

Grant Proposal to the Portola Valley Schools Foundation  
Endowment Grants Committee

2010-11 School Year Funding Cycle #2  
Submitted on December 17, 2010

**Grant Title: iPads: 1:1 iPads, Not a Fad!**

**Submitted by: Daphna Woolfe and Suzanne Fast**

# Grant Proposal: 1:1 iPads, Not a Fad!



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Ormondale Elementary School  
Duration: January 2011, ongoing

*Daphna Woolfe and Suzanne Fast are second and third grade teachers at Ormondale Elementary School. They teach multiple subjects and always strive to bring technology into all curricular areas, thus capturing the imagination and skills of the digital natives that they teach.*

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# 1:1 iPads, Not a Fad!

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## Overview

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The purpose of this grant is to augment the core academic curriculum by stimulating a passion for learning among our students through the use of iPads. The iPad has an incredibly responsive multi-touch screen which can be accessed by students across varying ability levels, thereby promoting a balanced education for all. We have had the opportunity to use five iPads for the past few months in each of our classrooms and continue to be amazed by its potential. With the district's support and coordination of iPads, we are finding new and different uses that not only motivate students, but also teach the content standards in unique ways. The weekly development of new applications allows us to stay up to date with the latest in software and technology which is not feasible with laptops. This sparks a new creativity for both students and teachers and has infused a positive energy within the classroom.

Although each of our classrooms has five devices, we are not fully embracing the potential of this technology. Frustration often occurs when multiple users are not able to access an iPad, as only 1/4 of the class can use them at one time. In order to fully embrace the technology, this tool needs to be available to every student. We know that 1:1 computing has the potential to transform how students learn in powerful and relevant ways. A report released several months ago by Project Red states:

*All of the studies that examined the impact of 1:1 computing on student achievement found that students in the 1:1 settings outperformed their traditional classroom peers on English/Language Arts standardized tests by a statistically significant margin. Study authors also reported on evidence of increased student motivation and engagement, as well as changes in teachers' instructional practices.*

We are currently researching other school districts, such as Burley Elementary School in Chicago, who are using iPads for 1:1 computing in their first and second grade classrooms. We hope to discover whether this new type of device has the potential to take over from desktop and laptop computers at the K-3 level. iPads will be used in all academic areas and become a focus during guided reading, math, science and inquiry time in the classroom. These devices will motivate each and every student.

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## Language Arts

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By applying this technology to the teaching of language arts, we believe that it will have a profound and immediate impact in the classroom. We have already noticed that the various attributes of the iPad naturally differentiate the curriculum for all students, whether they have an IEP, struggle to access grade level content, or need to stay challenged at the high end of the educational spectrum. By each student having access to their own iPad, the possibilities for its use in the classroom are endless.

As we have discovered, one of the most important and immediate uses of the iPad is its ability to record students' reading and store their files into digital portfolios using iTunes. These portfolios can be shared with parents at conferences to show growth in reading fluency throughout the year. Students can record their reading and listen to it immediately, even scoring themselves on rubrics to determine their own growth. This allows the students to gain confidence as readers as they become excited to hear themselves read the text and share the stories with their friends. High student engagement, coupled with the instant feedback, has been shown to increase reading fluency dramatically in a short amount of time.

A study done by the Escondido School District on their iRead program stated, *"Why does this work? Robert Marzano and a team of McREL researchers identified "setting objectives and providing feedback" as one of the nine instructional strategies that improves student performance. As students listen to their recorded readings, they receive immediate feedback that allows them to discern what they are doing correctly and incorrectly."*

An extension of this activity is to create audio books by children. Students type their stories into the **Pages** app and then add a video or audio recording to create an interactive picture book. These books can be saved as ePub docs and downloaded to the **iBooks** app so the students can see their own books appear on the bookshelf along with classics such as Huckleberry Finn or Aesop's Fables. The wonder and excitement that this will bring to our students is truly limitless.

**iBooks** gives students the ability, not only to read books traditionally, but also to interact with the text by highlighting, bookmarking, taking notes, and searching for specific keywords or vocabulary. Students will use this during guided, independent, and shared reading time in the classroom. In addition, audio versions of core material allow children, who are far below grade level in reading, to access grade level appropriate literature. The iPad enables students to track the text while having it read aloud to them. This allows all children to access the information they will need to work on projects, either individually or side by side with their peers. Instead of falling further behind in the content areas, especially science and social studies, they can continue to build their knowledge base at the same rate as the rest of the class. The opportunities for low level students is truly remarkable!

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## Language Arts - continued

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The iPad would also assist students with specific reading issues who struggle with traditional books. The device comes with a screen reader and support for playback of closed caption content which makes material accessible for students who have a disability. Much like the Kindle, this exciting technology, opens doors for students who need large print in order to read. Many children have visual convergence issues, dyslexia, or other problems that make tracking print extremely difficult. The smaller and closer together the text, the more difficult and laborious the act of reading becomes for these students. With one swipe, these students can enlarge the text to a comfortable size, becoming successful and confident readers.

An important part of the pilot process, so far, has been to utilize the iPad to have students respond to literature during small group reading. One recent lesson had them visualizing a scene in their book and drawing a picture using **Doodle Buddy**. Students then saved their picture to the photo album and dragged it into a note-taking app, called **Sundry notes**. Students added their personal observations and connections. These pictures and notes were saved to become part of the student's digital portfolios. Although this was a highly successful lesson, it monopolized the iPads for one group only. By having 1:1 iPads in the classroom, the other students would have the opportunity to work through their language arts menu lessons, including, spelling, grammar, projects, story maps, etc. at the same time. Most work could be saved and sent to the teacher, thereby creating a more extensive digital portfolio.

For word study work there are several applications available, that help students write complete sentences, choosing between nouns and verbs, and other grammar related topics. There are a plethora of spelling applications for all levels and new apps continue to be developed and released on a regular basis. One of the areas of need identified by the Language Arts Committee in this district is consistent support and practice for our children learning to write complete sentences. There is a wonderful app, **Sentence Builder**, which has children choosing from a variety of words to form grammatically correct sentences. The content is entirely appropriate for the elementary grades. Another app, **Smiley Sight Words**, helps children learn the top 1500 words in the English language. These words are taken straight from the same sources which we use in our classrooms today, such as Fountas and Pinnell. The beauty of this application is the multiple user feature, which allows several students to login and set their own lists. **Flash Gram** has children choose the part of speech highlighted in specific sentences and gives them immediate feedback when they respond. **Whiteboard Pro** is a fully interactive drawing application that can be used with multiple devices so that students can work together to complete a graphic organizer, annotate a map, play hangman or simply practice their spelling words. This is just a small representation of the language arts applications available to our students.

*"What never changes is the need for curiosity. What you really need to do is to teach people to be curious." Eric Schmidt, Google CEO*

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## Math and Science

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The iPad also offers a limitless array of programs that support our math curriculum. The applications can help students with a high degree of differentiation that is needed in classrooms at Ormondale. Multiple applications have been written to support the memorization of math facts. One of these, [Math Bingo](#) engages students, whether they are working on addition, subtraction, multiplication or division. This is a much better option than traditional memorization or flash cards. Through the wireless connection, students can play games simultaneously on their own iPads. This will help support and reinforce work already being done in our Powerbuilders program. Students will now have the ability to practice their math facts in a fun, engaging manner.

Many math concepts are explored in the wealth of applications that are available to elementary school students. [Coin Math](#) allows students to work on five different money related activities at varying levels. They can learn coins, match coins, count coins, shop, and make change. [iLive Math Oceans](#) has both incredible graphics and the ability to generate math word problems which teach addition, subtraction, fractions, and geometry. It also has many different educational links and videos for teaching about ocean life. [Freddy Fraction](#), was designed to enhance the student's ability to determine equivalent relationships among fractions, decimals, and percentages, as well as improve fractional computation. All of these applications can be used with the teacher in a small group setting or in centers during independent learning time, thereby enhancing the differentiation experience in the classroom.

The ability to explore the depths of outer space and slink quietly through the tropical rainforest is a unique opportunity provided by the iPad. Students can instantaneously travel to these unique destinations in a high definition format. [GoSkywatchplanetarium](#) allows the students to view and make sense of the night sky. By using the [Google Earth](#) app students can view areas of interest up close in a street view or with topography. They can even get a three dimensional view of important landmarks around the world. Having these resources immediately available in the classroom, in a portable device that students can access at their desk, captures the "teachable moment" and allows for instant visual and written answers to student's questions.

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## Inquiry and the Arts

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The iPad will also be used extensively during Investigative Learning and inquiry based projects. Since our school has been infusing the work of Stephanie Harvey and Harvey Daniels, through the use of Inquiry Circles, the iPad will help the students with their curiosity and questioning, support collaboration and effective research, and offer multiple opportunities to express and share authentic knowledge. Students will have access to specific applications that will help them research subjects using the iPad as a "just right" resource. The World Wide Web can be intimidating for young students, but there

are many applications available for the iPad which would allow students to gain information without the cumbersome nature of typing in URLs. Students' passion for learning will be supported by this new technological innovation. Once students have collected all of their research, they will be able to use the Apple iWorks package to develop final projects. **Pages** and **Keynote** present students with a myriad of templates and work beautifully in the touch screen format. Moving images from a website or folder to a student created document can be done with the mere swipe of a finger. They can also take photographs with classroom cameras and upload these to their documents with the iPad camera connection kit. Trifold brochures, posters, flyers, and invitations allow the students to produce work with a high level of success, no matter what the skill level of the individual.

In order to meet the diverse talents of our students, the iPad offers unique opportunities for those children who are artistic and/or kinesthetic. **Brushes** is a powerful art tool, that has realistic brushes and a wide array of colors choices. Students' creations are only limited by their imaginations. Paintings created using **Brushes** are beginning to turn up for public view, such as on the cover of The New Yorker magazine. These digital "masterpieces" can be included in the students' inquiry projects. Musical programs are a natural extension of the iPod and iTunes format. **Jampad** allows the user to play classic pieces using beams of light as a guide. This app lets the person play alone or with players around the world in a "piano roulette" format. What a wonderful opportunity for our second and third grade students.

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## Final Thoughts

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The expected results are multifaceted and constantly growing. We intend to focus our research on three primary areas:

- Reading Fluency
- Differentiated skill instruction in math, spelling, and grammar
- Advantages of 1:1 computing using iPads

As Corte Madera works toward 1:1 computing in their classrooms, we consider this grant a natural extension for Ormondale. iPads offer a much wider array of educational opportunities than a laptop; this pilot will demonstrate how consistent daily usage across all curricular areas benefits the students. As we work with other districts who have implemented similar digital programs and continue to interface with the education division at Apple, our ability to fully integrate the iPads into the classroom will serve as a model for the entire district. The collaboration that will ensue between us is invaluable to the success of this pilot. We look forward to mentoring other teachers at both school sites, as the proliferation of iPads grows.

# Budget Proposal

Part	Purpose	Cost per item	# of items	Total Cost
<b>Materials</b>				
<b>IPad Wi-Fi 32 GB - 10 Pack</b> BF823LL/A Vendor: Apple	The iPad 10-pack is designed for schools that wish to purchase multiple iPad units simultaneously. The 10-pack is designed to securely hold ten iPad units, power adapters, and cables in a single package.	\$5790	3	\$17,370
<b>iTunes Giftcard</b> Vendor: iTunes	This will allow each teacher to buy applications needed to successfully run the iPad.	\$300	2	\$600.00
<b>IPad Case</b> MC361ZM/A Vendor: Apple	The iPad Case not only protects the iPad, it can be used in various positions so it's easy to type, look at photos and slideshows, or watch movies.	\$10	30	\$300
<b>IPad Camera Connection Kit</b> MC531ZM/A Vendor: Apple	Students will be able to download images taken on a digital camera to use in projects.	\$29.00	2	\$58

**Total Cost of Proposal: \$18,288**

17,688

This budget includes the cost of 15 iPads per classroom. Since our classrooms are currently piloting 5 iPads per room, the addition of 15 per classroom will allow for 1:1 computing for each student.



We understand that a Portola Valley Schools Foundation Endowment Award obligates the awardees to: (1) submit a final report to the Endowment Board and to the District on the results of the grant, (2) to begin using the funds within 6 months of receiving the award, and (3) to return the portion of the funds not yet used, if an awardee terminates his or her employment with the Portola Valley School District during the grant period.

Applicant Signature Daphna & Woolfe Date 12/2/10

Applicant Signature Suzanne Fast Date 12/2/10

Administrator Signature Jennifer Warren Date 12/3/10