

**Webster Public Schools**

**District Technology Plan**

**2015-2020**

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## **I. Executive Summary**

This technology plan departs in significant ways from earlier plans. While earlier plans sought to incorporate technology into an existing, stable school structure, this plan seeks to transform schools. By moving computers from labs to classrooms, by adding handheld devices to the inventory of learning tools, by expanding the sources of information to include not only text but also sound and video, by expanding time for learning to all the hours of the day., and by shifting the role of teacher from decider to poser of great questions, this plan seeks to move schools into the forefront of how people now learn, how most organizations now operate, and how most businesses now thrive.

This document outlines a plan for technology use and infrastructure for the Webster Public Schools for the next three years. In preparing this document and in implementing the plan, the Technology Committee has and will continue to review past, current, and future initiatives in order to make critical decisions about the areas on which Webster will focus technology efforts and dollars. The Webster Public Schools technology plan responds to the criteria put forth by the Massachusetts Department of Elementary of Secondary Education

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## **II. Benchmark 1 - Commitment to a Clear Vision and Implementation Strategies**

The mission of the Webster Public Schools is to provide a quality education in a safe learning environment for all students and to empower them to succeed as responsible, productive citizens in an ever-changing global society.

The purpose of our technology plan and program is to provide students with the tools, skills, attitudes and habits of mind to use technology to achieve that fundamental mission. By tools we mean up-to-date hardware and software and fast, efficient access to electronic networks. By skills we mean those abilities described in the Massachusetts Technology and Literacy Standards. Habits of mind include both propensities to use technology to advance human endeavors and the ethical compass to use it for good.

We envision a school that anticipates a world in which quick and ready access to information is assumed and predicts that the hallmark of an educated person will be less the ability to acquire facts and more the capacity to discriminate among them, to separate fact from opinion, to use critical judgment, and to expand human potential through the worldwide sharing of information, questions, and ideas. In this school, technology is a portal to that potential.

In this district, students grapple with problems in technology rich classrooms, working with peers from around the world. They are guided by teachers who pose provocative questions and guide students toward many possible answers. Knowledge is generated more than dictated; wisdom more than grades is the reward of hard work. Students are the workers in the school, guided and assisted by caring, competent teachers.

We know that this vision is as possible as it is problematic. We believe that it is technology that will change schools, inevitably and inexorably, and this plan is but a step in that direction.

### **III. Benchmark 2 - Technology Integration and Literacy**

#### ***A. Technology Integration:***

- 1) All teachers use technology daily including some of the following areas: research, lesson planning, organization, administrative tasks, communications and collaboration. Teachers explore evolving technologies and share information about technology uses with their colleagues.
- 2) By 2017 we hope to have at least 90% of teachers using technology with students every day to improve student learning.

#### ***B. Technology Literacy:***

- 1) At least 90% of eighth grade students will show proficiency in all the MA Technology Standards and Expectations for grade eight by 2017.
- 2) 100% of teachers are working to meet the proficiency level in technology and by the school year 2016-17, 90% of teachers will approach mastery of 90% of the skills in the self-assessment tool.

#### ***C. Staffing:***

- 1) The Assistant Business Administrator / Technology Coordinator oversees the district technology and works with Administration throughout the district to address the needs of the staff and students. The technology coordinator works directly with the outsourced technology consultants to prioritize needs of the school district and to outline short and long range plans.
- 2) With the increase of technology in buildings the district will begin to hire an additional staff member at each building to directly support the staff and students with technology throughout the district. This will give our technology consultants more time to improve the district's infrastructure and the schools will have the necessary support to increase productivity in the classrooms.
- 3) Webster Public School has a data specialist who is dedicated to data management within district. She works with the curriculum director and provides support in assessment to the staff of Webster.

**Massachusetts Technology Literacy Standards**  
**Grades 6 through 8 – Technology Standards and Expectations**

By the completion of eighth grade, students should demonstrate competencies in using tools such as word processing, database, spreadsheet, Web browser, presentation, and graphics applications. Students should be familiar enough with the purpose and function of these **technologies** to enable them to select the appropriate tool for a task. Students should be able to identify various components of a computer system and be able to explain basic concepts of networking. Students should practice good file management skills and operate peripheral equipment independently.

Students should understand the legal, ethical, and safety issues concerning the use of e-mail, the Internet, and other online tools. Students should understand how to protect their personal identification and information on the Internet and be knowledgeable about general rules for safe Internet practices. In addition, students should develop an awareness of how they present themselves on the Internet.

**By the end of eighth grade**, students should have had ample opportunity to become fluent in the use of technology tools for research, problem solving, and communication across all curriculum areas. They should know how to communicate their learning with peers and other audiences through multimedia presentations, desktop-published reports, and other electronic media. They should have learned effective strategies for locating and validating information on the Internet. Moreover, students should understand why it is important to use multiple Web sites for their research, rather than relying on a single site for information.

In summary, when students enter the ninth grade, they should be able to use technology to learn and enhance their understanding of academic subjects and the world around them. Technology should be incorporated into their everyday learning activities, both inside and outside the classroom.

***Standard 1. Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity.***

*Basic Operations*

- G6-8: 1.1 Use features of a computer operating system (e.g., determine available space on local storage devices and remote storage resources, access the size and format of files, identify the version of an application).
- G6-8: 1.2 Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).
- G6-8: 1.3 Independently operate peripheral equipment (e.g., scanner, digital camera, camcorder), if available.
- G6-8: 1.4 Identify and use a variety of storage media (e.g., CDs, DVDs, flash drives, school servers, and online storage spaces), and provide a rationale for using a certain medium for a specific purpose.
- G6-8: 1.5 Demonstrate keyboarding skills between 25-30 wpm with fewer than 5 errors. (For students with disabilities, demonstrate alternate input techniques as appropriate.)

### Word Processing/Desktop Publishing

G6-8: 1.6 Demonstrate use of intermediate features in word processing applications (e.g., tabs, indents, headers and footers, endnotes, bullet and numbering, tables).

G6-8: 1.7 Create, save, open, and import a word processing document in different file formats (e.g., RTF, HTML).

### Database

G6-8: 1.8 Describe the structure and function of a database, using related terms appropriately.

G6-8: 1.9 Create a simple database, defining field formats and adding new records.

G6-8: 1.10 Perform simple operations in a database (i.e., browse, sort, filter, search on selected criteria, delete data, enter data).

G6-8: 1.11 Plan and develop database reports to organize and display information.

### Spreadsheet

G6-8: 1.12 Describe the use of spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings.

G6-8: 1.13 Create an original spreadsheet, using formulas.

G6-8: 1.14 Use various number formats (e.g., scientific notation, percentages, exponents) as appropriate.

G6-8: 1.15 Produce simple charts and graphs from a spreadsheet.

G6-8: 1.16 Distinguish among different types of charts and graphs, and choose the most appropriate type to represent given data.

G6-8: 1.17 Apply advanced formatting features to customize tables, charts, and graphs.

### Internet, Networking, and Online Communication

G6-8: 1.18 Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).

G6-8: 1.19 Identify probable types and locations of Web sites by examining their domain names, and explain that misleading domain names are sometimes created in order to deceive people (e.g., .edu, .com, .org, .gov, .au).

G6-8: 1.20 Explain and correctly use terms related to networks (e.g., LANs, WANs, servers, and routers) and Internet connectivity (e.g., DSL, T1, T3).

G6-8: 1.21 Explain and correctly use terms related to online learning (e.g., IP address, post, thread, Intranet, discussion forum, dropbox, account, password).

G6-8: 1.22 Explain that some Web sites require the use of plug-ins and specific browser versions to access content.

G6-8: 1.23 Use e-mail functions and features (e.g., replying, forwarding, attachments, subject lines, signature, and address book.) The use of e-mail is at the school district's discretion and may be a class-wide activity if students do not have individual accounts.

### Multimedia

G6-8: 1.24 Create a multimedia presentation using various media as appropriate (e.g., audio, video, animations, etc.).

G6-8: 1.25 Use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of work.

**Standard 2. Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society.**

Ethics

- G6-8: 2.1 Explain ethical issues related to privacy, plagiarism, spam, viruses, hacking, and file sharing.
- G6-8: 2.2 Explain how copyright law protects the ownership of intellectual property, and explain possible consequences of violating the law.
- G6-8: 2.3 Explain fair use guidelines for using copyrighted materials (e.g., images, music, video, text) in school projects.
- G6-8: 2.4 Describe appropriate and responsible use of communication tools (e.g., chats, instant messaging, blogs, and wikis).

Society

- G6-8: 2.5 Identify and discuss the technology proficiencies needed in the workplace, as well as ways to prepare to meet these demands.
- G6-8: 2.6 Identify and describe the effect technological changes have had on society.
- G6-8: 2.7 Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning.
- G6-8: 2.8 Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.
- G6-8: 2.9 Give examples of hardware and applications that enable people with disabilities to use technology.

Health and Safety

- G6-8: 2.10 Explain the potential risks associated with the use of networked digital information (e.g., Internet, mobile phones, wireless, LANs).
- G6-8: 2.11 Provide examples of safe and unsafe practices for sharing personal information via e-mail and the Internet.
- G6-8: 2.12 Explain why computers, networks, and information need to be protected from viruses, intrusion, and vandalism.
- G6-8: 2.13 Explain terms associated with the safe, effective, and efficient use of telecommunications/Internet (e.g., password, firewalls, spam, security, Acceptable Use Policy).
- G6-8: 2.14 Describe how cyber bullying can be blocked.

***Standard 3. Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation.***

Research

- G6-8: 3.1** Explain and demonstrate effective searching and browsing strategies when working on projects.
- G6-8: 3.2** Collect, organize, and analyze digital information from a variety of sources, with attribution.
- G6-8: 3.3** Use a variety of computing devices (e.g., probeware, handheld computers, digital cameras, scanners) to collect, analyze, and present information for curriculum assignments.

Problem Solving

- G6-8: 3.4** Independently use appropriate technology tools (e.g., graphic organizer) to define problems and propose hypotheses.
- G6-8: 3.5** Use and modify databases and spreadsheets to analyze data and propose solutions.
- G6-8: 3.6** Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects.

Communication

- G6-8: 3.7** Plan, design, and develop a multimedia product to present research findings and creative ideas effectively, citing sources.
- G6-8: 3.8** Identify differences between various media and explain issues associated with repurposing information from one medium to another (e.g., from print to the Web).
- G6-8: 3.9** Use a variety of telecommunication tools (e.g., e-mail, discussion groups, Web pages, blogs, Web conferences) to collaborate and communicate with peers, experts, and other audiences (at district's discretion).

## **IV. Benchmark 3 - Technology Professional Development**

***A. At least 85% of district staff will have participated in 45 hours of high-quality Professional development that includes technology skills and the integration of technology into instruction.***

Webster Public School teachers will have the opportunity to receive free training and ongoing support to help them learn about *Google Education*. Training for staff will focus on helping teachers develop the skills to integrate technology into instruction. Training sessions will focus on topics in *Google Education* which include, but are not limited to; Gmail, Google Calendar, Chrome, Introduction to Chromebooks, Educational Applications, classroom student management applications, and software for engaging students.

All of the professional development will be administered during the summer months and throughout the school year(s). Most training sessions will be administered by a building based *Technology Instructional Assistant*.

***B. Technology professional development will be sustained, ongoing and include coaching, modeling best practices, district-based mentoring, study groups, workshops, courses, conferences and online components. The professional development will include concepts of universal design and scientifically-based research models.***

All sessions will take place after school and during summer sessions in an open house format. The district sessions will be repeated to fit individual teacher schedules and include embedded support for implementation of these programs during the school year. All teachers will earn professional development points based on training hours completed. Including the online components?

***C. Professional development planning will include an assessment of district and teachers' needs. The assessment will be based on the competencies listed in the Massachusetts Technology Self-Assessment Tool.***

Beyond the introductory *Google Education* training sessions, Webster Public Schools will rely on a “Train the Trainer model” where expert teachers provide in- depth technology training that will be directly linked to specific curriculum applications. Teachers will be allowed to create technology sessions which can be attended by other teachers according to needs of the student and/or interests the teacher.

The primary role of the Technology Instructional Assistant will be to support both teachers and teacher-trainers through all the stages of learning and classroom implementation. Based on a district-wide survey of teacher needs, 95% of the staff surveyed said that they would “like to use and incorporate technology in their classrooms.” The majority of the teachers surveyed felt that “an in-house or go to person

would be great resource” and 33% of the teachers were willing to “train or assist others in the their area of expertise.”

With the addition of the position of Technology Instructional Assistant and the willingness of teachers to become trained staff members, Webster Public Schools will be able to deliver in-house training to all the teachers. This structure of support will allow member of the faculty to take advantage of the numerous opportunities of embedded professional development.

***D. Administrators and teachers will consider their own needs for technology professional Development.***

Webster Public schools will provide periodic training sessions that focuses on the numerous assessment and testing programs used in the district. Examples include PowerSchool, Galileo, Aimsweb, Teachpoint trainings and refresher courses for all Webster Public School teachers. (A complete list of information and assessment systems is shown below). The sessions will also provide new staff members with information regarding all the technology tools and software programs available in Webster Public Schools. All scheduled training sessions are designed for teachers to consider their own needs and comfort level.

Webster information and assessment systems:

Powerschool
Aimsweb
Galileo
Atlas
Pearson Successnet
Teachpoint
Aesop
Munis
Outlook
School Fusion
Google Docs
MS Office
Destiny
SNAP
Sims Tracker

## **V. Benchmark 4 - Accessibility of Technology**

The Webster Public Schools is committed to providing students and staff access to Technology. The school district recently upgraded its infrastructure by increasing bandwidth throughout the network allowing a much larger volume of traffic and leaving room for expansion moving forward. This foundation will allow continuous growth of accessible technology to our students and staff.

Thanks to the efforts of the Webster School Committee and the taxpayers of the Town of Webster, the school department will be opening a new Elementary School in January, 2015. With this project we will be undergoing a grade reconfiguration to reflect a more educationally appropriate solution. This new building will be outfitted with state-of-the-art technology for staff and students in grades PK – 4, giving them access to a wide range of equipment. In addition, our Webster Middle School which will reflect grades 5 through 8, will benefit from renovated science labs including an upgrade of the labs' technology. This building was built in 2005 and was originally outfitted with projectors, whiteboards, Promethean Boards, teacher workstations, and computer labs.

Our high school, which will represent grades 9-12, is outfitted with four computer labs and we envision a Bring Your Own Device (BOYD) in future years.

Our staff will be supported with the use of all technology and encouraged to engage students with new applications. Webster is moving forward in implementing Google Apps for Education for staff and students which will open up more applications and tools to engage students both inside and outside of classrooms. To support this effort, we envision a 1-1 initiative with Chromebooks in the 2014-2015 school year.

### Student and Teacher Accessible Technology

- Wireless networking access at all schools
- Computer classroom labs in all schools
- Access to computer peripherals such as scanners and web cams
- Access to web-based mobile devices such as iPads, Android Tablets, Chromebooks, and nooks.
- Teacher computers in every classroom
- Library Media center for student access

Summary

Not long ago, classroom technology was seen as an enhancement to the educational process. Today, technology is seen as a steadfast fundamental practice and educational necessity. Computers, software applications, and the Internet amalgamate to form the foundation for exciting classroom presentations, enhanced subject depth, desired student engagement, and countless mediums for instructor and student expression. Webster Public Schools will use all technology available to create a learning environment in which both teachers and students will be empowered to learn and grow without boundaries.

## VI. Benchmark 5: Virtual Learning and Communication

- A. *The district encourages the development and use of innovative strategies for delivering high-quality courses through the use of technology.*

Short Term Goals:

1. Find a vendor to provide high quality, unique online electives for self-directed students.
2. Investigate opportunities for collaborative partnerships with higher-level institutions (Nichols College ,Quinsigamond Community College) for virtual learning opportunities.
3. Develop district hybrid model courses where learning occurs part-time face-to-face and part time online.
4. Implement virtual learning opportunities for gifted and talented middle school students (5-8)
5. Investigate Stem to STEAM opportunities partnering engineering and math with the arts to foster creativity

- B. *The district deploys IP-based connections for access to the web-based and/or interactive video learning on the local, state, regional, national, and international levels.*

There are district-wide IP-based connections for access to the web; some infrastructure improvements have been made.

Short Term Goal:

Investigate potential web-based and video learning opportunities for students, perhaps in collaboration with higher-level institutions

- C. *Classroom application of virtual learning includes courses, collaborative projects, field trips, and discussions.*

This is starting to occur at a grass-roots level at the high school with a few teachers using Education based platforms (such as Edmodo, 30 hands and Google Docs).

Short Term Goal:

1. Acquire more 21<sup>st</sup> century technology district wide to assist teachers in the development of virtual learning applications
2. Train staff and students how to use technology using a “Train the Trainer” model.

3. Train staff how to develop and incorporate virtual learning opportunities into their courses

D. *The district maintains an up-to-date website that includes information for parents and community members.*

The district maintains up-to-date website with links for pertinent district information and each of the Webster schools. Each school has a designated staff member who also updates the School Fusion pages for announcements pertinent to the school community.

## **VII. Benchmark 6 - Safety, Security, and Data Retention**

The Webster Public School District is committed to providing a safe environment for students and teachers as they access and explore the digital world. Webster has a [CIPA](#) – Compliant Acceptable Use Policy regarding the use of the Internet and network use. This policy is routinely updated and reviewed with staff and students to ensure the safe and ethical use of resources. The district currently uses a Joebox firewall to block access to certain sites and filter content required by the CIPA.

The Webster School District routinely educates staff and students on the importance of appropriate online behavior. Appropriate behavior is outlined in Student and Staff Handbooks which are handed out annually. The District Attorney's Office provides training to staff and students on cyberbullying and the risks related to social networking sites as well as strategies for dealing with these important issues. The Webster Public School District will be creating a website dedicated to the use of Technology with resources available to students, staff, and families with regards to Internet safety. The School Administration and School Resource Officer work with students or staff if they feel there is any inappropriate conduct that needs to be evaluated.

The Webster Public School District is dedicated to protecting the security and confidentiality of personal information of its students and staff. Information is kept on secure servers with password protected rights based on levels of permissions. The school district uses Powerschool for student and staff personal information and is only accessible by username and password. The district is implementing a policy where staff passwords will be changed every 90 days and have required elements to provide for a stronger password.

The district complies with federal and state laws for archiving electronic communications produced by staff and students. Annually, the district notifies staff and students through the handbook that any information distributed over the school network is public record. Records are archived and secured. The Webster Public School Department will be converting over to Google Mail and will use Google Vault to secure and archive email to staff and students.