development
- Provide and support online technology professional development opportunities

<u>Strategies</u>

- Expand technology offerings to High School on professional development days
- Request for and provide professional development for teachers to be technology mentors in each school
- Provide professional development that supports tablet technology and STEM programming

# Content of Training

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Technology skills (email, word processing, Internet browser use, etc.) for teachers' professional use. | Training encompasses more complex professional uses (district applications such as attendance and report cards, scanners, cameras) and curriculum integration strategies. | Training directly ties technology to its use in content areas and how to effectively manage it in the classroom. | Training focuses on modeling, mentoring, and adopting new technologies as well as the integration of Universal Design and access considerations for all students. |

## Status

- 2013-2014 Developing- Proficient Tech
- 2012-2013 Developing- Proficient Tech
- 2011-2012 Developing- Proficient Tech
- 2010-2011 Developing – Proficient Tech
- 2009-2010 Developing – Proficient Tech

## Goals

- Provide professional development for effectively manage technology and curriculum integration strategies
- Continue to provide professional development that connects technology to content areas

## Strategies

- Request for and provide professional development for teachers to be technology mentors in each school
- Invite teachers to observe technology lessons taught by specialists or mentor
- Request "comment" cards from teachers regarding what worked and could be improved when observing a technology lesson.
- Design and provide professional development specific to integration strategies and management of technology

# Models of Professional Development

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Whole group, skill-based training with minimal follow-up. | Whole group curriculum-based training with follow-up to facilitate classroom implementation. | Coaching, modeling best practices, district-based mentoring. Involvement in a development / improvement process. Study groups. | Creates a culture of inquiry, sharing and knowledge building. Anytime learning available through a variety of delivery systems (e.g., just-in-time support, mentoring, peer observation). |

Status

- 2013-2014: Developing- Proficient Tech (coaching and modeling provided)
- 2012-2013: Developing- Proficient Tech (coaching and modeling provided)
- 2011-2012: Developing- Proficient Tech (coaching and modeling provided)
- 2010-2011: Developing – Proficient Tech (coaching and modeling provided)
- 2009-2010: Developing – Proficient Tech (coaching and modeling provided)

Goals

- Technology mentors in each school in addition to technology staff
- Informal small group support and learning experiences

Strategies

- Request for and provide professional development for teachers to be technology mentors in each school
- Invite teachers to observe technology lessons taught by specialists or mentor
- Request "comment" cards from teachers regarding what worked and could be improved when observing a technology lesson.
- Encourage and support grade level groups to integrate technology into a project at the same time. Encourage teachers to share findings and set goals for future implementations

# Benchmark 4: Accessibility of Technology

## Hardware

**Students per Instructional Computer**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| 10 or more students per Type A or B computer; no firm computer replacement policy established by district. | Fewer than 10 students per Type A and B computer; replacement policy established; one computer per teacher. | Fewer than 5 students per Type A and B computer; replacement cycle established for 6 years or less; one computer per teacher—possibly a laptop for working at home. Most students have access to handheld electronics. Maintains a list of places students can use technology outside of school. | One student per Type A and B computer or other electronic device. Replacement cycle established for 5-6 years or less; one computer per teacher—possibly a laptop for working at home. 75% of computers meet Massachusetts A/B standards. School works with community to provide equitable access to technology for students and community members after school hours. |

Status

- 2013-2014: Developing- Proficient Tech
    - 2.85 students per computer/device, most students do not have access to handheld electronics.
- 2012-2013: Developing- Proficient Tech
- 2011-2012: Developing- Proficient Tech
- 2010-2011: Developing – Proficient Tech
- 2009-2010: Developing – Proficient Tech
    - Average 3 students per computer
    - One computer (desktop or laptop) per teacher
    - Majority of K-8 teachers have laptops for working at school and home

Goals

- Stay at proficient level for student/computer ratio
- Improve replacement cycle procedures
- Explore the use of handheld devices for teaching and learning
- Provide a list of places students can use technology outside of school

Strategies

- Replace aging computers on a yearly bases
- Identify annual funds for replacement cycle
- Institute recycling procedure for replaced machines
- Discussion and action between technology staff and Superintendent to refine replacement cycle
- Technology Integration Specialist creates a list of places students can use technology outside of school after researching town options.


# Replacement Cycle

Status

- 2013-2014 Additional High School purchase to advance 1-to-1
- 2012-2013 Major High School purchase / Minor Elementary purchase
- 2009-2010 Major Elementary purchase / Minor High School purchase
- 2006-2007 Major High School purchase / Minor Elementary purchase

Goals

- Systematic yearly replacement purchases based on A, B, C guidelines
- District-wide rolling inventory procedure

Strategies

- Allocate annual funds for yearly purchases
- Implement bar coding system for each building
- Combine inventory into one electronic place accessible from all buildings
- Develop a written procedure for disposal of surplus.
- Develop a replacement/ repair plan

# Internet & WAN Access, Connectivity, and Speed

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Dial-up connectivity to the Internet available only on a few computers. | Direct connectivity to the Internet available at each school and in most rooms. Adequate bandwidth to the school to avoid most delays. | District Internet connection of 10 Mbps per 1,000 students and staff district-wide.# School connection to district WAN of 100 Mbps per 1,000 students/staff to avoid most delays. Easy access for students and teachers, including some wireless. | District Internet connection of 100 Mbps per 1,000 students and staff district-wide.# School connection to district WAN of 1,000 Mbps per 1,000 students/staff. Easy access for students and teachers including most wireless connectivity to enable interactive presentations and video. |

Status

- 2013-2014: Proficient Tech
- 2012-2013: Proficient Tech
- 2011-2012: Proficient Tech
- 2010-2011: Proficient Tech
- 2009-2010: Proficient Tech

Goals

- Increase network and Internet speed
- Improve wireless accessibility

# LAN

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Limited print/file sharing network at each school for lab, administration, and some classrooms. Some shared resources and some secure storage space. Minimum 10/100 Mbps Cat 5 hubbed network. | Most rooms connected to Internet via WAN and wireless connectivity where possible at each school with student access. Minimum 10/100 Mbps Cat 5 switched network. Basic servers for sharing some resources at each school. | All rooms connected to Internet with significant wireless connectivity at each school with sufficient bandwidth for effective student access. Minimum 100 Mbps Cat 5e switched network. District-owned servers or cloud computing provides secure storage, backups, applications, schedule, email, and website. Students, teachers and parents have easy access to educational resources from home and school (e.g., web portal). | All rooms connected to Internet with significant wireless connectivity at each school with sufficient bandwidth for effective student access. Minimum 100 Mbps/1 Gbps Cat 5e/6 switched network to classroom. Different services (data, phone, video, guest access, etc.) on different virtual LANs. All schools have sufficient bandwidth for content delivery through resources such as video streaming and conferencing. Students, teachers and parents have easy access to educational resources from home and school (e.g., web portal). |

Status

- 2013-2014: Proficient Tech
- 2012-2013: Developing - Proficient Tech
- 2011-2012: Developing - Proficient Tech
- 2010-2011: Developing - Proficient Tech
- 2009-2010: Developing - Proficient Tech

Goals

- Increase network and Internet speed
- Improve wireless accessibility

# Other Technologies

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Shared teacher use of resources such as telephone, TVs, VCRs, DVD players, and classroom sets of programmable calculators. | Shared use of resources such as telephone, computer video projectors, or interactive white boards, classroom sets of programmable calculators, digital cameras, and scanners. | **Dedicated and assigned use of common technologies such as telephone, computer video projectors, or interactive white boards. Programmable calculators assigned to each student as needed. In each school, there is shared use of specialized technologies, digital cameras, scanners, handheld electronic devices.** | Readily available fully equipped classrooms with computer/video projectors, interactive whiteboard, and other technology to enhance student instruction. Use of new and emerging technologies. |

Status

- 2013-2014 Proficient Tech
- 2012-2013 Proficient Tech
- 2011-2012 Proficient Tech
    - 3 Sets of Smart Response for K-8 schools
    - LCD Projectors for Specialists
    - Laptops for specialists
    - iPad and Apple TV for music teacher
    - Wireless printers for laptop carts
- 2010-2011 Proficient Tech
    - Dedicated LCD projectors in 1st-8th grade classrooms
    - Dedicated document camera in 1st-4th grade classrooms
    - Dedicated interactive whiteboard in 4th-8th grade classrooms
    - At least one document camera and LCD projector shared in each K-8 building
    - At least one interactive whiteboard and LCD projector shared in each K-8 building
    - Digital cameras and scanners available in each building
- 2009-2010 Developing – Proficient Tech

Goals

- Dedicated interactive whiteboards and LCD projectors in
    - 1st-3rd grade classrooms (Smart Board 640 or 660 model)
    - K-8 specialist classrooms (Smart Board 680 model)
    - K-8 Special Education classroom (Smart Board 640 or 660 model)
- Dedicated document cameras in
    - Kindergarten
    - 5th and 6th grade classrooms

- Increase availability of shared hardware devices (cameras, handheld electronic devices)
- Hang LCD projectors from classroom ceilings

<u>Strategies</u>

- Designate a percentage of a technology staff position to the procurement and management of technology grants.
- Explore opportunities within Special Education funding to equip program with dedicated interactive whiteboards, LCD projectors, and/or document cameras.
- Begin a long-term process of hanging LCD projectors, beginning with specialist and science classrooms.


# Technical Support Staff

**Technical Support (hardware, operating system, network)**

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Some technical support and minimal support tools to resolve 95% of problems in greater than five days. Problems cause major disruptions to curriculum delivery using technology. | **Sufficient technical staff and support tools to resolve 95% of problems in two to five days. Same-day technical support for infrastructure problems by call-in. Problems sometimes cause major disruptions to curriculum delivery using technology. Designated Network Administrator.** | **Sufficient technical staff and support tools to resolve 95% of problems within two days. Same-day in-classroom technical support available. Problems infrequently cause major disruptions to curriculum delivery using technology. Network administrator.** | Sufficient technical staff and support tools to resolve 95% of problems within one day. Technical support is readily available on-site for both infrastructure and application problems. Problems do not cause major disruptions to curriculum delivery using technology. Network administrator. |

<u>Status</u>

- 2013-2014 Developing- Proficient Tech
- 2012-2013 Developing- Proficient Tech
- 2011-2012 Developing- Proficient Tech
- 2010-2011 Developing Tech
- 2009-2010 Developing Tech


<u>Goals</u>

- Reduce connectivity problems.
- Schedule High School student technology support teams in K-8 buildings
- Increase the number of staff receiving formal and on-going technology professional development
- Reduce hardware problems by systematic yearly replacement purchases based on PAARC guidelines

Strategies

- Replace switches in all buildings
- Upgrade network infrastructure
- Collaborate across buildings to set a schedule for High School students to work directly with Technology ESPs in K-8 buildings.
- Request for and provide professional development for teachers to be technology mentors in each school
- Allocate annual funds for yearly purchases

# Benchmark 5: Virtual Learning and Communications

## E-Learning Environments

| Levels of Progress | | | |
|---|---|---|---|
| Early Tech | Developing Tech | Proficient Tech | Advanced Tech |
| Web- and/or satellite-based interactive learning opportunities delivered synchronously or asynchronously, on a scheduled or unscheduled basis, primarily for professional development on a limited basis. | Expanded web- and/or satellite-based interactive learning opportunities with the possible addition of asynchronous video streaming or synchronous videoconferencing. The addition of courses for professional development for teachers and student courses at the high school and college level (K-16). | Building upon Developing Tech, development of connections for improved access to web-based and/or interactive IP-based video learning on the local, state, regional, national, and international level (school to school, district to district, school/district to state, state to state, country to country). Applications to include courses, cultural projects, virtual field trips, etc. | Seamless IP-based infrastructure expanded to K-16 to allow development of high-quality web- and video-based content. Content distribution available for all students and teachers. Archives allow for content review asynchronously and sharing/distribution of these resources. |

Status

- 2013-2014: Developing Tech
  - Teachers use websites, Edmodo, Schoology in order to help with curriculum  connections and online presence so students and teachers can collaborate in and outside of school.
  - Sandwich High School offers 50 seats a year for Virtual Course Offerings though Virtual High School Collaborative.
  - Many teachers use online tools and iPad apps for projects, communications, video, etc.
  - Screencasts are also used to help support staff with new initiatives such as PowerSchool and Using Evernote for New Teacher Evaluation Model.
- 2011-2012 Developing Tech
- 2010-2011: Developing Tech
  - Estimated 42 High School students took online, web based courses through Virtual High School
- 2009-2010: Developing Tech

### Goals

- Increase the number of High School students receiving online, web-based instruction
- Provide online, web-based instructional experiences for 7th and 8th grade students
- Provide and support online technology professional development opportunities

# District Website

### Status

- District and Elementary Web Sites
  - New websites implemented for district and elementary schools through Edline
  - Web management responsibilities are assigned at school level
- High School Web Site
  - Receives over 1,500 visits weekly
  - Updated daily
  - Implemented use of Twitter Account SHS, Blue Knights which has over 1,079 followers
- Increased number of teachers creating classroom websites

### Goals

- Web server access will be managed for efficiency and security
- Increase the number of teachers who are creating and updating their own websites

### Strategy

- Fill the Technology Coordinator position
- Clearly delineate responsibilities of existing technology staff
- Provide professional development in website creation and design

# Benchmark 6: Safety, Security, and Data Retention

## Acceptable Use Policy

<u>Status</u>

- iPad Policy manual developed
- All students/parents at High School using iPads had summer iPad Orientations (reviewed/outlined iPad Policy Manual and AUP)
- Student AUP was designated as a School Committee Policy in February 2012
- Beginning in the 2012 – 2013 school year, all students are required to sign and return Acceptable Use Policies
- Staff AUP implemented September 2013

<u>Goals</u>

- Keep student AUP up to date with changing technologies
- Keep staff AUP up to date with changing technologies
- Educate students and staff of AUPs

<u>Strategy</u>

- Hang poster versions of student AUP in all labs, on laptop carts, and near classroom computers
- Review student AUP when classes come to the lab for the first time each year.
- Distribute staff AUP at the first building staff meeting each year.

# Safety and Security

| Levels of Progress | | | |
|---|---|---|---|
| **Early Tech** | **Developing Tech** | **Proficient Tech** | **Advanced Tech** |
| Backup and restoration procedures and virus protection to guard individual computers. District-wide acceptable use policy in place. | Basic firewall protection and diligent upgrading of network vulnerabilities added to protect against external threats. Protection against a wide range of malware (viruses, worms, Trojans, rootkits), adware, and spyware. District-wide responsible use policy in place, as well as policy on connecting student/staff-owned devices to school network. | To Developing Tech, add adequate network and server availability protection for expanded capabilities and to ensure dependable access. Protection of workstations from internal network attacks. Encryption of sensitive personal data on local networks. Network supports board policy on connecting student/staff-owned devices (guest devices) on the network. | Usage authentication added for mobile computer and home/external access requirements. Use of virtual LANs (VLANs) to protect network infrastructure and sensitive data. If guest devices are allowed on the network, guest traffic is on an isolated VLAN and/or guest devices are checked for currency of anti-virus software and operating system security patches. |

Status

- 2013-2014: Proficient Tech
- 2012-2013: Proficient Tech
- 2011-2012: Proficient Tech
- 2010-2011: Proficient Tech
- 2009-2010: Proficient Tech

Goals

- Improve wireless security

Strategy

- Route personal handheld devices to mobile networks