

Proposal for the Funding of a One-to-One Pilot Program

Belmont High School

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Introduction

The Belmont Public Schools has been researching the efficacy of moving to a one-to-one device program at Belmont High School. There are several reasons for this review. First and foremost, it is believed a one-to-one model can provide the vehicle for innovative teaching, move students towards more independent learning and extend learning beyond the traditional classroom. There is significant anecdotal evidence from other districts that providing a learning tool for exclusive use expands student's learning opportunities and understanding and increases independence through a more focused and personalized learning model.

At Belmont High School, there is an ongoing need for additional access to devices for research and other work. Due to the physical constraints of the high school, this means either adding lab space (and eliminating classroom space) or providing a structure where students do not need to be in a physical space to do their work. Second, due to the nature of the high school schedule, students have a significant amount of free time. It makes a great deal of sense to address both the lack of physical space and the abundance of unscheduled time by providing a framework which leverages both. This model began three years ago with the introduction of Edline which provides access to course materials regardless of space or time restrictions and continues with an iPad adoption.

## Plan Proposal

The Social Studies department, with support from the Technology department, is seeking to form a pilot program which will create a one-to-one environment for a subset of approximately seventy sophomore students. The goal of this pilot is to:

*evaluate the impact of an iPad initiative on learning and curriculum for  
a cohort of students before moving towards a full scale deployment in 2013-14.*

These students, who will be enrolled in the American Studies Honors year-long course this fall, were chosen because of the challenging research component of the course and the ability of the instructor to adapt curriculum and classroom work. As sophomores, they have completed their transition to the high school and are able to independently perform required social studies skills. Moreover, the content of the American Studies course also lends itself well to a one-to-one model as there are many primary and secondary sources readily available for an inquiry-based course. Additionally, the teacher of this course, Jeff Shea, is experienced in bringing new technology into the classroom and excited about the opportunities a one-to-one model will create for student learning. In the past two years, he has utilized blogs, Skype, Prezi, backchannel, and voice threads in his curriculum to enhance and assess student learning. We are confident that Jeff will be able to smoothly integrate this new technology into the existing curriculum. He is also proficient in gathering and using data to guide his instruction, a skill we will need to evaluate this pilot.

The Social Studies department has a solid track record of seeking out and promoting new technology possibilities. This is evidenced by the department being the first to have a full complement of SMARTBoards and to use NetBooks in everyday instruction. With this combination of students, content and teacher experience, we will be able to assess the impact of this program on student learning to determine if this is the best approach for Belmont students.

### Technology Considerations

The iPad has become a game changer in the education market. Their small size, reduced cost, power and ease of use have eclipsed the desktop and the laptop by providing students with a device which can help maximize learning opportunities. This pilot seeks to utilize iPads as the base research tool. Furthermore, they will leverage the existing SMARTBoard environment with the addition of AppleTV which allows any iPad to be displayed wirelessly on a SMARTBoard thereby creating a classroom environment where individual and group work can be easily shared. Add in the eClicker Presenter app, which allows the iPads to become student response systems; and classrooms can further leverage existing technology. Consider too, how iPad apps can be purchased to replace lab workbooks, science models and other software and how iTunes U provides additional content from other K-12 districts and universities.

It will be equally important to integrate the Edline course management system into the pilot. Edline recently announced support for the iPad which has been successfully tested with the high school Edline site, and represents a tremendous opportunity to merge these two mobile technology platforms.

One significant obstacle to recent iPad initiatives has been the ability to create, store and access files. Some models call for the use of Google Docs and Google Drive or some other cloud storage such as DropBox. Certainly in the past few months, the cloud environment has changed significantly with new providers entering the market. Recent initiatives have moved to using Google Docs. Unfortunately, there are serious incompatibilities between Google Docs and iPads. They have also relied heavily on storing documents on either a third party cloud provider or as e-mail attachments. Until there are significant changes to Google Docs, it does not make enough sense to move in this direction.

Fortunately, Belmont has an existing infrastructure that many others do not; a robust remote access system and an enterprise – wide wireless infrastructure. These systems currently allow both students and staff to access their applications, e-mail and documents from outside the district using their own devices. Recently, the remote access system was updated to

accommodate the iPad and other devices resulting in faster, universal access. It is this leveraging of our existing infrastructure which makes the inclusion of iPads so powerful. The result is a pathway towards a one-to-one program with no additional infrastructure costs. It also provides access to familiar Office programs as opposed to the lesser - featured Google Docs platform.

### Electronic Textbooks

For a number of years, schools have considered the move to electronic texts. The problem has always been the lack of a true interactive text environment that is easily accessed by mobile devices. Social Studies hard copy texts do have electronic versions, but they have been cumbersome to use and are not interactive. The introduction of Apple's iBooks has changed this model completely. Although there are only a limited number of titles currently available, the three largest high school text publishers who represent 90% of the market, are committed to making their books available on the iBooks platform. This pilot would adopt the Houghton-Mifflin text: *The Americans*; a sample of which can be found at: <http://itunes.apple.com/us/book/theamericans/id525599666?mt=13&ls=1>.

Using this online text, students would have access to their text in real time from any location. A benefit of the iPad is its mobility and functionality that encourages students to make it a true resource. The ability to remove the need for a hardcopy text and providing the student with instant access is quite different from today where the student would have to carry the text or be in a location where the text was available. Conversely, the iPad can break this restriction by allowing random access as time became available from any location.

If we expect students and staff to learn in new ways, it is clear they must have the tools to do so. Changing the research experience happens when students can search through a book easily, by learning the definition of a word by tapping on it or by having access to supporting images, 3D objects and audio files without leaving the page. Students will benefit also by the ability to electronically annotate, structure and share their reading notes; all factors which have

the ability to promote better research skills. Furthermore, because these texts are online, they are now universally available, updateable and extensible.

One concern about electronic text adoption has been the cost. A hard copy text which is purchased for sixty dollars today is usually kept for ten years or more. When contemplating switching to electronic texts, the typical approach has been to do a simple dollar comparison between the cost of a hard copy to the cost of an electronic copy. Although this is important, we believe the more valuable comparison involves the added value of a text which is interactive, has the ability to be annotated, indexed and is representative of the type of resources critical to advanced research and collaborative learning.

Secondary considerations must address text ownership. Currently, the district owns hard copy texts. Apple licenses electronic texts which cannot be resold or repurposed and as a result, the cost recurs annually. In order to move to a new model, the financial model associated with textbook purchases needs to be revised. Some districts assess a technology/textbook fee while others may absorb the cost or have the student pay for the text directly. In any scenario, we can no longer rely on past purchasing practices to determine future textbook adoption in a one-to-one model.

#### Curriculum development

A stipend of \$1,500 has been budgeted for summer work by Jeff Shea and other related program development. Jeff will be responsible for creating new lesson plans and a work flow which details the parameters under which iPads will be used. By August 10, a completed plan will then be submitted to Deb McDevitt for review and refinement.

#### Student training and expectations

It is expected a part of the course work would be instructing students in iPad, response system and textbook use. Students will also be required to adhere to a pilot-specific usage policy which is above and beyond the current Acceptable Use Policy.

### Project review

The project will be evaluated quarterly, by Deb McDevitt, Jeff Shea, Steve Mazzola, Janice Darias and Dan Richards. The goal is to have gained an understanding of the dynamics involved in undertaking a future large scale one-to-one program, to identify obstacles and opportunities and to identify how a school-wide initiative will be aligned to district goals, Common Core requirements and the Belmont High School Improvement Plan. Based on this information, a more comprehensive one-to-one initiative will be adopted for the 2013-14 school year potentially involving the entire high school. The scope of this project for year 2 will be developed concurrently with the pilot based on pilot data under the auspices of a PLT or LLT.

### Impact on Student Learning

Data suggests that the use of iPads in a one-to-one model will increase student engagement in the classroom and thus lead to improved learning. Overall class engagement will increase as students become more independent learners, moving at their own pace through the materials and demonstrating their knowledge using technology that encourages the integration of visual, audio and text sources. In this inquiry-based model, students will be active learners, applying their knowledge and sharing it with their classmates through combination of Apple TV, the SMARTBoard, and Edline.

Providing students with iPads in a one-to-one model creates opportunities to improve students' 21<sup>st</sup> Century Skills such as problem solving, critical thinking, collaboration, data gathering and analysis, as well as oral and written communication. These are difficult skills to master and with our current levels of technology, we are limited in how many times per year we can fully expose students to the skills and work to develop mastery. The one-to-one model provides students with greatly increased opportunities to practice and it provides teachers with multiple opportunities over the course of the year to assess student growth. Specifically, we anticipate students will become more skilled in researching, creating and presenting arguments. By increasing the frequency with which students practice selecting academically reliable sources, annotate and analyze those sources, synthesize the information from multiple sources and then create an argument, teachers will be able to chart student progress and

differentiate instruction to support struggling learners and increase the level of mastery for all students.

The one-to-one model allows for the development of an inquiry-based classroom environment with multiple opportunities for formative and summative assessment and differentiated instruction that will stimulate learning. Teachers will be able to use the student response system to activate and assess prior knowledge at the beginning of class. With this data, teacher can then shape instruction around student understandings in real time. Similarly, at other points in class, teachers will be able to gather data to measure student learning and differentiate their instruction accordingly. The combination of the SMARTBoard and Apple TV allows students to share screen casts (of notes, annotations, writing, presentations, etc.) to demonstrate understanding and creates multiple opportunities for feedback.

A wider range of summative assessments will also be available to measure student growth. Using their iPads, students will be able to view, record and edit audio and video files to share their knowledge. The one-to-one model will also facilitate the publishing of student work. This can be done within the classroom as exemplars, for feedback or for a wider audience. Teachers will also be able to create real world summative assessments to measure student learning such as digital portfolios and blogs. We would also like to gather baseline data such as:

- Anecdotal evidence from teachers, parents and students. Understand what the learning curve is for iPad use and how different is it from what students do now. What are the intended and unintended benefits from having universal access to a device?
- How much damage and repairs in comparison to existing devices
- How much time do students use the iPad for their class-related work (in class and homework)?
- Pre and post testing of student's understanding of research methods and course materials.

It is our belief that focusing on an inquiry-based process will result in a measureable increase in student mastery of required content and skills. We are confident that students will have a greater understanding of the essential questions and themes that drive social studies and better mastery of the people and events that give meaning to the broader context.

### Budget and funding sources

The preliminary budget is about \$37,000. Funding sources have not been identified although we anticipate asking the Foundation to fund the electronic textbooks, iPad voucher and the curriculum work.

QTY	Item	Unit Price	Extended
7	iPad2 16GB (10 pack) - black	\$3,790.00	\$26,530.00
70	Textbook purchase	\$15.00	\$1,050.00
70	iPad Smart Cover	\$20.00	\$1,400.00
1	Apple iPad Integration Software	\$0.00	\$0.00
1	Apple TV	\$99.00	\$99.00
1	HDMI/HDMI Cable 1.5'	\$19.00	\$19.00
1	Sabrent HDMI/VGA converter	\$40.00	\$40.00
1	eClicker Presenter	\$14.99	\$14.99
1	Supplemental Tech Support		\$5,500.00
1	Summer Curriculum Work Stipend		\$1,500.00
1	Voucher for iPad apps		\$1,000.00
		Total	\$37,152.99

The alternative to this pilot is to outfit a new lab at a cost of approximately \$62,000 or provide laptop carts for shared use at a similar cost. Life cycle expectancy of laptops, desktops and iPads are about the same.



## Support Considerations

Placing seventy devices into the hands of students presents a unique support challenge. Not only are we asking students to use their iPads in and out of the school day, we are also asking them to protect them from damage and theft. In discussions with other districts, it is clear there will be a predictable rate of damage. For this pilot, a policy will need to be developed which stipulates under which circumstances the student (and their parents) are responsible for damage and theft. Many districts are moving towards the parents purchasing an inexpensive (\$30-50) policy. However, this has been done usually when a large scale adoption is undertaken. It is not clear at this point if this is the best route to take or to have the district self-insure. Requiring parents to purchase insurance invokes a higher level of participation by parents and presents a more complex pilot environment.

Support will be provided by the Technology Department with access to spare devices and, more importantly, by a select group of student peers, one from each class who will be trained to be the go-to support person and liaison to the Technology department. We will provide a small amount of compensation for their efforts including a free copy of the textbook.

## Timeline

The pilot would begin with the first day of school. Working back from that end point, an implementation schedule is as follows:

June 28 – Administrative review of pilot

June 29 – Make request to FBE for funding

July 10 – Order equipment

July 15 – Create sign off for students participating detailing responsibilities and expectations.

July 28 – Aug. 15 - Configure iPads and prepare for distribution

Aug. 1 – Letters home to parents of students outlining the pilot and schedule of parent meetings/distribution of units.

Aug. 22-30 Distribution with students and parents. Project overview.

Sept. 5 – Organizational meeting with all pilot students.

## Summary

We believe this pilot will be a valuable method to understand and assess how to best implement a one-to-one program at Belmont High School and further recognize when the conditions are right for such an undertaking. We have an enthusiastic staff, an established infrastructure, administrative support and a community that has historically been generous in providing new learning tools. There is no doubt that done successfully, we will have a rare opportunity to lay the groundwork for tangible innovative work. We are not attempting to have all the answers to what innovation will ultimately look like, but we are confident we will have taken significant steps towards changing the learning landscape.

## American Studies Course Syllabus

Mr. Shea

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### **Essential Questions:**

- What is the 'American Dream'?
- What is the role and responsibility of government?
- What is America's place in the world?

### **Course Outline:**

<b>Semester I:</b> (September – January)	<b>Semester II:</b> (January – June)
<b>Quarter 1</b> <ul style="list-style-type: none"><li>a. Summer Reading &amp; the Rise of Segregation</li><li>b. Big Business, Labor, &amp; the American West</li><li>c. Immigration, Urbanization, &amp; Reform</li><li>d. America in World Affairs</li></ul> <b>Quarter 2</b> <ul style="list-style-type: none"><li>a. Progressivism</li><li>b. World War I</li><li>c. 1920s</li><li>d. Great Depression and New Deal</li></ul>	<b>Quarter 3</b> <ul style="list-style-type: none"><li>a. World War II</li><li>b. Cold War: Truman - JFK</li><li>c. America at Home: 50s &amp; 60s</li><li>* Thesis Work</li></ul> <b>Quarter 4</b> <ul style="list-style-type: none"><li>a. Civil Rights</li><li>b. The Vietnam Era</li><li>c. The 1970s &amp; 1980s</li></ul>

### **Sources:**

[https://www.edline.net/pages/Belmont\\_HS](https://www.edline.net/pages/Belmont_HS)

The Americans (online textbook)

### **Bring to Class:**

- iPad
- American Studies binder

### **Expectations:**

- Students will be on time for class
- Students will be prepared for class & follow the 'Warm Up' upon arrival
- Students will contribute meaningfully & respectfully to class

### **Assessment/Grading:**

This year you will be assessed in many ways: homework, open response questions, projects/writing assignments, multimedia displays, participation, and an American Studies portfolio.

Point values for assignments will vary based on the effort and time required. Final grades are calculated by the "Total Point System." For example, if you earn 600 points out of a total 800 points for an entire quarter, your grade will be  $600/800 = 75\% = C$ .

1. *Homework* – There will be daily homework assignments throughout each quarter, including writing, reading, webquests, graded discussion preparation, and research. Reading homework will be assessed through the periodic collection of a ‘Warm Up’ at the beginning of class. Other daily homework will be graded using the following scale:

3 points	Shows strong effort & understanding of the material
2 points	Shows some effort & understanding of the material
1 point	Shows little effort & understanding of the material
0 points	Unacceptable effort shown or no understanding of the material

\* Students must be on time for class to complete the ‘Warm Up’. Students who are excused absent or tardy are responsible for making up their ‘Warm Up’ the next day they are in school (or that day if they return to school) at 2:30p.m. in room 135.

\*\* Late work will be accepted and penalized per assignment rubric. A point will be subtracted each day a homework assignment is late. In order to receive full credit, homework must be submitted during the class it is due.

2. *Open Response Questions* – At the end of each unit, you will answer between 1 and 3 open response questions. These questions will be based on the unit questions that you will receive at the beginning of the unit.

3. *Projects/Writing Assignments* – Projects and writing assignments will be completed in class and outside of school. These projects will help you develop new skills and demonstrate an understanding of the course content. Sometimes they will require research, other times reflection.

4. *Multimedia Displays* – This year in American Studies you will create infographics, argument maps, and other visual displays during each unit. You will be asked to use media, primary source quotes, captions, titles, and analysis to answer a unit question or a variation of a unit question. This will allow you to show your understanding of content, develop research skills, and communicate arguments.

5. *Participation* – Participation will be assessed through whole class discussions, group work, online discussions, and your effort on warm ups (students are responsible for keeping their warm ups). You will complete a self-assessment on your participation once per quarter.

6. *American Studies Portfolio* – Three times during the school year you will reflect on your progress in American Studies, developing a portfolio and personal goals. The portfolio will include your best writing assignments, projects, infographics, and other work and it will address the essential questions.

### **Final Grade:**

Your final grade consists of 4 quarterly grades and 4 quarterly exams. The exam grades are not part of your quarterly grades.

Q1= 20%	Q2=20%	Q3=20%	Q4=20%
Q1 Exam = 5%	Q2 Exam = 5%	Q3 Exam = 5%	Q4 Exam = 5%

### **Office Hours/Extra Help:**

Please email me or speak to me in class to make an appointment. I have free first thing in the morning and at the end of each day. The best place to find me in the morning is in the social studies office. The best place to find me at the end of the day or after school is room 135.

E-mail  
→ Me ←

## iPad Pilot Evaluation Questions - Draft

### **Technology**

How comfortable are you using new technology? Very comfortable, comfortable, a little uncomfortable, uncomfortable

Have you ever used an iPad before? Yes No

Describe your comfort level using an iPad. Extremely, Somewhat, Very little, None

Have you ever used an iPad before to complete school work? Yes No

In past social studies classes, how often did you use technology to create projects / share ideas? Always, Usually, Sometimes, Rarely

In past social studies classes, how often did you use technology to research a topic? Always, Usually, Sometimes, Rarely

In past social studies classes, how often did you use Edline? Always, Usually, Sometimes, Rarely

### **Textbook**

Have you ever used an online book before? Yes No

Describe your level of comfort using an online book. Extremely, Somewhat, Very little, None

How interesting/engaging have you found your previous social studies textbooks?  
Very interesting, interesting, somewhat interesting, not interesting at all

How helpful were these textbooks in helping you learn the content?  
Very helpful, helpful, somewhat helpful, not helpful at all

### **Homework**

In general, how often do you complete your homework?  
Always, Usually, Sometimes, Rarely

In general, how helpful was your homework to your success in social studies courses?  
Very helpful, helpful, somewhat helpful, not helpful at all

## **Student Engagement**

When I use technology in class I find class...More engaging, no difference, less engaging

When teacher uses technology to present information I find class... More engaging, no difference, less engaging

## **Assessment**

In past classes, how well do you think assessments have measured your understanding of the content? Very well, well, adequately, poorly

In past classes, how well do you think assessments have measured your skill development (research, writing, reading, participation, etc.)? Very well, well, adequately, poorly

In past classes, what do you think has been more important to your achievement? An ability to memorize facts, an ability to analyze information

In past classes, has feedback you received on work provided you with ideas for improvement? Always, Usually, Sometimes, Rarely, Never

## **Open Response**

What are you most excited about with respect to using the iPad for class?

What are you most concerned about with respect to using the iPad for class?