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Lessons Learned at Selected 1:1 iPad High Schools, School Year 2012-2013

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MINI-BRIEF

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Mini-Brief: Lessons Learned at
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Context

In the spring of 2013, the Maine Learning Technology Initiative (MLTI) adopted a new approach to its 1:1 device selection process. Rather than choosing a single vendor to provide a uniform statewide technology implementation, the Maine Department of Education opted to select a preferred solution and allowed schools the autonomy to choose from among four other approved bids. In anticipation that a number of schools would choose to provide iPads to students, the Maine Education Policy Research Institute (MEPRI) at the University of Southern Maine surveyed teachers at three Maine high schools currently using 1:1 iPads with their students.

To serve an immediate need, the survey captured advice from the high school teachers to those teachers and administrators who might be following in their footsteps and adopting 1:1 iPads in 2013-14. This mini-report summarizes those "lessons learned" so that they can be shared with others at the beginning of their implementation. Currently, over 40% of Maine's middle and high schools have opted to implement 1:1 iPads in their schools in the 2013-2014 school year.

The survey also captures baseline information on how teachers begin to use iPads in their instruction, and their perceptions on the challenges and benefits of the devices. These insights will inform MEPRI's data collection in the coming year in our continued work to evaluate the implementation and impacts of MLTI. Preliminary analysis of the results indicates that the experiences and beliefs vary substantially from school to school. MEPRI plans to conduct case studies in a sample of middle and high schools in the future to gain a deeper understanding of the factors that contribute to this variation.

Survey Background

The three schools participating in the survey are in rural and suburban areas. Each enrolled between 225 and 550 students, and employed approximately 25 to 40 individual teachers. Two of the schools implemented the iPads with their teachers and students for the first time in 2012-2013. The third started implementation in 2011-2012 and was in its second year at the time of the survey. None of the schools had 1:1 technology prior to the iPads. A total of 96 teachers participated in the survey study, resulting in an overall teacher response rate above 85%. Where survey results are provided in this report, they are aggregated for all three schools. However, as noted above, the response patterns differed significantly from school to school. The small and non-random number of schools, and the fact that the schools had no prior 1:1 experience, limits the usefulness of these results for predicting the implementation pattern and challenges for Maine middle schools and high schools with substantial 1:1 history. However, the very strong teacher participation rate provides credibility for device-specific feedback and lessons learned.

Survey Results

The first part of the survey asked respondents to rate their level of agreement with a series of statements about the use of iPads in the classroom (Likert-scale questions).

Teachers reported varying frequencies of using the iPad in their classrooms and in their practice:

- The majority of teachers (43% to 66%) reported that they use the iPad a few times or more per week to communicate with colleagues and students, and manage information.

- A third of teachers (27% to 39%) reported that they use the iPad a few times or more per week to conduct research for lessons/curriculum, present information, develop instruction, and communicate with parents.

- A quarter or less of teachers (17% to 24%) reported that they use the iPad a few times or more per week to conduct formative and summative student assessments, and differentiate instruction.

Implementation Challenges and Successes

Benefits: About half of the teachers reported that they can explore topics in greater depth (54%), differentiate instruction more effectively (46%), and teach more efficiently (42%) with 1:1 iPads. A third of teachers agree that iPads make them more likely to have students interact with the world outside of school (35%), that the devices enable them to track student performance more easily (34%), and that they are able to cover more material in class when using iPads (33%).

Challenges: The largest challenge by far was the potential for the iPad to distract students from learning, with 83% of all teacher respondents agreeing that "Students are more likely to be off-task when we are using iPads than when we are not." This points to a strong need for classroom management support. Almost two-thirds of teachers (66%) reported difficulty in adjusting to the iPad's virtual / on-screen keyboard, but only two-fifths (41%) felt students had the same difficulty. The availability of accessory keyboards at these schools is not known.

Device Use

Teachers were generally satisfied with the battery life, processing speed, screen size, and durability of the iPad device. Some teachers (approximately 20%) reported dissatisfaction with the adequacy of software / apps for their content areas; further investigation would be needed to assess what software was available to them, and the extent to which school policies allowed them to purchase additional software for their students' use.

Lessons Learned

The second part of the survey asked respondents to share their advice about iPads in a series of three open-ended questions:

Question 1. "What three tips, strategies, or 'lessons learned' would you like to share with a high school colleague who teaches your content area and is moving to iPads next year?"
60 teachers responded and provided 82 different comments. Specific suggestions are included in Appendix A.

Many teachers (almost one in three) stressed the need to consistently regulate student use of the iPad, with comments such as "You have to be more vigilant about students going off task on their iPads during class" or suggestions for classroom management. They also highlighted the potential advantages of the iPad applications for lessons, research, quizzes, organizing and disseminating information, or when students are absent. Some provided specific suggestions for using or moderating the functionality of the iPad (reading, calculator, highlighting, camera, etc) to enhance learning, or listed particular apps they liked (or disliked). Several teachers provided general words of wisdom for implementing iPads, such as "Let students help other students." A few teachers provided content-specific advice for apps or strategies pertaining to their subject area.

Question 2: "What three things about the overall program would you want to share with a school administrator who is deciding whether to implement a 1:1 iPad program next year?"
58 teachers provided 91 comments to this question. Additional detail is provided in Appendix B.

The largest group of comments (more than one in three teachers) emphasized the need to establish a policy of use, set guidelines and clear expectations with parents and students, and regulate student use. The second largest theme (one out of every five teachers) indicated a need to provide teacher training and time to use in the classroom, with comments such as "Give time for training. Some teachers will naturally use the iPad and integrate their curriculum in a vibrant and authentic way. Others will need help seeing ways that it can be useful." A slightly smaller group (one in six) recommended not using iPads, using laptops instead, or otherwise commenting that iPads had a negative or no impact on student learning. Two teachers noted that the iPads had improved student equity. Other suggestions included using online resources to communicate with students and in instruction, establishing school wide apps for teachers to use, having a case with a keyboard, projectors, extra iPads to replace broken ones, needing headphones, and providing iPads with extra memory for teachers.

Question 3: "How do you feel the iPads have impacted students this year?"
62 teachers provided 80 different comments.

- 35% of teachers indicated that the iPads are a distraction for many students, they use it as a toy, excessive gaming, and access to social media. Example: "I am concerned about how they can distract students, but I feel that when used responsibly, they can be useful."

- 32% of teachers indicated positive comments of students' ability to research and assess online information and in the ability to teach, such as "iPads have given my students the chance to share their ideas, work, and progress with me more easily."

- 10% of teachers indicated that motivated or "good" students use them wisely for others it is a struggle to maintain focus.

- 9% of teachers indicated that the iPad enhances students' ability to organize and manage material to learn, become more aware of their responsibilities, more engaged, and provide equity to learning.

- 6% of teachers indicated they are not sure that the benefits outweigh the negatives.

- 5% of teachers indicated that the iPad improves communication abilities of students.

Summary

Overall, results of the survey show that teachers are in the beginning stages of learning to use the iPad effectively and often to positively impact students and their overall teaching practice. The majority of teachers indicate skill and regular use of technology in their practice. However, a significant portion of teachers (25%) indicate little or no use of the technology. Most teachers are satisfied with the functionality of the iPad but many have had trouble adjusting to the on-screen keyboard. While the majority of teachers indicate that the iPad is a benefit in their teaching, 83% of teachers have concerns with students use of the iPad for non-educational purposes. Specific comments consistently indicated concerns about appropriate use by students and emphasized the need for clear policies and communication about students' iPad use in school. However, teachers also consistently commented on the positive impacts this devices have had on their practice and on student learning.

The results from this survey, and the variation in responses across the participating schools, will be further explored in the coming academic year in a sample of case study schools. Researchers will collect more extensive information on teachers' beliefs and practices surrounding instructional technology, on school-level policies and structures that support successful programs, and on student impacts.

Appendix A

Specific Advice & Tips for Teachers: Quotes from Teacher Respondents

General Tips (all Subjects)

Words of wisdom:

- "Be comfortable with the idea of allowing students to experiment with programs or apps you are not familiar with - they can tell you which ones work and which are difficult."
- "Start with a simple project to feel out the numerous problems that can occur."
- "Let students help other students."
- "Many helpful websites for research (MARVEL, Easybib.com, etc) function differently on the iPad than on a computer. Become familiar with this first."
- E-mail (2): "Make email groups, easy to communicate with entire class. You know they will get their email"; "E-mail is much more convenient for student-teacher communication, but students have to be reminded to check it frequently."
- "Instead of the whole class downloading an app you can show it as a brief demo."
- "Always check any lesson you designed on yourself before you ask the students to do it."
- "Figure out how to get google docs into pages and vice-versa."
- "The students are going to play on them and that is part of the deal."
- "Make sure students know to save and revisit classroom material."

Classroom Management:

- "Be clear about you expectations from the start. They WILL play games and they are slick at switching back and forth between "notes " and games. They need some clear guidelines."
- "Make sure iPads are put away when not using them—they can be too distracting to many students."
- "If you decide to allow students to use iPads during an assessment, make them put it into "airplane mode" under settings. You can see a little airplane icon in corner. This will prevent them from being on the internet."
- "Teach from the back of the room, so you can tell what the students are doing on their iPads."
- "Flip iPads over when listening to music."
- "Double clicking students' device to check previous apps used."
- "Just because you have iPads in the classroom, don't be ashamed of having 'no iPad' days. Have all the iPads collected at the front of the room so students can't sneak onto them as a distraction"; "Have a cart for iPads in the room."
- "Students will find new apps that distract them, but it definitely helps when the IT specialist puts blocks on some of the more popular ones. If you as a faculty are aware of an app that students are using during the day as a distraction to school their school work, don't ignore it, because it only spreads through the student body."

(Appendix A., cont.)

Instruction:

- Reflector (5): "The Reflector app, when used with your MacBook is really valuable when you are presenting material or modeling writing because you can move around the room"; "Reflector is helpful for showing students how to annotate text"; "Use Reflector or Apple tv to project iPad via projector"; "Use Remote and Reflection a lot. They are good programs"; "Reflection is a cool tool, but it often slows down or fails when the network is busy."
- "'Show Me' is a great tool for explaining things to students when you are absent and/or reinforcing lessons."
- "iPads are great for making and presenting ppts."
- "Always have a second plan when students don't have their iPads or the iPads are not charged."

Organizing & Device Use:

- Edmodo (2): "Edmodo is very helpful"; "Edmodo is wonderful- students CAN upload essays to the app for you to edit without printing, despite the belief that they must upload from a computer."
- Moodle (2): "Try using a learning management system like Moodle to design lessons"; "Use Moodle. It is a great resource for formative and summative assessments."
- "iTunesU is a great way to organize material."
- "Studystack is great."
- "MyHomework."
- "I make use of a lot of links, such as PDF documents. These reduce the need for copying."

(Appendix A, Cont.)

Content-Specific

English & Language Arts

- "Using Adobe reader for studying Shakespeare: it is an excellent tool because it allows you to search a word in the text, among other tools. However, not all ebooks are created equal. Some have typos throughout."
- "iPads are ideal for incorporating art/writing lessons. I have had students go to museum, take a photo of a favorite painting, the import it for writing about it in Notability, then projecting the result on screen to share with rest of class."
- "You have a much wider English curriculum. You no longer have to buy entire sets but can manage small files of readings easily."
- "The Quizlet app is a life-saver for some students who struggle with vocab."

Math

- "There are some good graphing calculators out there."
- "Geometers sketchpad works fine on it."
- "Find a good graphing calculator app."

Science

- "Students can take pictures of notes and lab results."
- "There is no easy way for you to write tests with chemical symbols and formulae, except by hand in notability. There is no equivalent to "Equation Editor" for the iPad."
- "Biology Aps for Biology are good for exploring a cell, the heart etc but are brief and not something that needs more than 5 or 10 minutes."
- "Access to you tube for demos was nice but you must make sure that site is reliable. One minute physics was a good intro or review of some concepts."
- "iPads do not run some science programs or animations since they do not support flash."

World Language & ESL

- "For upper levels of language it is so powerful in how students can independently access authentic listening and reading materials on a daily basis."
- "The iPad has a lot of apps for languages."

Appendix B:

Specific Tips and Advice for Administrators:
Quotes from Teacher & Administrator Respondents

Creating Policies

- ***"Have clear guidelines about iPad use and hold students to them. iPads are tools, not toys." (Exemplar comment representing 36% of teachers' comments)***
- "Consider limits (iPad free days, no use in cafeteria, etc.)"; "Take techno breaks, don't let students neglect their peer to peer manners."
- "Have a consistent policy for students who abuse them."
- "Create smaller study halls so it is easier to monitor use."
- "Students should be shown how to use education apps and know when (if ever) it is appropriate to use non-school related apps on their school-issued iPad."
- "Remind students that they DO NOT own the iPads, and you have the right to delete things from their iPads. Don't hesitate to delete game apps, music, movies, photos, etc. when students are distracted or "run out of room" for the stuff they are supposed to have."
- "Be very clear with **parents** and students on what the expectation is for how the devices should be used."

Professional Learning

- ***"Faculty training extremely important - they need both guided and independent TIME." (exemplar comment representing 21% of teachers' comments)***
- "Train the students AND staff on how to use them."
- "Allow for curriculum integration planning--not just 'how to use the iPad' training."
- "Select specific apps or protocols that are taught to the faculty and are universal through the disciplines to start."
- "Get your teachers who are savvy to be your presenters. They are the ones who work in the classrooms and use the things."
- "Provide differentiated training for your staff so that people can work on a level that is comfortable for them. Have people set goals on how they are going to use the devices in their lessons. Then have them share with their colleagues how they are progressing."
- "Understand teachers need time to learn before using extensively with students."
- "Reassure your teachers that they have the right and should ask students to put iPads away when necessary (during class discussion, tests, etc) Many students feel they are entitled to use the device whenever they choose."
- "Encourage teachers to take a look at the free books available through iBooks."
- " 'Dinosaurs' like me need a lot of training and time. These are both extremely important. I hear a lot of good ideas, but I rarely feel that I have time to really experiment and innovate."
- "I wish I'd learned how other teachers were using them successfully and then shown exactly what they did."
- "Understand that you are entering into the 21 century environment and there will be bumps in the road."

Cautions about Student Misuse

- ***"We are having a real problem with gaming and with chatting while students are in class and during study hall." (Exemplar comment representing 30% of teachers' comments)***
- "The iPads derailed some of our Instructional Support students whose organization was already fragile."
- "iPads make it easier for students to cheat on assessments."; "It's too easy to cheat with iPad calculators."
- "I find that by allowing students to explore things on their own and help other students figure things out, they take a more active role in their own education."

Infrastructure

- "Try to get everyone to be using the same Learning Management system (Google Drive, Moodle, etc. so that colleagues can talk to each other about the same program and help each other work out glitches."
- "Expect many to be broken, though they are durable. Have extras."
- "Use sturdy covers."
- "Understand that you will still need computers for things to run smoothly."
- "Consider investing in a case that includes a keyboard."