Beverly Public Schools
Technology Plan
2014 - 2019

Updated: December 2013

EXECUTIVE SUMMARY

The Role of Technology
Beverly Public Schools recognizes that digital literacy is a fundamental component of the 21st Century skill base we hope to cultivate in our students. And more importantly, creating a generation of students with a strong background in digital literacy will enable the development of other skills necessary for competition in a growing, global marketplace such as critical thinking, problem solving, creativity, innovation, communication, and collaboration. The school district and the City of Beverly should make sure that the faculty, staff and students of the Beverly Public School system have the technology infrastructure and resources needed to develop essentials skills in order to compete, lead and innovate in the future.

Our Vision
We believe strongly that the use of technology must be firmly embedded within 21st century curriculum and instruction. Technology planning must always begin with and be centered around student learning, not what equipment we need. We need to continually ask ourselves how technology will support learning and how we will know it is having an impact, what will it look like? Based on the answers to those two questions we can justify and plan for technology resources. The following summarizes our current answers to those key questions and provides the educational rationale for all other aspects to this plan.

We want technology to support student learning by enabling…

1. Multiple pathways for acquiring, organizing, demonstrating and applying knowledge using...
   - Creativity and critical Thinking.
   - Collaboration with others.
   - Oral and written communication.
   - Ability to access and interpret information.

2. On-going communication and engagement with the school community using tools such as…
   - A secure, web-based school information management system that manages all facets of student data, including attendance, grades, and schedules.
   - A family portal so parents, teachers, and administrators can work together and communicate more effectively, and efficiently via email, school and teacher websites.
   - An on-line portal that offers professional and curriculum based support.

3 Interactive, digital methods for collecting and providing individualized real-time feedback to students on performance using tools such as…
   - On-line web 2.0 sites or hand held devices that collect immediate and on-going data about student understanding of content.
   - On-line standardized assessments.
   - On-line Portfolio tools that allow students to keep a digital record their learning outcomes.

We will see evidence that these goals are met when students are able to…

Goal 1:
- Access curriculum at their own pace, anytime, anywhere.
- Be engaged in learning, work independently with a teacher available to consult and assist.
- Choose from a variety of learning tools and resources that match their learning style.
- Choose from a variety of multiple media tools to demonstrate and apply knowledge.
- Collect and analyze data using digital hardware and software tools.
- Articulate and record their thinking and reasoning to share with others.
- Do work that focuses more on the “why” & “how” with much less on recall, the who, what, when.
- Work on innovative, interdisciplinary projects in small groups both virtually and in person.
- Retrieve accurate, reliable, and authentic on-line information that is relevant to their learning.
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- Record and listen to their written communication enabling self correction, feedback from others.
- Be engaged in meaningful learning projects with experts from all over the world with a real world purpose.
- Share work with an authentic audiences including their classmates, family and the outside world.

Goal 2:
- Have ready access to information about curriculum, expectations, homework, grades and school activities.
- Benefit from interconnected web-based portals that will centralize key school district functions that support teaching and learning

Goal 3:
- Receive instruction that is informed by timely data collected from on-line tools.
- Receive on-going formative feedback on their learning progress with ample time to practice.
- Be able to keep a digital portfolio of their work including, oral, written, and multi-media projects.
- Have the tools needed to succeed with state standardized testing.

To reach these goals we need the following general infrastructure, devices, and software/apps….

**Infrastructure:**
- New wiring as needed.
- Wireless controller with access points.
- Managed switches and firewall.

**Hardware:**
- Access to wireless, mobile devices in all learning spaces, achieving a 2 to 1 student to computer ratio:
  - Elementary:
    - 30 mobile devices per grade/ 1 cart per grade (6 grades K – 5)
    - 1 Mobile wireless cart for school use/30 per cart
    - 2 desktops for library circulation in each school.
    - 60 Mobile devices for Pre-K (2 carts with 30 each)
  - Middle:
    - 23 mobile tablet carts: 2 per team (18), 1 General use, 2 Foreign Language/Reading, 2 Expressive Arts (Computer tech, Health, Art, PE,Music, ASL)
    - 2 laptop carts w/30 laptops to replace two desktop labs (2nd floor and basement)
    - 16 desktops for library circulation and lab.
- Projection capability in all classrooms, libraries, meeting spaces (Briscoe 12 projectors for foreign language and Reading.
- Devices that enable interactive white board capability in all classrooms - 1 device per classroom.
- Devices to for live projection, display documents and physical objects to large group- 1 per classroom.
- Audio and video recording capability on all mobile devices.
- Probes for K-8 science and math.

**Software/Apps/Web.2.0 resources that …**
- Enable creativity and critical thinking skills, Examples: Book Creator, iMovie, Screencasting Apps, iMovie, Garageband, Keynote, Powerpoint, Presi, Photo editing,
- Enable, organization, collaboration and work flow. Examples: Moodle, Google Drive, Drop box, Wiki's, Evernote, library software
- Enable data analysis and simulation. Examples: spreadsheets, Probe software, Geogebra, Grapher, Quickbooks
- Enable written and oral communication: word processing apps, Moodle Forum, Book Creator, QuickTime screen recorder, Skype
- Support knowledge acquisition and assessment in content areas Example: Socrative, Xtra Math, Moodle quizzes, Poll everywhere
- Links test questions to standards, funnels student data to inform instruction e.g. the K-8 Achievement series
- Facilitate technology inventory management and tracking.
2019 Technology Benchmark Goals

Our overarching district goals for technology are aligned with the Massachusetts DESE Local Technology Plan Guidelines. These goals fall within the context of six major categories identified by MA DESE which are shaped by major goal statements as shown in the table below.

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<th>Category</th>
<th>Benchmark Goals</th>
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<td>1. Vision and Implementation</td>
<td>To have a clear set of technology goals that are funded and evaluated on a yearly basis.</td>
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| 2. Technology Literacy and Integration | We want technology to support learning by enabling …  
➢ multiple pathways for acquiring, organizing, demonstrating and applying knowledge.  
➢ on-going communication and engagement with the school community.  
➢ interactive digital methods for collecting and providing real-time feedback to students on performance.  
To accomplish this we must  
➢ integrate the appropriate use of technology into all aspects of curriculum, instruction and administration.  
➢ increase technology proficiency for all student and staff.  
➢ provide appropriate staffing levels to support this technology plan. |
| 3. Technology Professional Development | To provide quality technology professional development to all teaching staff for effective use of technology to support and improve student learning.                                                               |
| 4. Accessibility of Technology     | To provide students and staff with access to technology and ongoing technical support with a high level of service.                                                                                           |
| 5. Virtual Learning and Communications | To develop innovative strategies for delivering high quality courses and communication through the use of technology. Maintain an up-to-date website, and other support portals to engage the school community. |
| 6. Safety Security and Data Retention | To ensure District compliance with federal and state laws and policies regarding internet and network use, data retention and security and confidentiality of personal information of students and staff. |

Appendices:
- K-12 Capital Spending Plan and Narrative
- Technology Study Group Report (November 2010)
- Elementary and Middle School technology standards and performance indicator summaries.
- K-8 Responsibilities Matrixes