

Beverly Public Schools Technology Plan

2007 - 2010

May 2007

EXECUTIVE SUMMARY

The Role of Technology

Educators in the Beverly Public Schools must face the challenge of preparing students to lead productive lives in this 21st Century. Confronting these challenges means dealing with some very fundamental societal conditions. Children are graduating from high school into a society where technology expands and redefines how they live, learn, work, and play. Communities where homes, businesses, schools and libraries are all interconnected are commonplace. Citizens are active participants in the democratic process using the Internet; fax machines, and cellular telephones. Access to the various communication media is creating a more global lifestyle. Solutions to 21st Century problems must be bold and innovative.

In this context, the integration of technology is essential for the success of all students and the school system as a whole. The integration of technology into the instructional process has potential to significantly improve teaching and learning and is essential in order to bring schools and students to the level required for success in an information oriented society. Technology has changed the ways in which we communicate and access information, and it is essential that the school and community maximize these opportunities. In addition to the curriculum integration of technology, the integration of technology into the administrative and organizational functions of our schools is critical to creating effective and efficient management systems. In order to take full advantage of these technologies throughout the school, appropriate levels of support in the form of equipment, software, training, and technical personnel are necessary ingredients.

Our Vision

It is our vision that the Beverly Public Schools create the technological integration of home, school, community, and world, enabling each student to reach his or her full potential as a worker and citizen. The Beverly Public Schools is becoming a technology-rich environment for students and teachers at all grade-levels and within and across all disciplines. We are an educational community dedicated to students' using technology to become active participants in a global society - as lifelong learners, as productive workers, and as responsible citizens – and to help schools meet the challenges of the future.

Our Philosophy of Technology in Education

Computer technology represents a powerful tool that can greatly enhance the teaching and learning process. The use of this tool must be tightly integrated with curricula, i.e. technology should not be taught as a separate subject area. The focus should be on the learning process and not the tool. Professional development for teachers is absolutely essential for successful technology integration. This must be on-going and “embedded” within the school day as much as possible. Teachers make tremendous gains in the use of technology when training relates directly to their classroom needs and includes follow up and support.

The purchase of hardware, software and infrastructure must occur in conjunction with quality professional development and a concerted effort to integrate technology with curricula. We do not want to place hardware in classrooms where the curricula does not support the use of technology nor do we want to train teachers and develop curricula without providing the tools for implementation. We also want to make hardware purchases that equal our capacity to provide technical support, another critical element to successful technology integration. We must always be forward thinking when planning for these purchases and make every effort to be cost effective. The diagram below illustrates our philosophy of an emphasis on the curricula integration of technology coupled with professional development – two programs that can only exist with appropriate hardware and software and quality technical support.

Technology Professional Development



Curriculum Integration

High Quality/Cost Effective Infrastructure and Technical Support

2010 Technology Goals

Our district goals for technology over the next three years have evolved from our vision for Beverly Schools and our philosophy of technology in education. These goals fall within the context of six major categories identified by the Massachusetts Department of Education (MA DOE) which are shaped by major goal statements as shown in the table below.

Category	Major Goal
1. Vision and Mission Statement	To have a clear set of technology goals that are funded and evaluated on a yearly basis.
2. Technology Integration	To integrate the use of technology into all aspects of curriculum, instruction and administrations so that its use extends opportunities and potential for all students and staff.
3. Technology Professional Development	To provide quality technology professional development to all teaching staff for effective use of technology to improve student learning.
5. Accessibility of Technology	To provide students and staff with access to technology ongoing technical support with a high level of service.
5. Infrastructure for Connectivity	To provide a communications network that will connect all classrooms, schools, offices, public libraries, state, national, and international networks, and the community.
6. Access to the Internet Outside the School Day	To insure that students and parents have access to on-line educational information and resources outside of the school day.

Appendices:

- Elementary and Middle School technology standards and performance indicator summaries.
- K-8 Responsibilities Matrixes
- BHS New Building Technology Plan (coming soon)

GOALS, BENCHMARK OBJECTIVES & STRATEGIES SUMMARY

The Massachusetts Department of Education has defined some benchmarks that all districts should strive to meet during the next 3 years. These benchmarks are the basis for the goals and objectives outlined in the district's Technology Plan. This section provides a brief summary of the goals, benchmarks and strategies employed to reach them for the current year: For complete details on the status of each benchmark, year three performance targets, improvement objectives and current strategies refer to the sections that follow this summary.

Goal 1 Vision and Mission Statement: To have a clear set of technology goals that are funded and evaluated on a yearly basis

Benchmark Objectives:

- A. The district commits to a technology plan that is realistic and has clearly stated goals and strategies that align with the district improvement plan. It is committed to achieving its vision by 2010.

Summary of Strategies

1. Develop and implement a technology "blueprint for success" for the new BHS Building.

- B. The district has a technology team with representatives from a variety of stakeholder groups.

Summary of Strategies

1. Schedule regular meetings of tech staff to update strategies in this plan. Conduct a yearly update.

- C. Include yearly funding for technology in the operational budget. Leverage the use of state, federal, and private resources.

Summary of Strategies

2. Investigate and pursue alternative sources for technology funding.
3. Investigate leasing options on a larger scale
4. Plan and monitor technology spending for the new BHS building.

- D. Evaluate progress with the goals set in this plan each year and make adjustments as needed and assess technology products and services as needed.

Summary of Strategies

1. Technology meeting agendas need to include an update and evaluation of progress with the benchmark objectives in this plan. Revisions should be made on a yearly basis.
2. Attend at least one technology conference per year.
3. Subscribe and read high quality technology publications, e.g. ISTE magazine.

Goal 2 Technology Integration: To integrate the use of technology into all aspects of curriculum, instruction and administration so that its use extends opportunities and potential for all students and staff.

Benchmark Objectives:

- A. At least 85% of teachers use technology everyday including some of the following areas: research, lesson planning, multimedia, simulations, data interpretation, communications, and collaboration.

Summary of Strategies/

1. Support curriculum integration of MS Office applications, Inspiration, Hyperstudio, Internet and other educational applications as needed.
2. Implement the use of Lexia software to help middle school students who struggle with basic reading skills.
3. Integrate the use of interactive simulations (virtual; manipulatives) to teach math at middle and high school levels,
4. Adopt portal software (Moodle/MassONE) to facilitate on-line course management, district wide communication and collaborations, and data collection of teacher information required by the DOE (EPIMS).
5. Research classroom applications for blogging, RSS feeds, social bookmarking and networking.
6. Use technology to streamline and automate assessment data collection and analysis, e.g. MAP, Dibbles, Test Wiz, Excel spreadsheets etc.
7. Utilize the district VPN (virtual private network) to facilitate more efficient data sharing among schools, access to MMS and centralized software installations
8. Utilize Assistive Technology equipment and software in a way that it becomes universal design so all students can access the curriculum

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9. Support classroom technology integration via the District Technology Specialist, Technology Director and Library Media Specialists.

- B. 85% of students show proficiency in all Massachusetts Technology Standards.

Summary of Strategies

1. K-8 Teachers assume responsibility for integrating technology skills with their teaching as the primary mechanism for building student proficiency in technology standards. (See Tech Skills Database and Responsibilities Matrix for K-5 and 6-8)
2. Develop and implement a plan to assess Technology Skills for all grade 8 students
3. Create a grade 5 test for technology proficiency and develop a plan to administer to all grade 5.

- C. At least 60% of teachers are at the proficiency level in technology, as defined by tools such as the Massachusetts Technology Self-Assessment Tool (TSAT), which is based on the National Educational Technology Standards (NETS).

Summary of Strategies

1. Administer TSAT in the spring of 2008.
2. Report results to Leadership Team and incorporate in to professional development planning.

- D. Maintain and promote acceptance of a district Acceptable Use Policy.

Summary of Strategies

1. Periodically update our Acceptable Use Policy (AUP).

- E. Maintain personnel to assure effective integration of technology. Including a full-time district-level technology director. Also provides 0.5 FTE (half-time equivalent) dedicated instructional technology specialist per 30-60 instructional staff. In addition, the district has dedicated staff for data management and assessment.

Summary of Strategies

1. Support the reinstatement of full-time Library Media Specialists (LMS) and District Technology Specialist in district budget.
2. Develop a LMS job description that clearly defines responsibilities for technology integration.
3. Research and develop technology training for building principals.

<p>Goal 3 Technology Professional Development: To provide quality technology professional development to all teaching staff for effective use of technology to improve student learning</p>

Benchmark Objectives:

- A. 85% of district staff will have participated in 45 hours technology professional development covering technology skills and the integration of technology into instruction.

Summary of Strategies

1. Survey BHS teachers to determine technology skill needs with respect to future needs for technology success in the new BHS building, ie. The “blue print for success”.
2. Gather data in k-8 teacher technology professional development needs with respect to their specific grade level responsibilities for integrating technology skills with curriculum..
3. Provide professional development to K-8 teachers that targets the specific skills teachers need to integrate technology with curriculum (according the our technology skills responsibilities matrix).
4. Offer technology courses for college credit based on teacher needs
5. Provide on-going portal software training (Moodle) for all district staff to enable on-line course management and district wide data collection.
6. Provide training needed to administrative staff on log-in procedures, usage and security for the VPN .
7. Continue in-class coaching in technology Integration.

- B. Technology professional development is sustained and ongoing and includes coaching, modeling best practices, district-based mentoring, and study groups.

Summary of Strategies

1. Develop and implement a professional development plan that coincides with the technology “blueprint for success” for the new BHS.
2. Explore free on-line courses and tools as a way to offer professional development to Beverly teachers
3. District Technology Specialist, Library Media Specialist and Technology Director continue to provide in-class support for classroom technology integration.

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- C. Use at least 25% of its federal and state technology grant monies for technology professional development. Professional development planning includes an assessment of teacher's needs, using tools such as the Massachusetts Technology Self-Assessment Tool (TSAT), Summary of Strategies
1. TSAT will be administered in 2008.
- D. Professional development planning includes an assessment of teacher's needs, using tools such as the Massachusetts Technology Self-Assessment Tool (TSAT), available on the Department's web site and on MassONE Summary of Strategies
1. TSAT will be administered in the spring of 2008.

<p>Goal 4 Accessibility of Technology : To provide students and staff with access to technology and ongoing technical support with a high level of service.</p>

Benchmarks Objectives:

- A. Maintain less than 5 students per high capacity, Internet connected computer with a replacement cycle established for 6 years or less;
Summary of Strategies
1. Upgrade Ayers, Hannah and computer labs, install ceiling mounted projectors (done)
 2. Upgrade Briscoe instructional computer labs and library media center. (done)
 3. Upgrade Teacher computers district-wide that are more than 6 years old.(done)
 2. Upgrade Cove and North Beverly computer labs
 3. Upgrade teachers computers at the elementary schools as needed.
 4. Develop and implement a laptop leasing plan for the new BHS to establish a 1-1 ratio of students to computers.
- B. Provide students with access to handheld electronics (e.g., PDA's, graphing calculators, Alpha Smarts).
Summary of Strategies
1. Work with Assistive Technology Coordinator to determine universal needs in this area.
- C. Strive to make timely in-classroom technical support available with clear information on how to access support so that technical problems will not cause major disruptions to curriculum delivery.
Summary of Strategies
1. Develop and plan to offer quality technical support for the 1-1 laptop program at the new BHS
 2. Ensure quality of existing systems through a preventive maintenance program implemented over the summer.
 3. Provide training to teachers in antivirus, security, and operating system maintenance issues.
 4. Review the procedures for requesting technical support with Leadership Team on a yearly basis.
 5. Maintain a system for acknowledging technical support requests and reporting the status of requests as they are met or partially met.
 - 6 Expanding the BHS SaTL (Students as Technology Leaders) Program to service the middle schools.
 7. Expand On-line help capabilities using video help lessons.
- D. Provide a dedicated network administrator.
Summary of Strategies
- None at this time.
- E. Provides at least one FTE (full-time equivalent) person to support 100-200 computers. Technical support can be provided by dedicated staff or equivalent services.
Summary of Strategies
1. Add a part time Technology Specialist to support primary the middle school and other schools as needed.(done)
 2. Expand BHS SaTL program to service the middle school.

Goal 5 Infrastructure for Connectivity Goal: To provide a communications network that will connect all classrooms, schools, offices, public libraries, state, national, and international networks, and the community.

Benchmark Objectives:

- A. Direct connectivity to the Internet available in all rooms in all schools. Adequate bandwidth to each classroom over the LAN (10/100mb) to avoid most delays. Easy access for students and teachers including some wireless
- Summary of Strategies
1. Develop a plan for state-of-the-art wireless infrastructure for the new BHS
 2. Install wireless access as needed in our middle schools
- B. All rooms connected to Internet via LAN/WAN with significant wireless connectivity at each school with sufficient bandwidth for effective student access. Minimum 10/100 mb Cat 5 switched network. Servers for providing secure storage, backups, schedule, e-mail, web. Students, teachers and parents have easy access to educational resources from home and school (e.g., web portal).
- Summary of Strategies
1. Install a Virtual Private Network (VPN) that will provide a single unified database to be shared by all schools, external access to MMS administrative software, and facilitate centralized installation and maintenance of software.
- C. Encourage the development and use of innovative strategies for delivering specialized courses through the use of technology.
- Summary of Strategies
1. Continue to expand Virtual High School course offerings
 2. Evaluate on-line courses that are available for free or at low cost.
- D. Develop connections for access to web-based and/or interactive IP-based video learning on the local, state, regional, national, and international level.
- Summary of Strategies
- None at this time.
- E. Develop classroom applications of e-learning to include courses, cultural projects, and virtual field trips.
- Summary of Strategies
- None at this time

Goal 6 Access to the Internet Outside of School: To insure that students and parents have access to on-line educational information and resources outside of the school day

Benchmark Objectives:

- A. Maintain an up-to-date web site that includes information for parents including a list of places where students and staff can access the internet after school hours. Work with community groups to ensure that students and staff have sufficient access to the Internet outside of the school day.
- Summary of Strategies
1. Update our district Web Site to provide better access to district information and resources. Use a "content management system to enable more staff to update content on our web page.
 2. Expand the use of programs such as Moodle and Snap Grades as tools that will give parents access to educational information and resources..
- B. Provide every educator with an Internet account with the capability of sending email and accessing the web.
- Summary of Strategies
1. This goal is complete. Next step is to provide accounts and train educators on the use of course management systems such as Moodle.