



**Holliston Public Schools
District Technology Plan
2009-2012**

www.holliston.k12.ma.us

Components of Technology Plan

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Holliston Technology

Empowering our learning community to build knowledge without boundaries through the innovative use of 21st century information technology

Section 1 – Vision and Introduction

Vision

The Holliston Public Schools Technology Program strives to empower our learning community to build knowledge without boundaries, within a participatory culture and innovative 21st century learning environment.

We will provide knowledgeable leadership and support staff, appropriate tools, resources and professional development for our learning community. We will seek necessary funding and increased accessibility to people and programs both locally and globally.

We are committed to facilitating innovation while:

- Encouraging “any time, any place learning”
- Empowering and preparing our learners for the 21st century work place
- Fostering integrity and responsibility in the Information Age
- Exploring diversity and collaboration through expanded relationships in the global community

Introduction/Review

During the 2004-2009 time period the Holliston Public Schools successfully re-established the school’s technology hardware and software footprint, upgraded its network infrastructure, and upgraded all hardware in each building maintaining up-to-date student-computer ratios. New fiber connections allowed improving school-to-school, school-to-municipality and school-to-home communications. Multiple new assistive technology reading programs have been implemented K-12 supporting our special needs students.

Annually we hold various parent and student Internet/on-line safety programs inviting professionals from the town, state and country. Our Acceptable Use Policy (AUP posted at www.holliston.k12.ma.us) has been updated to include 21st century tools such as blogs, podcasts and wikis. In addition, we have established multiple access points for the schools network in town buildings for after hours access. All new hire employees attend

an “Introduction to the Holliston Schools Network” program prior to employment and access to the school network. Our on-line course development has moved away from VHS and in the direction of new Web 2.0 tools.

Intranet posting of curriculum is on-going. Certain subjects/classes have been completed. Students and staff have Internet access to self-paced learning tools. At all district and administrative levels staff has access to shared network areas used for curriculum collaboration. Our delivery of curriculum has been enhanced through the use of mobile labs, SmartBoards, projectors and applications including Skype, PodCasts and PhotoStory.

Holliston is committed to providing students with a technology rich learning environment through inter-disciplinary curricula and multi-media integration. Holliston will incorporate technology as a natural part of education through an integrated, comprehensive framework to manage the acquisition, application, and evaluation of technological resources to ensure that all students will have the opportunity to develop the 21st century skills necessary to be productive citizens in an information-driven, global society.

Section 2 – Technology Summary

Staffing and Support Services Assessment

The Holliston Public Schools employs 3 full time Network Administrators, 2 full time Technology Integration Specialists, 4 building Data Specialists and 1 District Data Resource Administrator. The Network Administrators support their respective building technology infrastructure. This includes software/hardware maintenance and troubleshooting of servers, desktops, data/video networks and communication systems. The school district’s network connects 4 school buildings supporting 3200 users with over 1200 workstations and 12 servers.

Our Technology Integration Specialists are responsible for the integration of our standards based curriculum at the staff and student level building to building. In addition, they develop and maintain our school and district web sites and are responsible for introducing and supporting teachers using web 2.0 tools as part of a participatory culture. They provide professional development to teachers, both after school and job embedded during the school day, on a variety of technology tools and that provide support for all learners.

The school based Data Specialist maintains the HPS student based information systems (iPass and SEMSTracker). Our District Data Resource Administrator is responsible for all DOE reporting (iPass and SEMS), internal certification tracking and District web maintenance, as well as maintaining/posting all district-wide school and central office announcements on Holliston’s RSS feed website.

Budget

The Town of Holliston has always been very responsive to the schools' financial needs. As part of our \$77 million dollar school building/renovation project (1998-2001) our entire technology infrastructure was replaced. Since that time, we have completed one replenishment cycle at all building for the network and desktop infrastructure. Our current challenge is to annually receive a set amount of funds annually so that we can return to and maintain a permanent 5 year replacement schedule/cycle. Town, state and federal funding have not allowed this to happen.

Our current technology budget for FY 2010 is as follows:

Staffing:	\$ 227,782
Professional Development:	\$ 18,805
Supplies & Equipment:	\$ 152,439

In addition to the above funding for FY 2010, the October of 2009 Holliston Town Meeting approved a capital expenditure request of \$298,115 for the school's technology. This infusion of funds will allow us to begin the replenishment cycle at the Miller and Placentino schools and supplement the Middle and High School until their replenishment time.

Network Infrastructure/Hardware:

Cabling

- Cat 5e
- 10/100/1000 Network Ready
- All town and school facilities single strand fiber connected

Internet Access

- School – 8 MB and 30 MB Fios thru ISP
- All classrooms and town facilities
- Portable 802.11 b/g/n wireless capability

Firewall

- 2 District Firewalls (CIPA Library/School compliant)
- Spam Filter for mail

Switches

- Most schools 10/100/1000 connection to all drop locations

Video

- TV in each classroom
- Video distribution available in all classrooms

Servers

- 2 Student Information Servers
- 3 Active Directory Servers
- 1 Exchange Server
- 2 Data Storage Servers
- 2 Support Server
- 2 Language Lab Servers

Desktops

School	Student Computers	DOE			Computer Ratio (Type A/B)	Computer Labs	Smart-Boards	Projectors
		Type A	Type B	Type C				
Holliston High School	458	164	181	113	2.65	12	11	26
Robert Adams Middle School	270	0	270	0	2.81	9	7	10
Miller Elementary School	243	0	243	0	2.44	2	1	2
Placentino Elementary School	180	0	180	0	3.80	1	2	2

Assistive Technology Devices

The following list contains the assistive technology devices that are currently in use:

- AlphaSmarts
- Hearing Systems = FM and Carting
- Touch Monitors
- Kurzweill
- Speech to Text Software (Dragon)
- Switches

- Adaptive keyboards
- Smartboards

Section 3 – Technology Integration and Professional Development

Teachers consistently use technology for planning, research and communication. In addition to using a number of websites for research, teachers frequently load successful lessons onto a shared drive for peers to collaborate on effective strategies and interventions. They are starting to experiment with social bookmarking tools such as Delicious to improve collaboration and sharing of resources. District administrators are leading the way with expanding the use of technology by using applications such as Google docs for shared committee work for example, the Strategic Planning Committee. There is a purposeful modeling of the technologies such as Web 2.0 communication tools by district leaders during their day to day practice at meetings in order to establish a wider familiarity across the district with the tools. Teachers are being encouraged to join Web 2.0 communities or Ning's (Classroom 2.0) to expand the community aspect of the Web 2.0 participatory culture.

Many of our teachers have recently completed in-service workshops on how to use technology to manage and implant meaningful and effective differentiated instruction. As a result we have a great deal of high quality differentiated lessons in literacy and math available to all staff on a shared drive. We are currently developing online differentiated instruction resources in math and social studies using Moodle.

A second in-service course was entitled, “Linking Standards, the Internet and Brain Theory in a 21st Century Classroom.” It was a hybrid course, combining both face to face and online components. Participants learned how to effectively integrate the internet and Web 2.0 tools such as Podcasts, wikis and blogs into a 21st Century Classroom that focuses on collaboration, problem solving, critical thinking, global communication, strong work ethic and self-direction. The emphasis was on using Web 2.0 tools within a project based learning approach to create a participatory culture and address the learning standards. Teachers were required to implement their projects directly into their classrooms. Through the course teachers are becoming more articulate with issues relating to information and digital literacy, the updated National Technology Standards and the changing role and nature of information. Part II of the course, for a further 3 graduate credits, will start on December 10th, 2009. It will delve deeper into the use of Web 2.0 tools in the classroom, continue to connect brain compatible learning theory, and focus on how to integrate them to achieve the best educational benefits there by improving student achievement.

Support curriculum, assessment and instruction that integrate 21st Century student’s outcomes using data driven decision making in support of student improvement. Expose students to STEM fields and careers. Customize professional development to meet the needs of all staff i.e. one-on-one, small group, whole group, staff mentoring, trainer of trainers, web based, staff model technology use for others. Create an Assistive Technology team and develop training and awareness for these resources. Increase the impact of training programs by providing more on-site training through teacher training,

peer training, co-teaching, and mentoring. Continue the connection between the Massachusetts Learning Standards and the International Society for Technology Education/National Education Technology Standards (ISTE/NETS) for students, teachers, and administrators. Provide additional opportunities and in house professional development for teachers to create lessons and units that incorporate technology and share those learning experiences via the Internet, District web site, professional development periods, and grade level, team, department, and faculty meetings.

On January 13th, 2010, at 6:30 PM, two representatives from the Attorney General's Office, Middlesex Youth Program, will present an Internet Safety evening for Holliston parents. This presentation will be supported by two follow-up workshops for parents hosted by the Middle school. Students from the Holliston High School Peer Helper Club and NHS will be trained to teach Internet Safety to middle school students and deliver workshops to the students. There will also be professional development provided to teachers focused on digital literacy in the classroom and social networking sites 101.

Section 4 – E-learning

The Holliston Public Schools is participating in a new initiative that is looking to address 21st Century Learning/Learners and online learning in a public education setting. Coordination of this initiative is being performed by The Education Cooperative (TEC) which is a collaborative we belong to. To date, this initiative has had one meeting to get the pulse of the member communities. The districts were in complete agreement that this is a worthwhile project and made the commitment to go forward.

The model that has been proposed is to have each district offer an online class, hosted and taught by that district. These courses would be available to students to all students in the other member districts.

Holliston Public Schools is a member of the Moodle Consortium. The goal is to expand the use of online learning opportunities for teachers and students. The Consortium offers courses on how to use Moodle and is currently making other courses available. With the assistance of the technology integration specialists teachers are developing learning environments on Moodle as a support to their traditional classroom environment. Teachers are exploring posting differentiated instruction projects and resources online and to enable a more student centered teaching approach. They are also using Moodle to build community within their classroom by developing opportunities for students to participate in online discussion boards, wiki's, and blogs.

Section 5 – Objectives and Goals

1. Establish a Technology Task Force with a variety of stakeholder groups, including school committee members, administrators, community members, parents, students and teachers. The purpose will be to expand technology integration throughout the district and support the Curriculum Council in the implementation of 21st century skills. The focus will be to integrate technology into the content areas effectively to using higher level thinking skills and inquiry based learning. The task force will

address the needs of our 21st century learners. Its responsibilities will include reviewing emerging technologies and their application in the classroom, and policies such as the AUP Policy, the value of social networking sites and Ning's in the classroom and the filtering policy. It will also support the Curriculum Council in identifying and addressing district technology professional development requirements.

2. Develop and implement district wide assessment tools for the educational hardware and software being used by the staff to include future procurements.
3. Explore other options for portable and/or handhelds devices allowing a 1:1 environment for students and staff starting at the High School level as we progress our students to be 21st century learners.
4. Increase existing student accessibility to our curriculum via technology including students with disabilities.
5. Continue to invest and utilize the latest technological devices for classroom instruction that ensures usability, equivalent access, and interoperability for all students.
6. Re-establish our computer replacement cycle to no more than 5 years.
7. Replace/upgrade the Elementary School Network Complex to 1 GB to the desktop.
8. Implement permanently installed wireless coverage throughout the entire district.
9. Continue to expand our community relationships to make Internet and school network access more readily available to students and staff outside the school day. With this we will provide web based information about our school-wide external resources.
10. Assess the current use of technology to support ELL learning. Explore and expand the use of this technology, including the resources available online.
11. Define a base-line level of technology skills necessary for all students to succeed, including product knowledge, the ability to use technology appropriately and critically evaluate information gathered from the Internet. Develop an agreed-upon list of software products that students should be able to use and the date by which they should achieve mastery. Develop an assessment process that measures these base lines which is integrated across the curriculum.
12. Research and implement an effective program(s) that discourages on-line harassment and bullying and supports on-line safety.
13. Expand/Extend the school community so learning can occur at any time or in any place, reflecting the world in which students live. Explore and expand the use of technology to support global projects with students across the world.

14. Effectively and appropriately expand the use of technology as a communication tool, both within the district and broader community by using Web2.0 tools such as blogs and podcasts.
15. Technology Committee annual meets to review the progress of the District in reaching our goals and considering making changes or adjustments to the goals.