
Embracing the Future

Barnstable Intermediate Grade 7 Mobile Learning Project

Report to the Barnstable Public School Committee - August 5, 2015



Introduction and Background

Facts Found from the Literature Review

Few modern educational initiatives have been as far reaching as introducing technology into the classroom. Believing that increased use of technology will lead to improved teaching and learning, increased efficiencies, and the development of both hard and soft student skills, educational leaders and policy makers have made major investments in educational technologies. Since 1996 national and state agencies have invested in over \$10 billion dollars to acquire and integrate technology into American classrooms. Given the ways that technology was distributed historically (computer labs, library, shared model), many have



observed that there has not been significant growth or improvement in student achievement that can be attributed to technology use. Many have theorized that this is because of the shared model and the access. We recognize the limitations of traditional educational technology solutions shared across students and classrooms, and that is one of the reasons why 1:1 mobile computing is so interesting. The full effect of any digital resource in schools cannot be fully realized until the technology is no longer a shared resource (Oppenheimer, 2003, Papert, 1992, 1996). FOR ANY EFFECT to be realized from educational technology the technology must be actively and frequently used. In addition, the variety of ways in which teachers and students use these mobile technologies are important and must expand.

Tablets/iPads have only been around for five years, and more importantly, in schools and districts for only 3-4 years. Questions surrounding the implementation of technology and the transformation of teaching and learning are incomplete. Many studies we have reviewed are ongoing. A specific example to reference would be Natick Public Schools, where a significant investment of \$1.8 million dollars was invested in mobile technology in grades 8-12. Quoting from the superintendent directly, Peter Sanchioni states that he has 5 years to prove the 1:1 laptop program is a success, or he is 'out of a job'. It is important to consider that the literature from even 5 years ago fails to address the dynamic digital learning tools now

accessible in the classrooms of Barnstable Public Schools. Digital learning tools are ever evolving and continuously expanding what is possible in the arena of teaching and learning.

Many political leaders suggest that providing student access to powerful and widespread technology will result in long term economic prosperity, the impacts on student learning remain a focus for many. Despite growing interest in 1:1 mobile learning, there remains a lack of sufficient, sustained, large scale research and evolution of that focuses on teaching and learning in the intensive technology rich learning environments. There continues to be a lack of empirical evidence that relates the use of 1:1 mobile learning with measures of student achievement. It may be in stark contrast given the current climate of data rich environments where districts are measured by their increase in percentages of student achievement is held as a successful district. (Bebell, 2015, Richtel, 2011).

With that said, traditional means of evaluation do not necessarily fit the rapidly changing digital environment very well. Many experts caution against equating the use of laptops with higher rates of student achievement.

It is NOT the device that creates an improvement in achievement. It is the changes in instructional strategies that make improvements. According to John Hatti, there are effective strategies do increase student outcomes: Those that are worthy to mention here and are supported by the use of mobile devices are stated here:

- Providing formative assessment
- Feedback
- Reciprocal teaching
- Teacher student relationships fostered (increased communication)
- Creativity programs
- Self questioning by students (passion learning)
- Cooperative learning
- Visual perception programs
- Student centered teaching

In addition and in line with Barnstable Intermediate Schools goals , technology use supports the theory of effective effort, increasing student engagement, and empowering students to take responsibility for their learning.

Teachers are acknowledging a changed / changing world and thus to follow is a changed / changing classroom environment. Teachers are embracing the future, and are beginning to make effective changes in their teaching. But that does not happen overnight; it's hard work and their needs to be supports in place to make investments in technology a success. There needs to be supports from school administration, district technology team members, technology teachers, curriculum coordinators and teacher leaders. There needs to be present an appreciation for the importance of the initiative, and that technology was not being implemented for technology's sake, and the focus needs to be on the learning. Technology can empower students with tools and resources for deeper learning. Technology can foster a unique collaboration between students and the teacher in the classroom.

What factors can be related to the teachers adoption and use of technology? A study by Greaves, Hayes, Wilson, Gielniak & Peterson in 2010 revealed that ubiquitous technology access (1:1), training and professional development, school leadership, and teacher's pedagogical approach all played major roles in how teachers used mobile technology in a daily basis.

For that reason, the goals that were identified and became measures for success were based on the following national guiding documents:

- Essential Conditions for Technology Integration
- ISTE standards for students
- ISTE standards for teachers
- Barnstable Public Schools 5 themes of learning

Before the development of the survey, a full literature review was undertaken.

In a review of the literature that does exist, benefits could be identified: Increased student motivation, greater access to information, greater collaboration, more creativity, quality of work, personalized and differentiated learning, increased IT skills, and overall improved learning experience.

The last word on the national push for increased technology in schools: The digital world is here and the educational institution is seen to need to be a part of it, or it will cease to be relevant.

Philosophy and Goals of the Mobile Project

The Barnstable Public Schools District Educational Technology Department's Philosophy on Learning

Learning is a personal endeavor. Schools provide learning opportunities for students to connect and to engage with information. A good teacher can assist students with finding a personal connection to the material and support them in their learning experiences. Ultimately, it is the student who builds understanding and makes meaning from these experiences; that is learning.

Providing students with an individual mobile device that is not shared but theirs, magnifies the opportunities for students to access and interact with information to building meaning in a personalized way in ways we never dreamed possible. A mobile internet media ready device provides students with the tools needed to be creative, curious, and collaborative. Students move from being consumers of information to producers and creators.

The goals of the Mobile learning project can be identified as follows:

- Promote innovative learning environments supportive of critical thinking, communication, collaboration, and creativity, skills necessary for college and career.
- Support personalized and individualized learning experiences to meet student needs through increased digital and teaching resources.
- Develop student research skills.
- Develop a learning environment supportive of technology use in a responsible, appropriate, collaborative and productive manner.
- Promote student success as self directed learners.
- Increase access to technology, support a blended learning classroom environment, and enable differentiated and passionate learning.