DEPARTMENT OF TECHNOLOGY AND MEDIA SERVICES
Wilmette Public Schools

INFORMATION ITEM

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To: Raymond E. Lechner, PhD.
Superintendent of Schools

From: Adam Denenberg
Director of Technology and Media Services

Subject: Highcrest 6th Grade 1:1 Learning Update

Background

In alignment with the goals of the District 39 CONNECTED Strategic Plan, the 1:1 learning program is designed to prepare students for 21st century skills, to be lifelong learners, and to develop skills and knowledge for high school, college, and beyond. At this time all New Trier sender schools (as well as New Trier High School, Regina Dominican, and Loyola Academy) are implementing or piloting a 1:1 learning program.

In the 2012-13 school year, a district technology task force worked closely with CRC to research 1:1 learning environments. As part of this process the CRC committee reviewed the CONNECTED Strategic Plan and concluded that a 1:1 program can directly support the CONNECTED learning goals for students which are to create a community of learners who can master the multidimensional abilities required of them in the 21st century. CRC reported that students in a 1:1 learning environment personify the CONNECTED characteristics of successful learners: creativity, flexibility, risk taking, empathy, persistence, problem solving, self-awareness/discovery, and life-long enthusiasm for learning. A 1:1 learning environment that uses technology as one tool to deliver instruction will also provide students with opportunities to view global perspectives, learn and practice social responsibility, collaborate in learning, and develop strong communication skills. In addition to the CRC review of the CONNECTED plan, a literature review was conducted, case studies were collected and data from surveys were analyzed to highlight student benefits found in 1:1 programs. At the culmination of this study, five overall goals were defined for the district 1:1 learning program.

Program Goal Update

Evidence is being collected to demonstrate how the 1:1 learning goals are being realized. An update on the five program goals is outlined in this section. As all of the goals complement each other and overlap, many examples will fit into multiple goals.

Goal 1: To transform students from consumers of information to creators of content

Dr. Ruben Puentedura is the Founder and President of Hippasus, which is a consulting firm focusing on transformative applications of information technologies in education. For over twenty years he has implemented educational technology approaches at a variety of educational institutions. He is the creator of SAMR, a four-level approach to selecting, using, and evaluating technology in education. The "SAMR" model suggests technology is a continuum and that lower-level technology integration can be categorized as "Enhancement" of teaching practices, while higher-level technology integration is defined as "Transformation" of teaching and learning. The four levels of technology integration as defined by Puentedura are as follows:

1. *Substitution- Technology acts as a direct tool substitute, with no functional change (Enhancement).*
2. *Augmentation- Technology acts as a direct tool substitute, with functional improvement (Enhancement).*
3. *Modification- Technology allows for significant task redesign (Transformation).*
4. *Redefinition- Technology allows for the creation of new tasks that were previously inconceivable (Transformation).*

Student learning can be modified and redefined through assignments and projects more frequently with daily access to a 1:1 learning device. Multimedia components such as sound and video can enhance student projects and offer something not available in traditional assignments that may not utilize technology. When students are creating content with multimedia and other digital tools, they have to attend to accuracy, precise language, reliable sources, and making connections between content that already exists and the content they are creating. Transformative learning experiences require students to be critical thinkers and understand information as they utilize digital tools. Student assignments are also easily differentiated with the various apps and capabilities available on iPads.

Goal 1 Update: Here are some activities that were not easily done or even possible without 1:1 technology. These activities have modified and redefined (SAMR levels 3 & 4) learning experiences.

a) In order to provide students with new ways to study and review vocabulary in multiple modalities, students are creating conversations between two imagined characters with the Puppet Pal app. This activity provides an engaging new way to learn and review vocabulary as students view each other's projects to gain repeated exposure to vocabulary in a concrete and visual way. This lesson also supports research that states that learning is best retained when students have the opportunity to work in multiple modalities; in this case the students have written the script, created visuals, spoken the vocabulary words, and listened to the conversations.
b) In order to guide students to make honest and accurate assessments of their own fitness and basketball skills, students will be recording each other with

their iPads. In basketball they will be capturing their skills and then watching the videos while they complete an online self-assessment. Students will also be using the iMovie app to create a five-minute fitness video highlighting their strength, cardiovascular, and stretching activities. By creating a video rather than watching one, students will be more motivated to do well, and more self-reflective. Also, by having students watch themselves, they are better able to identify areas for improvement. The goal of these activities is that students will achieve higher basketball and fitness skills.

c) In order to provide opportunities for students to work in multiple modalities and demonstrate their learning in social studies, students are using the app Book Creator to design interactive travel books about various aspects of daily life in Ancient Egypt. The travel book includes pictures, audio voice recordings, and videos. The final group interactive projects can be shared among classmates as a teaching and learning tool. Although this may be done on a computer at home as well, when students have daily access to their own iPads there are more opportunities for these projects and for students to share their work.

d) In order to promote self-directed learning when simplifying expressions and combining like terms in math, students took notes as they watched Kahn Academy instructional videos prior to completing practice problems. Students can watch these videos at their own pace and even revisit them as they make their first attempt to practice the math equations. In a traditional lesson, without access to an iPad, the students would not have the ability to watch the instruction at their own pace when needed at school or from home.

e) In order to give everyone a voice and an easy method to contribute to all class discussions, science students were provided with five different essential questions at the start of the sun, earth, and moon unit. The questions were posted to online discussion boards in Schoology with the expectation that students would respond to any prior knowledge they have as well as post their own questions. In the past, the teacher would call on students one at a time and ask them to offer contributions. Not every student would feel comfortable or get an opportunity to participate in this activity. Now, with every student having their own iPad, each student is able to contribute to all questions and create a richer discussion. The class is now referring back to these essential question discussions to guide their learning throughout the unit.

f) In order to integrate maps, Spanish language development, and research skills, students created a virtual tour of Wilmette locations. Using Google Maps they identified and described in Spanish ten places on the map. Students can now tour each other's maps to learn about different places in Wilmette. In the past, the students might use technology to enhance the project and create a presentation with photos and typed descriptions. With iPads, this project is now transformative as it utilizes the Google Earth app to create a virtual tour with photos and descriptive information in Spanish. Students can also share their interactive tours with each other as they learn about places in Wilmette.

Goal 2: To provide access to "anytime anywhere learning"

When students have their own device to use at home and school, and no longer have to share or reserve one, opportunities to learn anytime and anywhere are optimized. With their own device, students can collaborate on projects and communicate with peers and teachers during and outside of school. Students can access information and resources when they have time in their schedules and when a learning need or interest presents itself.

Goal 2 Update: By having a personal device to regularly access Schoology, our student learning management system, students can participate in "anytime anywhere learning" activities. Being able to provide peer and teacher feedback in Schoology, anytime and anywhere, has also accelerated and improved the feedback process. Rather than waiting a day for an assignment to be turned in, and another day for the teacher to write her feedback, it is made available the same day an assignment is submitted. This allows students to arrive at school with clear direction and focus. Teachers can plan activities accordingly resulting in more productive class time for students.

a) Grammar lessons on verbs are being flipped using the app Explain Everything. Students watch videos at home and then take an online adjective quiz in Schoology. The results of the quiz guide instruction and activities the next day. Students are split into groups based on their performance on the quiz so that instruction is tailored to their current understanding of adjectives or other parts of speech. When students have their own device to watch flipped videos and complete related online activities through the Schoology app, they are participating in "anytime anywhere learning" activities.
b) Students have also been participating in class discussions on the Schoology app at home and in school. Some of these discussions have included science in the news, a student created science study group, reflections on current events, and answering Spanish questions. The iPad enables students to continue their discussions and collaborate with peers from home and at school. This helps provide a voice for all students and another way for students to receive prompt peer and teacher feedback.
c) Students have worked collaboratively on Google Drive presentations, sites, and documents from their own homes. Group assignments have included an Ancient Civilization website, and peer editing of essays.
d) Students access class materials and complete assignments when they are home sick. This highlights increased responsibility and is a result of "anytime anywhere learning" enabled by having all day access to an iPad.

Goal 3: To increase student engagement and ownership in learning

Research has indicated that students in 1:1 environments are engaged in their work and take pride and ownership in their learning. They use their devices to look for answers, problem-solve, and communicate when they need assistance. Teachers use technology to differentiate instruction for all learners. They can quickly modify, extend, and individualize content on student iPads, thus providing more time for individual student and teacher interaction. The ability for students to collaborate with others through online learning opportunities such as Google Drive, email, video chatting, online discussions, and other Web 2.0 options also increases student engagement.

Goal 3 Update:

a) Students use past assignments posted on Schoology to create their own study guides. Students pull "claims" about a topic and provide "evidence" (examples) of problems that match what they are claiming they have learned. This is an example of technology and schoology providing an easy way for students to take ownership in their learning.
b) Lessons have been modified to meet different learning needs and engage all learners. Audiobooks have been used for independent in-class reading. The app uPad has been used to modify homework, color code instructions or questions, and to send modified homework to multiple students. Apps such as Class Dojo, One-Minute Reader, and the built in speech to text function have also been used to differentiate instruction, and track positive and negative behaviors.
c) Students have used the Message app and the Air Drop file-sharing feature to collaborate on projects, and share resources with their teachers and classmates. Students are taking an active role in the ownership of their learning and finding the resources to work efficiently and in new ways only possible on iPads.
d) In current event presentations students email article links to their teachers for the topic proposals. When the topic is set the student creates a presentation using the app Explain Everything or Keynote. On presentation day the student displays their multimedia presentation on the Smart Board and lead a class discussion on their topic. The students are not only taking ownership in their learning, they are facilitating learning experiences for their classmates.

Goal 4: To support the information literacy requirements of the Common Core State Standards (CCSS) and the National Education Technology Standards (NETS)

The themes in the NETS-Standards of creative thinking, problem-solving, information literacy, digital citizenship, critical thinking, and technology concepts are being embedded in technology-integrated lessons. These lessons also align with sixth grade curriculum and the Illinois Common Core State Standards.

Goal 4 Update: Most of the examples in the other four goals align with the NETS standards as well as the sixth grade curriculum and the Illinois Common Core standards. The six NETS-S standards are included below along with a reference to examples of projects that align with these standards.

a) Creativity and innovation- students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. (See Goal 1 example a, b, and c)
b) Research and information literacy- Students apply digital tools to gather, evaluate, and use information. (See Goal 1 example f)
c) Digital citizenship- Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. (Introduced and enforced during Goal 5 example a)
d) Technology operations and concepts- Students demonstrate a sound understanding of technology concepts, systems, and operations. (Operations and concepts taught during creation of projects, See Goal 1 example a, b, c, and f)
e) Critical thinking, problem solving and decision making - Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. (See Goal 1 example c and f)
f) Communication and collaboration- Students use digital media and environments to communicate and work collaboratively, to support individual learning and contribute to the learning of others. (See Goal 5 example a and b)

Goal 5: To promote the District 39 CONNECTED Strategic Plan

A 1:1 learning environment that uses technology as one tool to deliver core instruction will also provide students with opportunities to view global perspectives, learn and practice social responsibility, collaborate in learning, and develop strong communication skills. These CONNECTED skills will prepare students to be lifelong learners and develop the skills and knowledge for the future.

Goal 5 Update: By having daily access to a personal 1:1 device at school and home, opportunities for developing CONNECTED skills are increased. With 1:1 programs, teachers no longer have to reserve shared computers at schools and students who may not already have their own device at home are now guaranteed one. Teachers can plan lessons accordingly knowing the students always have their iPad available.

a) Students are creating their own blogs and providing feedback on each other's blogs. They also are contributing to a team blog that provides curriculum updates for parents. The students are learning about digital citizenship as they blog, collaborating on writing, and developing communication skills in an authentic way.
b) Students are participating in discussion boards on current events and science review questions. Here they are participating in social responsibility, collaborative learning, and communication skills.
c) Recognized by parents, staff and the students themselves, their self-advocacy

skills have improved. Students email their teachers for assistance, participate in study guide discussion boards, access assignments when they are home sick, conduct online research, and embrace the responsibility for caring for their iPad and actively participating in an online learning management system. These are all tools made possible by the iPad and 21st century skills that will prepare them for high school, college, and beyond.

Measures of 1:1 Pilot

As indicated in the 2013-14 CONNECTED Strategic Plan, three measures were put in place to determine the success of the pilot program. They are as follows:

- By June 2014, 80% of 6th grade students participating in the 1:1 Learning Environment initiative will report a desire to continue in a 1:1 Learning Environment.
- By June 2014, 80% of parents whose student participated in the 1:1 Learning Environment initiative will report a desire to have their child continue in a 1:1 Learning Environment.
- By June 2014, all piloting teachers in the 1:1 Learning Environment initiative will report a desire to continue teaching in a 1:1 Learning Environment.

These measures will be reported in a board of education update in May, after the end of the year surveys are administered to pilot students and parents.

Also, success indicators for the 1:1 pilot program were defined in the 2013-14 CONNECTED Strategic Plan. These indicators were used to develop the parent and student surveys that were administered in October and reported in the December school board update. They were also used to guide the parent and student focus group discussions. Below are the success indicators:

- Student engagement and ownership of learning, increased school work and project completion, and less reliance on homework assistance structures
- Improved or expanded tools for organizational skills
- Observation of purposeful use of the device for academic endeavors
- Increased collaboration with teachers and classmates
- Increased content creation and easier access to information
- Improved abilities for providing feedback to students
- Expansion of instructional repertoires through technology integration
- Appropriate structures of support for transitioning to a 1:1 environment
- Responsiveness to students' social emotional challenges of functioning responsibly, respectfully, and safely with 1:1 tools
- Aspects of learning management system that were most beneficial

These success indicators will also be used in developing the end of the year student and parent surveys. Those findings as well as an update on the success indicators will also be presented in a board of education update in May.

Parent Focus Group Findings

In January a parent representing one randomly chosen boy and girl from each homeroom participated in a focus group. A total of eight parents contributed to the discussions: seven mothers and one father. Three parents participated in the first focus group, four participated in a second focus group, and the last parent provided separate feedback over the phone. Of note, one parent has a twin boy and girl who are both in the pilot and one parent has older children at New Trier High School participating in a 1:1 learning program. With consent from the participants, the discussions were recorded to help transcribe and analyze the information. Below are some of the questions, common threads, and findings.

1. How has the iPad 1:1 program affected the way you support your child? Are you as involved as in years past?
    - Parents reported that it is harder to follow the work of their children with everything online and less papers coming home. Some of these parents felt that this was not necessarily a bad thing as the program has resulted in an increase in their child's independence and ability to get their own questions answered.
    - A few parents said the iPad has improved the way they support their children as everything is more organized and they do not have to look for handouts or help find homework because they can see it all on the iPad. These parents also commented how the increase in independence and improved organization skills has decreased the need for their support.
    - The majority of parents felt that access to their teachers has removed some of their child's reliance and support from them as their children are more independent and getting help from their teachers and peers as compared to prior years.
    - Every parent reported their children were more organized, on top of their work, and more independent than in the past. They all agreed the iPad has changed their role in supporting their children.

2. Do parents need additional information to better support their child?
    - Parents mentioned they would like to see regular updates when their students are having trouble as well as when they are doing well. These parents also mentioned wanting to see online assignments, due dates, and schedules. Note, two of these parents had not accessed the Schoology parent portal at all or since the parent portal was made available to them.
    - Parents reported using the Schoology parent portal and appreciated the weekly email updates they receive from the system.
    - Most parents agreed it would have been helpful for them to be able to access Schoology earlier in the year.

3. What impacts have you seen on your child's academic learning?
    - The majority of parents reported a positive impact and one parent said "he is having a great year and he would say it is his best year ever, but at this point I am not sure if it is from the iPad, having great teachers, or just a bit of everything."
    - Another parent stated, "They're doing cooler things. They are making videos and kids without iPads are not doing that… I'm filming them doing a runway show dressed up as the characters they are supposed to be describing with adverbs. It's just a whole other level rather than just writing a descriptive paragraph. He is writing it, reading it into the iPad, and filming it."
    - Another parent commented, "I've seen more creativity out of him I don't know if that is maturity or because of the iPad. But he has been encouraged to go beyond in terms of expression and writing. A sense of freedom to go beyond typical writing which in the past hasn't been his strength. He has had more success and is able to use these tools at his disposal and his ability to search for resources on his own has increased significantly."
    - Another parent reported, "I see incredible growth in writing. His communication with his teacher is great, the teacher gives them a lot of feedback on his writing."
    - Another parent stated, "The iPad removes the oops I forgot or oh my gosh I don't have it. They are way more accountable. It is a great tool for the kids."

4. How do you feel the iPads have impacted math?
    - Parents were concerned about their children doing math on the iPads stating they felt it was hard to write on them and there is not enough room to write on them.
    - Several parents commented that math was hard for their children anyway and they are not sure if the iPad is impacting them in any way.
    - One parent thought they could be using more math Apps to help reinforce skills.

5. How do you feel the iPads have impacted your child's organizational skills?
    - All parents thought the iPads have provided a big benefit to their children's organizational skills. They all agreed they would like to get rid of the heavy binders and books.
    - One parent said, "I would say they are more organized because it is all there, there is nothing to lose. There is no I forgot the book or it's in my locker. It's all right there and there is no excuse. "
    - Another parent stated, "I love the fact that if she's home and sick, later in the day she still has access to materials to get things done. "

6. The next questions was on the iPads impact on engagement level and work completion.
    - All parents reported their children were more engaged; they understood the deadlines and assignments and got their work done.

- A parent reported their child is more connected to their teacher and has more access to them. Their child can be shy and the iPad has made it easy to get feedback and help.
- Most parents commented the iPad program is helping teach self-advocacy skills. They stated their children are proactive and find solutions and now parents do not have to be the problem-solvers.
- Schoology and student email are creating a new environment where students are communicating and collaborating more with their peers and teachers. Another parent commented, "She was able to email the teacher over winter break and reminded her that she didn't post the assignment. The teacher thanked her and then posted it online. That stress would have gone all winter break in the past, but she just emailed her and it was solved like that."

7. How would you feel about your child continuing in a 1:1 program next year?
    - Every parent said they want their children to continue in a 1:1 program next year.
    - One parent said, "I think it would be impossible for them to take a step backwards and not be in it. I think it is their new norm. It would be hard for them to go back and not have everything right there."
    - Another stated, "That would be real weird and they would be bummed out. I feel very strongly they keep going that way."

Student Focus Group Findings

In addition to parents, student focus groups were held at the end of January. Two boys and two girls from each homeroom were randomly chosen for a focus group. Four focus groups were held and a total of sixteen children participated. Below are some of the questions and common themes from the groups.

1. How do you feel about the iPad and how it impacts your organizational skills?
    - The majority of students said they liked having everything on their iPads and did not like having the heavy binders.
    - A few students said they still like to have paper copies of some things, but that they would like to have fewer folders. Two more said they want to have at least one folder.
    - One student stated, "I really like it, it keeps me organized, all the papers are in uPad, you have folders for every subject, easy to find, I use mostly the iPad, only a few sheets are in my binder."
    - Another student stated, "I think it's easier because instead of having a million papers to use and you don't know where everything is, but if you have it on the iPad you can create different folders and put specific papers in those folders."

2. If you could change one thing about the iPad, what would it be?
    - Students reported wanting to have a lighter case and another student said he would want a keyboard with his case.
    - A few students reported not wanting to change anything. One stated, "I don't think we should make a ton of changes, all of our classes have adjusted so all of our teachers have stuff that we can use on the iPad. We don't have to use paper anymore, like Mandarin I have a binder for extra paper, but most of the stuff is on uPad."
    - Several students thought there were too many apps on their iPad at the beginning of the year and that they should start out with fewer.

3. What do you feel are the positive and negative academic impacts of the iPad? Do you feel the iPad is distracting? Do you find the iPad to be motivating?
    - For positive impact the following items were mentioned: spell check, access to Schoology, helps with organization, easy to access information, access to Google Drive at anytime, being able to email teachers and peers, and being able to Air Drop documents and resources.
    - For negative impact students mentioned there were too many apps on the iPad, losing work on an app, and that iPads can be distracting because it is easy to doodle on them.
    - For motivation, a few students found the iPad motivating when doing creative projects, one student found the iPad to be motivating because they can type fast and it does not hurt their hand like writing on paper, another student found the organization and ability to create folders and color them to be motivating.

4. How does the iPad affect your work in math?
    - Some students reported preferring to do math on paper rather than the iPad. One stated it was hard to draw with their finger and wish they had a stylus.
    - Several students stated they preferred doing math on the iPad because they have more room to write on it as compared to paper.
    - One said they like having all of their math work in uPad because it backs it up and they don't lose their math worksheets anymore.

5. Have you or anyone you know in the iPad experienced or been a victim of cyberbullying?
    - Every student reported they have not been a victim of cyberbullying and they do not know anyone who has.

6. Have you ever seen or experienced any misuse of the iPad?
    - Students reported doodling.
    - Several students reported seeing students air dropping things that are not school related like a picture or a note.
    - They reported seeing students using the Message app and thought those students were not using it for school related purposes.
    - A few students reported seeing students do non-school related things before class starts, such as messaging or looking at pictures online.

7. Tell me about how you use the iPad to help you be creative in school.
    - " Lots of apps you can use, I've used Pic Collage to take pictures and put them in a collage, I used it for expository essays, we got pictures related to what we wrote about, like flags, food, sport. I was creative with that."
    - "Strip Designer we used for comic strips, we used iMovie to create a commercial, turned out to be really easy, made a movie trailer for fish bowl."
    - "Today we did Pic Collage, instead of writing a word and using it in a sentence. We can write a word and add picture of it use creativity, and we can draw posters, and then you can do really cool Keynotes, we do presentations every Friday, current events, and there's really a large amount of creativity that can go into that … you can add effects, any photos, all kinds of text, and you can take it anywhere."
    - "Puppet Pals, we had to use at least ten of the Wordly Wise words and create a skit, also we had to make up a card game and explain how to do it using Explain Everything."

8. Has the iPad changed the way you communicate with your teacher and/or received feedback? Do you think the iPad changes how you collaborate with your peers?
    - "I feel freer to ask teachers questions instead of waiting to the next day. I don't have to log on to my computer because it's slow, you can quickly share your fish bowl, I can get feedback and revise it."
    - "Yes, for example my partner and I were working on our commercial, we didn't have enough time in class so she was sending me clips and we were able to communicate back and forth, really fast, back and forth, we didn't have to go over to one of our houses."
    - "I would like to say that in terms of self-advocating it has increased drastically with the iPad, because now I just go into email and check a quick email and send it and check it later and it's there…"
    - "Google Docs you can work on the same thing at once and chat in the chat box, it's helpful when you have a project to do with a partner out of school."

9. Would you like to continue using an iPad in all of your classes next year? Why or why not?
    - One focus group all agreed they would like the iPad next year if everything got lighter including the iPad case and the binder. In that group one student also said, "I do want the iPad next year, I feel that I've gotten more motivated to do homework."
    - In a second group everyone said yes, but one student said as long as they can still do their math on paper. Everyone agreed they wanted a lighter binder.
    - In the third focus group everyone said yes, but they don't want to have to use it for everything and they still like paper and pencil at times.
    - In the fourth focus group everyone agreed they would like the iPads again next year.

This feedback from parents and staff has been shared with the pilot team and discussions about course adjustments are taking place. This feedback will also result in alterations in plans moving forward if the program expands next year.

Financial Impact

A long-term financial impact of the 1:1 iPad pilot program has been completed. Savings, as well as potential new costs have been documented. Below is an update on these items:

- Rate and cost of iPad repairs and device replacement: So far two iPads have been replaced due to accidental damage at a total cost of $100.00 to the district.
- Amount of time required by the district technology staff (both technology support and technology teachers) to setup and support the pilot program: A time study was done by participating staff and technical support for the program.
    - Classroom teachers: On average the classroom teachers piloting the program spend less time than the technology staff supporting the program. The classroom teachers averaged 5-10 minutes a day answering questions related to iPad support. In many cases teachers are helping students with an app or directing them to the library for technical support. All teachers agreed they provided more technical support at the beginning of the project and require little additional time now.
    - The Highcrest technology support staff: The building technology and library assistants both help students in the before school drop-in program. On average the program has two to three students per week. Students typically need help restoring or troubleshoot an app, cleaning a screen, backing up their device, or in some cases restoring their iPad. Troubleshooting these items usually takes between 10-30 minutes.
    - The 6th grade technology teacher: She averages three hours a week between staff development, planning, collaborating with teachers, and

co-teaching with the classroom teachers.
    - The district hardware support technician: He averages an hour per week troubleshooting iPads. He has also sent two iPads to Apple for exchanges under the warrantee program and runs the iPad management software.
    - The director of technology: He receives emails from iPadsupport@wilmette39.org. Most emails come from the pilot students and teachers. On average two to three emails come in a week. Most items are solved quickly or passed to the building based technology support. In addition, he attends a weekly 40 minute iPad planning meeting with the pilot team.
- Resources required for the before school technology support program: It is adequately staffed by the building technology support staff with assistance by the library support position.
- Wireless capacity and Internet bandwidth: With the potential addition of iPads at the sixth and seventh grade levels, as well as additional iPads for sixth and seventh grade staff, it was determined that the district bandwidth needs to be increased. The district will be increasing bandwidth to the Internet from 100MB to 1000MB.
- Cost of cases and any required peripheral devices if needed, such as keyboards: A $60 case has been identified.
- Cost of apps and software subscriptions: A $30/per device allocation has been determined for next year based on refinement and adjustments to the current core set of apps. In addition, a calculator app will be purchased for eighth grade students beginning in the 2015-16 school year. The app currently is priced at $30.

In addition to these factors, a study of the current technology equipment budget along with a three-year proposed rollout of 1:1 devices was conducted.

Technology Budget Analysis and Fee Options

With consideration for a potential sixth through eighth grade rollout of the 1:1 learning program over the next three years, an analysis of the district technology budget was completed. With a shift in the type of equipment used at the middle school and junior high, when students have their own devices, areas for cost reallocation were identified. This change requires the district to reanalyze and forecast the annual refresh and replacement cycle as it introduces new technologies. Since the district may push resources into Highcrest and Wilmette Junior High (and eventually push resources from those schools to K-4) there is a one-time benefit. This one-time cost savings will help launch this new initiative, details to follow.

As a starting place, the annual technology equipment budget is $627,000. The district is now in position to begin a new replace refresh cycle in 2014-15. To begin, this plan includes setting aside funds for existing technologies. A minimum annual cost of $95,000 was identified as the current replacement plan for district equipment; including equipment for Internet and telephone services, district audio and visual needs, and wireless network equipment. This replacement plan also includes $35,000 for teacher laptops, $12,000 for desktop computers, and $9,000 for K-5 iPads. A new annual replacement plan is extended in 2015-16 and 2016-17 with many items reduced from the current budget with fewer student laptop and desktop computers to be maintained at the middle school and junior high.

After accounting for replacement equipment expenses, **funding available for the iPad program** was identified. This is the district money available under the current structure of the technology budget. Below is a chart illustrating this information.

Three Year Budget Projection	**2014-15 Expenses**	**2015-16 Expenses**	**2016-17 Expenses**
Current Budget	$627,000	$627,000	$627,000
Less MEC/District Equipment Replacement	($95,000)	($95,000)	($95,000)
Less Teacher Laptop Replacement	($35,000)	($146,000)	($146,000)
Less K-5 iPad Replacement	($12,000)	($29,000)	($29,000)
Less Teacher iPad Replacement	($3,000)	($22,000)	($22,000)
Less Desktop Replacement	($9,000)	($70,000)	($70,000)
Less K-5 Laptop Replacement	($161,000)	($161,000)	($161,000)
Funding Available For iPad Program	**$312,000**	**$104,000**	**$104,000**

Clearly this funding available for the iPad program does not cover all expenses.

Next the **total direct cost for one iPad**, including the device, case, insurance, and Apps was determined. The total direct cost for one iPad was then multiplied by the sixth and seventh grade enrollment projections for 2014-15 and then the sixth grade enrollment projections for 2015-16 and 2016-17. The chart below shows these amounts over the next three years as the **total direct cost for all iPads.**

Cost of iPads	**2014-15**	**2015-16**	**2016-17**
Cost of One iPad			
Keyboard Cases	$60.00	$60.00	$60.00
AppleCare (Insurance)	$79.00	$79.00	$79.00
iPad	$479.00	$479.00	$479.00
Apps	$30.00	$30.00	$30.00
Total Direct Cost for One iPad	**$648.00**	**$648.00**	**$648.00**
Number of iPads	836	421	395
Total Direct Cost for all iPads	**$542,000.00**	**$273,000.00**	**$256,000.00**

In addition to total cost of all iPads, related costs were also accounted for over the next three years. These include an upgrade in technical support at Highcrest and Wilmette Junior High, an increase in district Internet bandwidth to support all of the new devices on the district network, as well as a projected amount of broken cases based on data from this year's pilot program. The chart below highlights these **total related costs** of the iPad program over the next three years.

Related Costs	**2014-15**	**2015-16**	**2016-17**
Tech Staffing Upgrade	$36,000.00	$36,000.00	$36,000.00
Additional Bandwidth	$10,000.00	$10,000.00	$10,000.00
Broken Cases (21 per grade)	$3,000.00	$4,000.00	$4,000.00
Financial Assistance	$22,000.00	$10,000.00	$10,000.00
Total Related Costs	**$71,000.00**	**$60,000.00**	**$60,000.00**

The next step was to add the total related costs and the total cost for all iPads to determine **a projected iPad program cost**. Then the annual funding available for the iPad program was subtracted from the projected iPad program cost to come up with an **additional cost to the district** for the next three years. Below is a chart showing this information.

Costs	**2014-15**	**2015-16**	**2016-17**
Total Related Costs	$71,000.00	$60,000.00	$60,000.00
Total Direct Cost for all iPads	$542,000.00	$283,000.00	$266,000.00
Projected iPad Program Cost	$613,000.00	$343,000.00	$326,000.00
Funding Available for iPad Program	($312,000)	($104,000)	($104,000)
Additional Cost to District	**$301,000.00**	**$239,000.00**	**$222,000.00**

The next chart provides the same information in a different format. Here we are looking at budget totals. After adding the current technology budget and the projected iPad program cost, the funding available for the iPad program is subtracted to calculate the amount needed to support the 1:1 program, the **new technology budget**. The **additional cost to the district** was then calculated by subtracting the current technology budget from the new technology budget.

Technology Budget Adjustment	**2014-15**	**2015-16**	**2016-17**
Current Technology Budget	$627,000.00	$627,000.00	$627,000.00
Projected iPad Program Cost	$613,000.00	$343,000.00	$326,000.00
Funding Available for iPad Program	($312,000)	($104,000)	($104,000)
New Technology Budget	$928,000.00	$866,000.00	$849,000.00
Additional Cost to District	**$301,000.00**	**$239,000.00**	**$222,000.00**

In any case, District 39 needs to find resources to support the increases in the technology budget needed to fund a 1:1 learning initiative. Because devices are ultimately owned by students, fees should be considered. In the long-term this program will cost approximately $225,000 per year. To cover the additional expenses, five different annual technology fees ranging from $75-$175 were reviewed. The first chart examines how fees would assist the district technology budget in a 1:1 program rollout. The chart shows the total sum of fees raised in each given year to offset the program costs.

Student Tech Fee Options	Annual Fee	2014-15	2015-16	2016-17
Option A	$75.00	$66,000.00	$98,000.00	$92,000.00
Option B	$100.00	$89,000.00	$131,000.00	$123,000.00
Option C	$125.00	$111,000.00	$163,000.00	$154,000.00
Option D	$150.00	$133,000.00	$196,000.00	$185,000.00
Option E	$175.00	$155,000.00	$229,000.00	$216,000.00

The next chart shows the net budget differential under each of the fee options.

Additional Expenses Adjusted for Tech Fee Options	Annual Fee	2014-15	2015-16	2016-17
Option A	$75.00	$245,000.00	$121,000.00	$110,000.00
Option B	$100.00	$222,000.00	$88,000.00	$79,000.00
Option C	$125.00	$200,000.00	$56,000.00	$48,000.00
Option D	$150.00	$178,000.00	$23,000.00	$17,000.00
Option E	$175.00	$156,000.00	($10,000.00)	($14,000.00)

You can see that option E is completely budget neutral. One important point about student fees is that eighth grade students will be able to use a calculator app to replace the current required $150 graphing calculator. Also, an expansion of the 1:1 learning program will reduce the cost of student binders as these will be greatly reduced with an online student management system. Finally, if a student technology fee was assessed, students graduating eighth grade who have paid their annual technology fees would be able to keep their three year old iPad which will have a projected $215 value at that time.

The administration suggests the board of education consider a cost neutral plan with fee option E, which is $175 over three years. The board may also consider reducing instructional fees $50 a year over the same time period. This would lower

the net incremental cost to parents to $375 over three years. When you add the savings from the cost of the calculator, the net cost to parents will be $225 over three years. In addition, students will be able to own an iPad with an estimated value of $215 upon graduating eighth grade. Another way to look at this is a $640 purchase for $225. This option is "cost neutral" for parents as the value of the iPad they will own is roughly equivalent to the cost. This option is close to budget neutral for District 39 and the long-standing instructional material fees will be reduced.

Next is a chart summarizing the financial impact to parents.

Financial Impact to Parents	**Sixth Grade**	**Seventh Grade**	**Eighth Grade**	**Total Incremental Cost**
Option E	$175.00	$175.00	$175.00	$525.00
Rebate Instructional Material Fee	($50.00)	($50.00)	($50.00)	($150.00)
Avoided Calculator Fee			($150.00)	($150.00)
Total Out of Pocket	**$125**	**$125**	**($25)**	**$225**
Estimated Residual Value of iPad				$215.00

Parents get the educational value of a new iPad (valued at $640) that they will own at a greatly reduced price ($225). The payments would be extended over three years with a residual value ($215) that is similar to their out of pocket expenses.

Next Steps

Staff development, weekly meetings, and careful monitoring of technology support and resource needs will continue to occur over the remainder of the school year. An end of the year follow-up survey will be given to pilot parents and students and staff development will continue for all sixth, seventh, and eighth grade teachers in the event that the 1:1 learning program is approved by the school board.

At this time the district is asking the school board to consider endorsing the expansion of the 1:1 learning program in March. This expansion would entail a full sixth and seventh grade roll out in 2014-2015 school year, and then provide iPads for each sixth grade class over the next two years while the iPads continue to move up with the students to seventh and eighth grade.

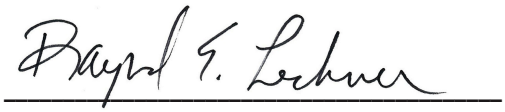
Also the district is asking the board of education to review the proposed technology fees and consider a fee and/or technology budget increase to support the expansion of the 1:1 program at the March school board meeting.

Summary

The 1:1 iPad program has had a positive impact on the educational experience for sixth grade pilot students and staff. Lessons have been learned, areas for improvement have been identified, and course corrections have been made. It is clear through classroom observation, student work, and the majority of parent, student, and teacher feedback, the 1:1 learning program is an essential part of the sixth grade experience. The iPads have extended and transformed learning

opportunities in all classes including the core academic, related arts, world languages, health, and physical education classes. The iPads have also been used to modify lessons and differentiate instruction for all student learners. They have been used to conduct research, collaborate and communicate with teachers and peers, participate in online discussions, create and lead presentations, take assessments, document activities, and design creative projects to demonstrate student learning. With only six months into the program, teachers, students, and administrators feel there are even more benefits yet to be realized.

Recommended for presentation
To the Board of Education



Raymond E. Lechner, Ph.D., Superintendent