BARNSTABLE PUBLIC SCHOOLS

BIS Grade 7 Mobile Learning Project

PRESENTATION TO THE SCHOOL COMMITTEE

FINDINGS in YEAR 1

"Nothing could be more absurd than an experiment in which computers are placed in a classroom in which nothing else has changed."

-Seymour Papert

Teaching and Learning

The primary goal of technology integration is to facilitate changes in teaching and learning that support both deeper academic engagement as well as 'digital age' learning opportunities, defined by 5 learning themes…

RESEARCH
MANAGE
COLLOBORATE
CREATE
PUBLISH

National and State Level

- 5 billion dollars has been identified for ERATE reimbursements across the country for infrastructure
- State initiative: Digital Connections School Partnerships Grant (Falmouth)
- Proposed revisions of NCLB to include i-Tech (Innovative Technology Expands Children's Horizons) Like E2T2 in the past: Competitive (infrastructure and blended learning)
- Future Ready Schools (USDOE) 16,000 superintendents signed the pledge to facilitate the transition to digital learning

The State of Barnstable-Invested

- $40 million Open Cape
- $2.2 million TOB fiber connections
- $600,000 TOB CIP 3 year wireless project
  - finishing up year 3

- NOW that we have the superhighway, what are we going to do with it> We will leave this question unanswered for the moment.

- School Committee and Superintendent $250,000 for grade 7

- Computer labs/Cart models/BYOD/ 1:1

Mobile Learning Vision

- Promote innovative learning environments supportive of critical thinking, communication, collaboration, and creativity: skills necessary for college and career readiness.
- Support personalized and individualized learning experiences to need student needs.
- Increase student organization and management skills.
- 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 differentiation.
- Provide technology access to students and their families at home lessening the digital divide between students without access and their peers.

Think Different

April 3, 2010. That was the day that Apple, **Thought Different.**

That day, we went mobile, and dozens of limitations and challenges evaporated into thin air. A truly different device was created. It is not a device that can replace a computer and, therefore, isn't comparable to one.

Fast forward five years and it is abundantly clear that the iPad is much more, a creative, personalized, empowering, truly mobile device.

I don't want our students to have an iPad, I want them to have a mobile studio that can plan, design, produce, edit, and publish most excellent learning experiences.

The Study, In Review

- Literature Review
- ISTE Professional Services
- Dr. Marilyn Nouri, Research Analyst
- Andrew MacDonald, doctoral candidate, Northeastern University
- Damian Bebell, Boston College
- Natick*, Burlington*, Beverly*, Millis, Weston
    - Apple Distinguished Districts

ISTE & BPS Ed Tech Evaluation Development

Based on:

- ISTE Essential Conditions
- ISTE Standards for Teachers
- ISTE Standards for Students

and

- BPS EdTech 5 Themes of Learning
- ISTE Standards & MA Common Core

2014-2015

- BIS Teacher Survey (Fall/2014 Spring 2015) 66 staff
- BIS Student Survey (Fall/2014 Spring 2015) 437 students

Secondary Analysis:

- Classroom Observations
- Focus Groups (teachers)
- Student Sample Work
- Tracking 21st Century Skills through learning.com

Teachers/DATA

Teaching practices over the 2015 school year

Teachers attitudes towards technology and school supports for change:

66.67% used the iPad daily and

38.10 % used weekly

A set of nine items, based on ISTE standards for students were used to assess teachers implementation of digital age learning

Daily and Weekly percentages combined

Defined by John Hattie
(effect on teaching and learning)

- Learner centered strategies (61.90)
- Differentiate Instruction (66.67)
- Formative Assessment (42.86)
- Emphasize Creativity (47.62)
- Authentic Assessments (28.57)
- Communication (14.29)
- Constructive Collaboration (33.33)
- Making learning transparent (47.62)
- Ethics & Digital Citizenship (57.14)

SAMR, Grade 7

Patterns are Changing:

- Less lecturing and presenting
- More small group instruction
- More student research activities

- Substitution for another tool (47.62)
- Augment traditional methods (85.72)
- Modify curriculum (71.43)
- Radical redefinition of lesson (61.91)

Agree and Strongly Agree percentages combined

Themes in Teacher Responses

- Use of technology let to increased student initiative and engagement
- Empowers students to take ownership of learning
- Engage in more self teaching
- Better organization
- Improved feedback between teacher and student
- Quicker access to information
- Increased use of online digital tools
- Increased formative assessments

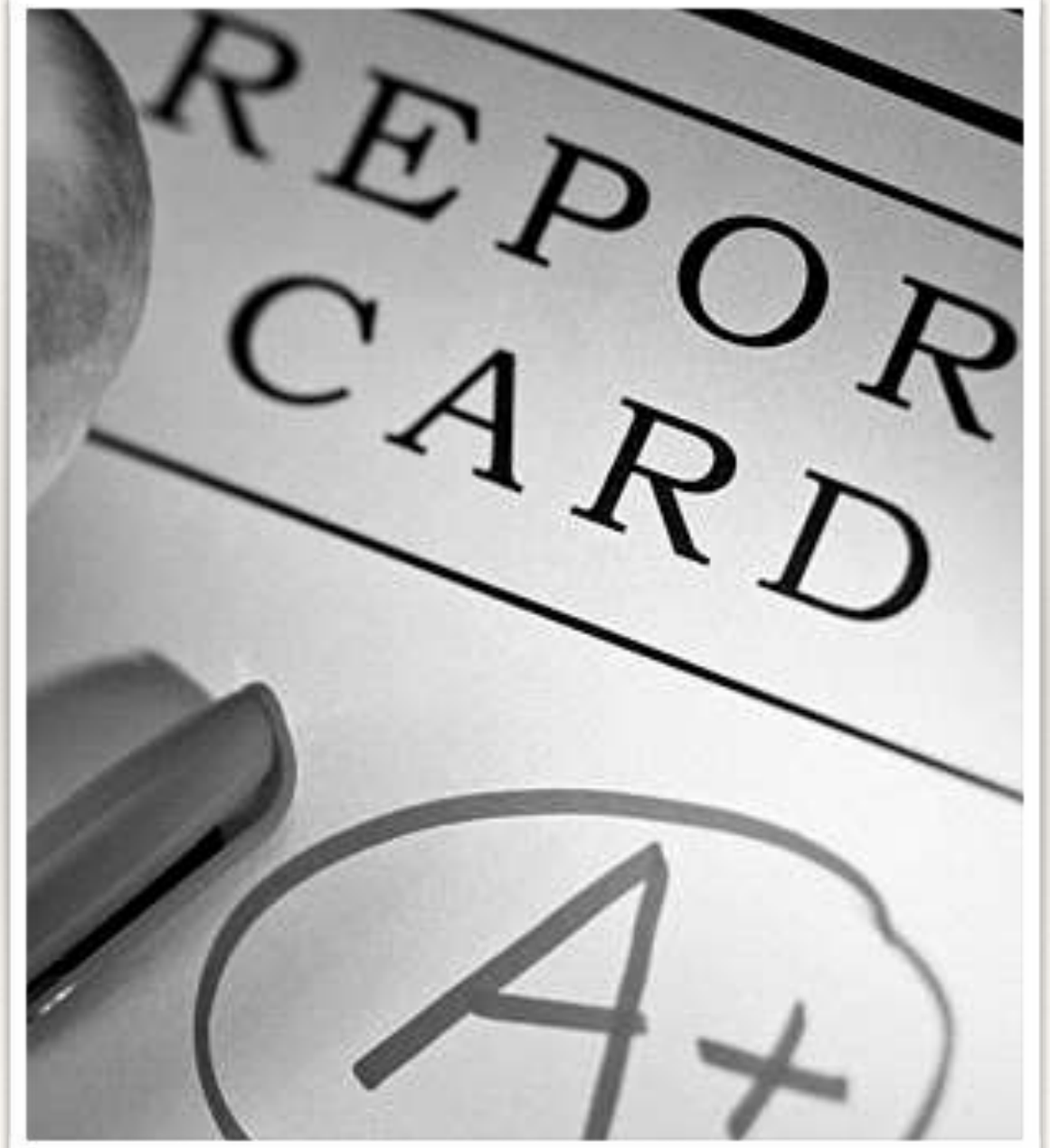
Students/DATA

- Student learning over the 2015 school year
- How student changed with 1:1 access
- Students attitudes towards technology and learning
- Examine POTENTIAL relationships and impacts of technology use on achievement, other success indicators

Student Responses

Changes in Student's Attitudes:

- Getting better grades (23.81)
- Being more engaged in classroom (47.82)
- Learning content at a deeper level (35.00)



Student Responses, cont

Changes in Student's Attitudes Toward School:

- I am more interested in school when we use technology (83.63)
- I learn better when I use technology (81.86)
- Using technology helps me keep track of my work and when it is due (79.11)

Agree and Strongly Agree percentages combined

Themes in Student Responses

- Students used applications including calculators, cameras, collaborative work spaces, email, internet browsers, mapping software, multimedia creation, online storage, podcasts, information searches, simulations or visualizations, social networking, and text editors.
- Out of the 5 themes, (research, manage, collaborate, create and publish), more opportunities for research, manage, and create.
- General feedback that iPads provided a convenient and helpful platform for managing school work.
- Helpful for non native English speakers who needed translations services and language supports
- More independent in their learning

School Readiness for Tech Integration

Essential Conditions:

- Grade 7 teachers rated conditions for SCHOOL readiness that should be in place for successful rollout.
- Scored high: Admin support of technology integration, strong leadership, effective implementation planning, funding, equitable access, skilled personnel, and technical support.
- All teachers (6) more equitable technology, additional support around technology, operations and applied pedagogy.

Recommendations from ISTE

- Strengthen district support
- Continue long range professional development
- Develop budget capacity to expand mobile learning 1:1

BIS Grade 7 Mid Point Data

Looking at Learning Outcomes

- Are iPads (beginning) to facilitate learning?
- What are the learning outcomes?
- Teachers selected one project that students where assigned, and asked to reflect deeply on the outcomes of the assignment.

Percent of teachers indicating one project met one or more of the learning goals.

BIS GRADE 7 Mid Point Data: Looking at Learning Outcomes

21st Century Skills Strengthened through project

ISTE Standards for Students	Percentages
Information/Media and Technology Skills	75
Higher Order Cognitive Skills (synthesis, critical reasoning, problem solving)	67
Communication Skills (verbal and written)	50
Life/Career Skills (time and resource management, working with others	41
Global awareness	16
Civic literacy and engagement	8
Financial and economic literacy	0

Percent of teachers indicating one project met one or more of the learning goals.

Learning Goal	Percentage
Enhance Learning (deeper understanding)	83
Increased student engagement	75
Promote creativity in students	58
Leverage technology for personalized/ differentiated instructions	58
Making thinking visible	50
Promote collaboration	25
Accelerate learning	17

Teacher Leadership

- What is the interplay between school culture, technology, and teacher leadership?
- How have roles and relationships between teacher leaders and their peers and principals been impacted.
- How has the technology impacted the school strict that teachers work within?

Andrew MacDonald, Northeastern doctoral candidate

Emerging Themes

School Wide Focus on Learning:

- Effective Effort/Student centered learning/Empowering students
- Initiative/Teams/Leadership
- Support: School Administration, District Technology/Fellow teachers
- Structure: Collaboration/Time/PD
- Technology NOT ubiquitous……desire for greater adoption and use

Next Steps, or Build Human Capacity

- Year 2 of 1:1 Mobile Learning at BIS
- Ed Tech Teacher 3 credit course
- Expansion of cart model to grade 6
- Adding LMS
  - Google Classroom 4-12
  - Schoology BHS

Long Range:

- Ipads in PreK to 7
- Laptops 8-12