

District Technology Plan FY2003

The Department of Educational Technology
Canton Public Schools

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Technology Plan Overview:

The Department of Educational Technology, for purposes of long range technology planning as well as the organization of district goals and initiatives, will continue to publish an updated Technology Plan each year. This plan will differ slightly from the Technology Plan we file annually with the Department of Education in that the DOE generally requires specific numerical data related to the numbers of machines, numbers of users, numbers of staff trained, and fiscal commitment by the district.

The District Technology Plan remains focused on specific goals and integrative opportunities/strategies geared toward increasing the quality of technology use in the Canton Public Schools among all staff members. Further, we will concentrate on Professional Development, Training Coursework, Curriculum, Networking and Infrastructure, Data Management, and meeting the Department of Education Benchmarks for all technology users in the state of Massachusetts by FY 2003.

In addition, we will incorporate many curriculum initiatives undertaken by departments other than technology, in order to deliver the consistent message that technology is a powerful tool for learning and instruction as much as it is a subject.

The following plan is representative of where we are currently positioned in the district with regards to technology use and integration, and the direction we hope to continue over time, particularly during FY 2003. It is our opinion, based on the numerous integration and training initiatives of FY 2002, as well as all of the feedback received by the participants (staff and teachers), that we are building subsequent experiences on a very solid foundation, and with a highly competent staff.

We look forward to another successful campaign in FY 2003, and are eager and excited to help promote technology use in the Canton Public Schools at the next level.

Department Mission Statement:

As a team of technology professionals, we strive to integrate technology into the classroom to enhance instruction and learning, to promote independence and comfort among our users, and to prepare students for success with technology beyond the classroom.

Main Components for FY 2003:

1. Professional Development
2. Curriculum
3. Network & Infrastructure
4. Staffing Model
5. DOE Benchmarks

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I. Professional Development:

The Department of Educational Technology offers professional development opportunities in three distinct ways; first, we organize topical and integrative training workshops for teachers and staff members during full and early release (professional development) days scheduled during the school year. Second, we offer content and software specific courses after school on an ongoing basis. Third, we provide small group and one on one instruction with teachers as well as in-class modeling of lessons utilizing technology with students.

During FY 2002, we offered two full release days for 40 teachers focused on WebQuests in education and Standards Based Integration of Technology. In addition, we offered two early release day workshops for 80 elementary teachers based on integrating the Internet and Inspiration into the curriculum and integrating specific math software into the Everyday Math Program. Finally, we offered more than 10 course selections to approximately 100 teachers on topics such as Web Site design, Power point, Integrating Elementary Software, the GMS Researcher, WebQuests, and more.

We seek to build upon this foundation in FY 2003, and offer continued support, instruction, and training through full and early release days, after school courses, and in-class modeling.

PROFESSIONAL DEVELOPMENT GOALS FY2003:

Goal 1: Offer a selection of training courses for teachers and staff members after school, January 2003- May 2003.

Goal 2: Provide technology training for three Elementary Early Release in-service Days.

Goal 3: Provide full release day in-service training to Middle and High School Arts, Middle and High School Foreign Language, and FLES.

Goal 4: Complete a Needs Assessment Survey with staff members in October 2002.

Proposed Spring Training Courses: (After School)

Based on the Needs Assessment Survey we will complete in October, we may alter, add, or subtract course offerings.

1. **Evaluating and Integrating Content Specific Software:** Participants will explore methods of assessing and utilizing content specific software in the classroom.
2. **Web Design for Teachers and Administrators:** Teachers and Administrators will develop and create dynamic web pages through the use of web design software such as FrontPage 2002.

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3. **Delivering Presentations in Educational Environments:** This course, for teachers and administrators, will focus on utilizing software such as Power point and Inspiration as well as the hardware and peripherals needed to create and give dazzling presentations.
4. **Integrating Graphics and Multimedia:** Participants will explore the use of Adobe Photoshop for creating web and digital graphics. In addition, we will examine the use of digital cameras in integrating photos onto the Internet, re-sizing and re-touching digital photos, and the ability to import graphics into both web site design as well as software such as Microsoft Word and Power point.

II. Curriculum:

During the 2001-2001 school year, The Department of Educational Technology initiated and completed a major undertaking of creating and aligning a new Instructional Technology Curriculum with the Massachusetts Recommended Pre-K-12 Instructional Technology Standards.

In creating this curriculum, the Department focused on grades 4-9, however we did so with foresight, due to the fact that direct instruction will not occur in grades 4 & 5 until we are able to create a position for instruction at that level. Further explanation regarding why we focused on grades 4-9, includes the fact that Canton High School does not presently require any other technological experiences other than the Freshman Computer Class. There are however, other opportunities for technological coursework through electives, one which we will offer in FY 2003 based on web site design. In addition, the Math Department offers C++ and various programming, Science offers Auto Cad, and there is a class on Desktop Publishing. In the future, we see a great need for this to change. All technology courses should be taught through the Department of Educational Technology.

As we move into more comprehensive instructional curriculum for technology, we seek to provide experiences on a continuum for our students beginning at the elementary level and offered through grade 12. Though we realize this cannot be accomplished in one year, we are hopeful that we've laid the foundation for future advancement and development in this area. Our curriculum initiatives for FY 2003, were driven by, and will remain compatible with our plans for professional development.

CURRICULUM GOALS FY2003:

Goal 1: Implement the new 4-9 Instructional Technology Curriculum (6-9 in FY 2003).

Goal 2: Implement new Web Design Elective at CHS.

Goal 3: Explore Distance Learning at both CHS and GMS

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Goal 4: Explore and expand, based on professional development experiences, technology integration strategies and skills with Foreign Language 6-12, Visual and performing Arts K-12, High School Mathematics, and Middle School English/Language Arts.

III. Network and Infrastructure:

The nature of technology support and services in our district is one that is reactive, often times, rather than proactive. We are severely understaffed in this area and have been working long hours with few people and have had to hire contracted services when a project becomes completely unmanageable.

We strive for 100% connectivity, stability, and reliability in our network, 24 hours a day, 7 days a week. Internally, we have maintained extraordinary reliability within each of the five schools. This is generally due to the fact that we control our own network, wiring, and hardware, and do not rely on any external forces to maintain it. Internet connectivity is dependent upon two variables; first, our internal network must be sound. Second, the physical connection between our network and the outside world (ATT Broadband and Verizon) must remain sound. Though we have suffered only a few minor interruptions in service to the Internet, email, etc..., incidents do occur. In addition, we do not have a true Wide Area Network in the Canton Public Schools. Each school is a separate Local Area Network (LAN) with individual entry points to the Internet in each building. As a result, we currently cannot share data securely between any nor all of the five schools.

With construction scheduled to break ground at CHS during FY 2003, technology services between all three buildings in the high school complex will be affected. Therefore, an organized plan to handle the separation of services is necessary so that each of the buildings, including Central Administration in "A," will remain connected for as long as possible without the interruption of services.

Finally, data and record keeping, and reporting of information to the Mass. DOE remains a primary function of each of our schools and various departments each year. Accuracy and timely reporting are critical to the successful completion of disseminating information to the DOE 3-4 times each school year. Though we have instituted a number of solutions to the issues of this process during the past three years, there remains some confusion as to the various roles of our schools and the leadership necessary to move forward.

NETWORK AND INFRASTRUCTURE GOALS FY2003:

Goal 1: To re-build, update, and upgrade the email web server to provide greater security and safer access.

Goal 2: To build a Virtual Private Network (VPN) between all five schools and Central Administration to securely pass and share data between networks.

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Goal 3: Separate building “A” at CHS from buildings “B” & “C” – including voice, data, and the Internet, or seek an alternative acceptable method.

Goal 4: Provide leadership for District IMS users of Rediker, as well as the process of reporting data to the Massachusetts Department of Education.

IV. Staffing Model

The Technology Staffing Model (non-teachers) in the Canton Public Schools consists of:

1. K-12 Coordinator of Technology – Instruction and Network Oversight
2. Technology Integration Specialist – Instructional
3. Network Administrator – Network
4. High School Coordinator – Network, Tech Support, minimal Instruction
5. Middle School Coordinator – Network, Tech Support, minimal Instruction
6. (2) Elementary Technology Specialists – Primarily Tech Support and PD/Staff Instruction and management of three elementary schools

On paper, this model may appear sufficient as we have five schools. However, if we examine the numbers, we have essentially three dedicated Network Personnel, and two part elementary tech support for 3,000 users and more than 1,200 computers, peripherals, printers, scanners, etc... On a per computer raw number, that's 1 person providing tech support for every ~ 600-700 users and ~ 400 computers. Obviously, it is extremely difficult to provide timely support with this type of ratio.

In addition, we have 1 full-time Integration Specialist providing dedicated integration strategies and training to approximately 275 teachers. Through the instruction of all members of the department, we have made positive gains in training and easing comfort levels of our users, however, tech support suffers often times as a result.

Based on the fact that our numbers of computers and peripherals continues to grow, and incidents of use by our teachers and staff members continue to grow (which is highly positive), we are in essence decreasing in size and in our ability to problem solve as issues arise. As a result, it is imperative that we explore the addition of staff members in FY 2003, or we will continue to be seriously handcuffed in our ability to provide any services.

STAFFING MODEL GOALS:

Goal 1: Explore and advocate for the addition of an additional full-time Elementary Technology Specialist

Goal 2: Explore the future of three Elementary Technology Teachers/Support Specialists

Goal 3: Examine the need for another district-wide Network Support Position

Goal 4: Examine the need for Library Media Services at the Elementary Level

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V. DOE Benchmarks:

The following information represents a comparison of the current state of the Canton Public Schools technology system with the Massachusetts Recommended Local Technology Plan Benchmark Standards for 2003. During 2001, the Department of Education, in support of Massachusetts educational reform in learning and teaching, approved and issued a set of Local Technology Plan Benchmark Standards that each district should attain by 2003. Here is an assessment of our current standing with relation to the six benchmark standards.

Benchmark Standard 1: Commitment to a clear vision and mission statement

Included in this first benchmark standard is the district's commitment to a realistic, and clearly stated set of goals. In addition, there needs to be a budget to support those goals as well as a line item for technology.

In Canton, we have updated our technology goals and have clearly stated and presented them to all staff members annually. The process begins within the Department of Educational Technology, and then continues through various departments such as Curriculum and Instruction, prior to completion. Major goals through the FY 2002 school year as outlined in our published Technology Integration Plan included, instructional goals for the technology department, learning goals for teachers, and evaluative goals as a tool to measure progress.

In addition, we have funded our technology goals very generously as a district, and have a sufficient line item operating budget for technology with a commitment to review it each year and amend it as necessary.

Benchmark Standard 2: Access

By the year 2003, every district will have achieved at least a 5:1 student-to-computer ratio of modern, fully functioning, Internet-enabled computers and devices.

In Canton, we surpassed this standard during FY 2000 and FY 2001. We currently have a student to computer ratio of approximately 2.5:1, and with the planned replacement of hardware beginning in FY 2003, we will further exceed the required number significantly.

Benchmark Standard 3: Infrastructure for Connectivity

The district ensures that every classroom and every administrative office has at least one computer with a high-speed connection to the Internet by the year 2003. A building's electrical service must be sufficient to support the computers and networks installed.

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In Canton, we had accomplished this standard last year with the completion of the Luce project, however, there were four rooms that remained incomplete until last November, 2001.

Benchmark Standard 4: Technical Support, Technology Curriculum Integration, and Professional Development

- A. Tech Support: The district ensures that every administrator, teacher, and student receives high-quality user and system support so that by year 2003, there will be at least one FTE person to support 100-200 computers. Technical support can be provided by dedicated staff or equivalent services.**

The commitment for infrastructure has been outstanding, however we are severely short-handed with regards to technical support. Based on job specifications, we have approximately 1 FTE for every 400 computers and that will be climbing with the replacement cycle of machines beginning in FY 2003.

- B. Curriculum Integration: The district provides at least 0.5 FTE staff person to support every 30-60 users (staff only) in their efforts to achieve technology competency and to integrate technology into the curriculum.**

We have 1 FTE Integration Specialist for nearly 300 staff members. Out of both necessity and competency, we have utilized our entire department, as well as contracted training services in the past, to achieve technology competency and integration with our staff members.

- C. Technology Professional Development: By the year 2003, at least 85% of the district staff will have participated in technology training sponsored by the districts.**

During FY 2002 alone, we provided training to an estimated 35% (or 1/3) of our staff during after school ongoing classes, and worked with more than 100 other teachers through two full release days and two elementary ½ release days. While we are currently working on a more precise total, it is fair to estimate that since the Spring of 1999, we have provided meaningful technology training to more than 85% of our district staff members. As the needs of departments and grade levels change in their technology hardware and software needs, we must be diligent in continuing to provide effective training to both our veteran teachers as well as new teachers to the district.

- D. Acceptable Use Policy: The district has an AUP regarding Internet use.**

We have had an Acceptable Use Policy updated and in place since 1999. We are currently looking to make further changes to help bring in some new aspects of Internet usage that did not previously exist.

Benchmark Standard 5: Accurate Data Reporting

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The district maintains accurate data that meet state IMS (Information Management System) standards.

This has been a massive initiative in our school district. Though we have maintained accurate data since switching from WinSchool in 1999-2000 to Rediker, we are still currently tinkering with responsibility for reporting, the transfer of data between schools, and the time it takes to manage this type of system.

With the addition of responsibilities to a person in the role of Information Management Support Specialist, we will finally have the organization and leadership in place necessary to make this system work properly. In addition, one of our primary goals for summer 2002, is to create a Virtual Private Network so that data can be managed and accessed among and between schools securely in the district.

Benchmark Standard 6: Access to the Internet outside the school day

There are two parts to Benchmark Standard 6: First, is the responsibility of the school district to provide Internet access to students outside the school day. The school must maintain a catalog of places in the community where students and staff can gain access to the Internet. Second, the district is to maintain an up-to-date web site and every educator has an email account.

We have accomplished the second task in Canton, however the first is going to require some careful planning and thought. We will be placing the issue of access outside the school day in the forefront of our planning for FY 2003.

DOE Benchmarks Summary

In reviewing the Local Technology Plan Benchmark Standards for 2003, as outlined by the Massachusetts Department of Education, I feel that we are in very good shape in either meeting or exceeding the DOE requirements. I remain concerned about Benchmark Standard 4, as I feel we must address the lack of full-time staffing available in the areas of Technical Support and Curriculum Integration.

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VI. Conclusion:

During the past three years, the focus of our goals has changed drastically from installation and implementation of infrastructure, to integration and use of technology and related resources in both curriculum and professional development. This process has occurred quite rapidly! Though we believe we have only begun to scratch the surface as far as utilizing technology to enhance productivity, instruction, and learning in the Canton Public Schools, we feel we are clearly headed in the right direction.

Each year, though extremely difficult as far as staffing for the Department of Educational Technology, has been highly rewarding. We feel that we've been able to identify, reflect, and build upon our strengths and weaknesses as a group. We recognize that the majority of our difficulties lie in the fact that we are severely shorthanded and simply physically are unable to attend to all of the issues that arise on a daily basis in a timely manner for all of our computer users. We can confidently state that many staff members and teachers consistently utilize technology for personal productivity and as a tool for instruction (which is the goal of our mission), however as these incidents of use occur at increasing levels, we are becoming less and less able to support the technical issues.

Our district as a whole, as reflected in the operating budget by our lack of staff as well as our lack of direct instruction prior to grade 6 and beyond grade 9, has not yet made technology a priority as far as curriculum and instruction. The commitment has been clearly made by the town's Capital Budget to build the infrastructure, however to advance technology forward, much greater support in staffing and direct instruction are absolutely necessary.

We will continue to aggressively pursue a staffing model that will work for us and will continue to provide the best possible service to all of our users that we can. We are looking forward to FY2003 with anticipation and hope that we can accomplish as many positive experiences as we did in FY2002.

Additional Goals &
Objectives from the Canton
Action Plan
FY2003