**THE PARENTS COUNCIL**

**OF WASHINGTON**

***BEST PRACTICES PROGRAM***

***The Use of 21st Century Technology***

 ***in our Schools: Peaks and Pitfalls***

***Thursday, January 31, 2013***

***Hosted by***

***Holton-Arms School***

***www.parentscouncil.org***

February, 2013

Dear PCW Representatives,

 We want to thank those who attended our Best Practices Program, “The Use of 21st Century Technology in our Schools: Peaks and Pitfalls” on January 31, 2013 at the Holton-Arms School. For those of you who did not attend, we know you will find this useful.

 We are gratified by your enthusiasm and your desire for more discussion, information, and follow-up. We hope that the information shared at the Best Practices Program will lead to a better understanding of the many opportunities our children have through the multitude of technological devices and applications available to school curricula. This year’s program was in direct response to the enormous number of requests we received from the Representatives on what you most need from the PCW right now.

The materials that follow describe practices from many of our member schools. This information illustrates how this technology can be used directly in the school curriculum to teach our 21st century students. We have also enclosed contact information that will allow you to continue conversations on this subject and explore questions in more depth.

Please share these important messages by forwarding the e-binder to your Head of School, your Head of Technology, and the Chair of your Board of Trustees.

Thank you again for supporting the Parents Council’s programs and most importantly your school communities.

 Sincerely,

 *Elizabeth Glabus and Joan Levy*

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PARENTS COUNCIL OF WASHINGTON

2013 PCW BEST PRACTICES

Thursday, January 31

8:30 AM to 11:45 PM

**Holton-Arms School**

**The Use of 21st Century Technology**

**in our Schools: Peaks and Pitfalls**

**Agenda**

8:30 – 9:15 Registration, Coffee and Networking

9:15 – 9:30 Opening Remarks

9:30 - 10:30 School Presentations:

 Lower School – The Langley School, Chris Lindsay,

 Director of Technology

Middle School - The Woods Academy, J.P. Clubbs, Middle School Social Studies Teacher and Team Leader

 Upper School- Holton-Arms School, David Rossell

 Director of Technology

10:30- 11:45 Question and Answer

 Discussion

PCW will send summaries of this morning’s program and e-binder contents, containing each school’s description of their technology programs, to all participants.

Thank you for coming!

**Best Practices Program Summary**

“The Use of 21st Century Technology in Our Schools: Peaks and Pitfalls”

January 31, 2013

Holton-Arms School, Bethesda, MD

Three panelists from Holton-Arms, Woods Academy and The Langley School presented on the use of technology within the Lower School, Middle School and Upper School classrooms of their respective schools.

1. UPPER SCHOOL PRESENTATION

 David Rossell – Director of Technology at Holton-Arms

Academic Technology:

Holton-Arms is one of the early leaders in One to One computing-one device per student. The school’s philosophy and vision for academic technology strive to educate students as responsible technological citizens:

* by working with them every day to learn to be capable of cataloging, sorting and evaluating information from a variety of sources to extract data. To know where to look for information and know how to read sources is critical.
* by preparing them to be competent in technical expertise with any device and to be able to keep up with technological changes.
* by teaching them to be responsible with electronic communication, to make right choices. Digital citizenship is addressed in all divisions and goal is to reduce unfortunate decisions. It is important to understand that information sent once lives on forever on a server somewhere creating problems in their future through association of past decisions that could affect college or job search.
* by showing them how to be flexible and proficient in managing a variety of devices and knowing how to choose the appropriate tool (iPad, laptop or desktop) to accomplish the job necessary.
* by helping them be sophisticated in media consumption and creation. To look critically at the images they are bombarded with in the media and make sound decisions. To create presentations and be able to present to a crowd of people.
* by expanding the classroom and engaging with experts. Technology should be a force multiplier to leverage new capabilities through facilitating collaboration between students, teachers and parents and facilitating a culture of creative risk taking. Willing to take the appropriate steps to try new things in their intellectual lives.

To implement the school’s vision, Holton-Arms created the Online School for Girls for leadership and online education. Online education is a powerful tool for girls to communicate with other girls they may not otherwise encounter or have access to. It makes economic sense by pooling resources creating a way for students to meet girls from other regions and socio economic circumstances.

Holton-Arms is also a leader in blended learning using technology in combination with classroom discussion. Blended learning is not a substitution for personal interaction or to offer more homework, but a way to use time more efficiently and to enhance learning. Teachers are intrinsically involved with online work and in the classroom

Advantages of One to One computing program:

The focus is for students to be working on content. Good technology does not fragment the learning community, but instead enhances it and brings it together.

* Blended learning is more difficult without it.
* There is immediate access to a range of information.
* Provides valuable research and study tool. It’s difficult to share a computer at home.
* Offers the opportunity to teach girls media literacy for college now within a more controlled environment. Students able to try new things, make mistakes within a caring community with less severe consequences.

All Holton-Arms Grade 5 students have iPads for research in the classroom. Families purchase and own the device, but the school specifies the brand, model and who the family purchases the device from.

Does the type of device matter? Yes, a great deal. It should lay flat on the desk. A raised screen increases insecurity and the ability to know if student is really engaged in classwork. Classroom management and collaboration work better with flat devices.

Audiovisual equipment plays a significant role in combination with One to One computing. There is a difference on how teachers teach and students learn when there is the ability to project wirelessly.

David discussed the uncertainty of what the future of academic technology holds. He mentioned that it will still take time to get a handle on how things are going to settle out. It is an exciting, but also confusing time.

2. MIDDLE SCHOOL PRESENTATION

 JP Clubbs – Grade 7 & 8 Social Studies Teacher at Woods Academy

JP discussed that in order to prepare children for the next level, it is important to accept changes with technology and move forward with the ups and the downs. It is a challenge to always be flexible to change as technology is constantly changing, however it is amazing to see the progress from microfiches in the past to online textbooks today, students now have research tools in hand for whatever they want at their fingertips.

Peaks and benefits of using technology:

Technology does not hinder, but instead expands and enhances students’ learning experiences and that it is alright to fail. That is what makes students stronger. For example, a shy student who may not take the risk to raise his hand in class to respond to a question can anonymously do so through an iPad. Technology engages students who may not otherwise choose to get involved creating more confident learners and responsible digital citizens.

* The school feels it is good to be in 2nd place in the technology process. There is the chance to avoid all of the initial glitches and vet the process better. To make sure that the software programs are proven and reliable and continue to enhance learning for students.
* This generation wants access to information immediately and needs to understand how to go about the process. How do we research? How do we find the answer?
* Technology enhances ALL types of learners: auditory, kinesthetic or visual.
* There are many programs and apps available offering endless opportunities to help enhance student learning, further developing student skills and addressing learning types. Woods Academy uses over 90 apps. JP mentioned Kurzweil as one program example. Kurzweil is an interactive based program that helps develop reading and writing. It can highlight words as students read or it can read words to the student.
* Technology encourages collaboration among teachers, students and parents. Another program called Drop Box is useful to share and edit work using tools and providing immediate feedback.

Important factors for technology in the classroom to work:

* Faculty buy-in is important to the success of the school’s technological programs.
* Faculty training is also key for teachers to expand their knowledge.
* Support from administration and parents creates the ultimate team. Children know they can do it.

Pitfalls of using technology:

* The expense. School must budget for iPads it purchases for the students. Currently, Woods Academy 8th graders have access to iPads for the school year and return them at the end. The program will be expanding to 7th graders. Access to sites are limited and the school teaches the students how to understand the iPad and how to use it responsibly. The school maintains and updates the iPads and provides firewalls to prevent access to some sites.
* Distractions can be a problem. There are different technologies available to work with this issue.
* iPads are sometimes not properly taken care of. The school works with the students to develop responsibility.
* Administration needs to monitor, manage and tweak to minimize pitfalls.

Besides the iPad program, Woods Academy also uses laptop carts and has a computer lab that is used by the Lower School. There are two computers within the classrooms and bright link projectors that incorporate the use of electronic interactive pens.

Technology and electronic devices enhance student learning differently than chalkboards, marker boards and whiteboards. It is more exciting for the students to use.

3. LOWER SCHOOL/MIDDLE SCHOOL PRESENTATION

 Christine Lindsay – Director of Technology at The Langley School

The Langley School developed an iPad pilot program for all 8th graders last year. This year, the program has been expanded to all middle schoolers 6th through 8th grade. iPads are purchased by the school and apps are managed by the school through a central management system. Students use the iPads for the school year and bring it home with them every day. The 3rd grade team employs project based learning with iPads within the classroom only. The 4th grade uses laptops and the 5th grade uses MacBook Airs. The different platforms allow the students to pick the tools they like to use. Both paper and electronic are chosen by the 8th graders.

The school uses Google Apps for Education. Everything is saved in Google drive for access from anywhere.

Goals were established for the school’s technology vision:

* Offer instructional technology training for the teachers to change classroom teaching. This is accomplished through one-on-one instruction with a large tech staff, faculty meetings and teachers showing/sharing ideas with each other.
* Create responsible use of technology through speaker presentations to students, faculty and parents to broadcast the same message and address the implications of what students do online. Common Sense Media curriculum units used in grade levels.
* Develop a blended learning program. Moodle, Educate 2.0 provide outside discussions beyond the classroom. Student notes submitted on device result in better grades, more organization-no more lost papers.
* Ensure a dependable hardware and infrastructure is in place to provide support. Network administrators are on board to help.

3rd grade pilot program:

Each student has the use of an iPad within the classroom. Apple TVs are interactive with the iPads on screen. Students can share with and walk peers through ideas. The goals include:

* allowing students to be more independent and self-directed. Students learn how to use apps/iPads on their own.
* offering students more flexibility and becoming more adept to working collaboratively. Students need to determine how to share iPads.
* providing differentiated learning by figuring out what works for the students.
* allowing for more frequent assessments of students.
* developing research skills.

87% of the apps used by The Langley School are creative based apps. iMovie, Garage Band, iStop Motion, Book Creator and Toontastic are among a few examples. Students can create self portraits for their wallpaper through the camera feature to personalize their iPad.

Students play with the different apps and decide which ones to use. Some apps develop reading fluency allowing students to record voice memos as they practice reading. They can listen and redo, keep the best one and email to the teacher. The teacher can then assess the students and pull the ones who need the most help. Other apps provide math and technology assistance. Kahn Academy videos can be accessed. One class made their own mini Kahn Academy videos. Explain Everything app is also popular for students to show others and allow their personalities to shine. Daily reflection at the end of the day is included. Students can take pictures with their iPads throughout the day to use as launch for journal writing. Spell City is an example of one of the skill building apps.

Chris sought feedback directly from the faculty about the benefits of using technology within the classroom and some of the thoughts were that it instills cooperation and learning from peers, expands opportunities for choice and can be an important tool to more deeply assess students.

All three panelists agreed that Steve Jobs never realized the impact Apple products would make in schools and education. Schools are ordering iPads and incorporating them to change the way teachers are teaching. Apple still does not fully understand how much usage is going on with the schools today.

Questions and Answers:

1. **How do you handle students who may not be able to afford iPads/laptops?**

Holton-Arms: Families contribute a portion of the expense. Tuition covers the rest.

1. **How can iPads be used for math and spelling?**

Spell City website and app are useful. Math Bingo is also an app available.

1. **Do students take notes on iPads?**

Holton-Arms: Notes are taken on iPads or laptops either typing or tablet mode. It depends on subject. Some students use Notability app or select another app that works for them.

Langley: Middle School uses apps-paper and pencil ok too.

1. **How do you integrate technology at a young age?**

Langley: Kindergartners use iPads 30 minutes a day in the classroom when they need it.

Talk to your school’s Director of Technology for advice on how to introduce slowly at home.

1. **Where do students go wrong when using One to One computing?**

Holton-Arms: Biggest challenge is Tumblr, Facebook and Instagram. These are the new venues for teens to make harmful mistakes. Social media networking has replaced passing notes in class or saying something damaging.

1. **How do you work with a student who may have difficulty taking notes by typing?**

Langley: Some students take pictures of teacher’s notes on the board with their iPads.

Woods Academy: Multiple methods… Teachers email to students or students can use voice memos.

1. **With a wide range of media literacy in parent community, how can schools keep parents updated?**

Woods Academy: Parent training available through summer institute. Parents of students with iPads are invited to talk about computer apps, technology, permissions, content etc… Expert is also invited outside of school. Blogs are used to keep in touch/update parents.

1. **How do schools approach online reading/textbooks vs. traditional book reading since the brain processes differently?**

Holton-Arms: Approaches online textbooks cautiously. There are not any good standards in place right now. It is difficult to find a single platform. Publishers are not set-up yet and need more time to work out strategy.

Langley: Middle School using online math textbooks only for problems. Videos are included to understand concepts, can be downloaded anywhere. Books are available for students who prefer that.

Woods Academy: With any technology, a mix of traditional style of learning is also used.

1. **For notetaking styles and purposes, are schools providing keyboards or teaching typing skills?**

A stylus can be used for students who prefer writing.

Langley: 3rd grade students have access to an online tutorial website for introduction to typing. 4th grade may not be typing traditional way, but can type fast (30-45 words/min).

Holton-Arms: Physical keyboards are not as common. Glass keyboard on touch screen more common. Students learning how to type on different devices. Parents can purchase keyboards. There are many types to choose from to fit student. However, most students who thought they needed one, do not use it.

Woods Academy: Students need to learn to double check spelling. School purchases keyboards for students who prefer working with them.

1. **Is there anywhere parents can go to learn more about technology?**

Youtube is a good source. Ask children to teach you what they know. Also opens discussion of what they have on their devices. Apple Genius Bar.

Holton-Arms: School gives students detailed instructions on how to operate device. Parent seminars were organized in the past, but cancelled due to lack of participation. Parents can meet with Technology Directors to partner together.

**THE BARNESVILLE SCHOOL**

Our 5th and 6th grade students participate in a “Digital Literacy” course which meets once a week throughout the school year. This course covers topics such as: Safety and Security, Digital Life, Connected Culture (cyber bullying, ethics pertaining to on-line activity, building an on-line community), Respecting Creative Work, Searching and Research, iPad Orientation, Privacy and Digital Footprints, Self-Expression and Identity, etc.

We integrate the teaching of different “apps” and technology programs into our curriculum on a daily basis. We use a variety of educational tools and apps in the classroom. Quite a few of our teachers use “Edmodo” on a regular basis. In the Middle School, we use the devices as both research and productivity tools.

An Acceptable User Policy is sent home for review between parents and students as early as 3rd grade. Students and parents sign these policies. Depending on the severity, abuse or misuse of technology according to such guidelines may result in the removal of the student’s device for a short time or permanently.

We currently have two working groups, which meet occasionally to evaluate and plan the integration of technology in our classrooms - one for middle school (MS) and one for lower school (LS). In addition, we set aside discussion time in the LS and MS faculty meetings every other Tuesday to discuss technology integration.

This year, we have a BYOD iPad program for 6th grade, which will likely continue again next year such that we will have two “official” iPad programs for middle school (6th and 7th.) Unless there is good reason to reconsider our stand next year, it is likely that we will have official iPad programs in grades 6-8. These are one-to-one programs where the students own their devices. In addition, many current 8th grade students and a handful of 5th grade students bring their own devices to school for “unofficial” use throughout the day. As with all technology, we continue to evaluate new platforms for both teacher and student use on a regular basis. In addition to the iPads, we have Smartboards in over half of our Middle School classrooms. While these boards are used, the integration of iPads into the curriculum is overshadowing the use of Smartboards in MS.

In addition to the MS iPad program, we have a class set of iPads for this year’s Kindergarten (one-to-one) as well as half of a class set for PreK (1 to 2). At this point in time, this ratio will likely continue for the 2013-2014 school year. While we are using some iPads in LS, teachers there continue to be interested in using Smartboards in their classrooms. It is possible that we will have additional LS Smartboards next year.

From time to time, we hold parent meetings to discuss current and future technology plans, however, these have not been well attended.

Through a designated fund and other grants, we enthusiastically support teacher training on Smartboards, iPads, etc. It is sometimes difficult for teachers to find the time to leave for training. Barnesville has also brought in speakers/trainers for iPad training for all staff.

Currently, we have one full time in-house staff member who provides all technology development, system administration, and support for administrators, teachers and students. As we continue to incorporate new technologies into the curriculum, we will need additional in-house support resources.

**EDMUND BURKE SCHOOL**

**Curriculum - teaching and applications**

Burke uses technology throughout the curriculum across all departments and grade-levels. This integrated approach is widespread and teaches technology skills in context. All homework is posted online and each student has a school Gmail address that they are expected to check regularly for communication from teachers and the school.

We don’t have a program to monitor or evaluate the technology use in the classroom. We work with teachers on an as-needed basis and teachers assess for themselves the effectiveness of whatever tech they may use during the course of their teaching. Burke teachers have begun to make use of Google docs in the classroom and for assignments. We have also begun a pilot program of the “flipped classroom” where lectures are recorded and watched online at home while class time is devoted to labs, projects and discussions.

**Classroom use of iPads, laptops, tablets, etc**

We have three carts of roughly 10 laptops each that teachers use in the classroom. We also have two labs (17 and 11) and the library (8) for student use and class use. Students also bring their own laptops to school in fairly significant numbers, though we do not have an exact count.

Almost every faculty and staff member has a laptop or desktop assigned to them.

**Parent education**

We send a letter home in the summer for new families with a guide to using the school website. Our school counselor holds parent workshops that include discussions of the appropriate use of technology at home.

A section in the Family Handbook addresses technology use.

**Professional development for faculty**

Faculty professional development is ongoing. during faculty meetings throughout the year, before the year and at the end of the year. Tech department staff work with teachers on an as-needed basis for projects they want to implement. Our tech department maintains a “Tech wiki “online that provides many examples and explanations of also provides a great resource.

**In-house tech support**

One full-time member of the staff provides basic support for students’ personal laptops for academic use of technology and full support for teachers and school-owned machines. Another member of the staff is available on a part-time basis for tech support.

**Burke contacts:**

David Panush, Director of Technology: david.panush@burkeschool.org

Alison Merow, Director of Communications: alison.merow@burkeschool.org

**FLINT HILL SCHOOL**

Curriculum - teaching and applications

Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum? (We welcome specific examples of how your faculty incorporates technology in classroom activities and at home assignments.)

Many of our secondary teachers employ "flipping" as a technique (where the lecture is recorded and watched by students at night and the problem sets are completed during class.) Our teachers also use technology for communication purposes, for example, using google docs for peer editing, group work, or classroom management of documents. In primary classrooms, the use of iPads varies from "app" use to reinforce or practice specific skills (i.e. multiplication facts) to creation apps like using stitch to have students label a picture to using a movie app to make a silent film expressing beginning, middle, and end of a story. Students at all levels also blog.

Classroom use of I-Pads, laptops, tablets, etc. (We are also interested in collecting information on numbers of devices and ratio of students to device.)

We are a 1:1 school so every child in grades JK-4 has an iPad and every student in grades 5 –12 is provided with a laptop.

Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?

Through the acceptable use policy, in person training sessions, and coffees, parents are given multiple sources to access information about technology use.

Professional development for faculty.

Our professional development is ongoing in that we have four full time "Technology Integration Specialists" whose sole function is to help teachers integrate technology into their teaching. These specialists do not fix computers or deal with our network so they can devote all of their time to the integration and professional development of teachers.

What in-house tech support does your school offer to students and teachers?

We have a network/support staff of five who are available to students and teachers during school hours.

Shannan Schuster, Dean of Faculty, provided the responses below. If you have follow up questions, her email is SSchuster@FlintHill.org. If she cannot provide the answers, she can direct you to the appropriate technology expert within the school.

**HOLY TRINITY SCHOOL**

**Curriculum - teaching and applications**
Grade-by-Grade Holy Trinity School (HTS) Technology

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grades | Pre-K | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **School-specific skills** |
| Email |  |  |  |  |  |  | X | X | X | X |
| Cornerstone |  |  |  |  |  |  | X | X | X | X |
| Yearbook |  |  |  |  |  |  |  |  |  | X |
| Navigating a blog |  |  | X | X | X | X | X | X | X | X |
| **Keyboarding** |
| Type to Learn |  |  |  |  | X | X | X | X |  |  |
| **Presentation Skills** |
| Pixie |  | X | X | X | X |  |  |  |  |  |
| Neighborhood Map Machine |  |  | X | X |  |  |  |  |  |  |
| MS Word |  |  |  | X | X | X | X | X | X | X |
| MS Power Point |  |  |  | X | X | X | X | X | X | X |
| MS Publisher |  |  |  |  | X | X |  |  |  |  |
| MS Excel |  |  |  |  |  |  |  |  | X | X |
| Prezi |  |  |  |  |  | X | X | X | X | X |
| Comic Life |  |  |  | X | X | X | X | X |  |  |
| Glogster |  |  |  |  |  | X | X | X | X |  |
| Wordle/Tagxedo Word Clouds |  |  | X | X | X | X | X | X |  |  |
| Storybird |  |  |  | X | X |  |  |  |  |  |
| Animoto |  |  |  | X | X |  |  |  |  |  |
| iMovie |  |  |  |  |  |  |  |  |  | X |
| **Online Skills** |
| Online Safety |  | X | X | X | X | X | X | X | X | X |
| Digital Etiquette |  |  |  |  | X | X | X | X | X | X |
| Evaluating Websites |  |  |  |  | X | X | X | X | X | X |
| Online Research |  |  |  |  | X | X | X | X | X | X |
| Plagarism |  |  |  |  | X | X | X | X | X | X |
| Citing Sources |  |  |  |  | X | X | X | X | X | X |
| Webquests |  |  |  | X | X | X | X | X |  |  |
| Google Docs |  |  |  |  |  |  |  | X | X | X |
| Noodletools |  |  |  |  |  |  |  | X | X | X |
| Quizlet |  |  |  |  |  |  |  |  | X | X |
| **Math/Programming skills** |
| Geometer’s Sketchpad |  |  |  |  |  |  |  | X | X | X |
| Tinkerplots |  |  |  |  |  |  |  | X | X | X |
| Microworlds/Lego Robotics |  |  |  |  |  |  |  |  | X | X |
| CBR (motion detectors) withgraphing calculators |  |  |  |  |  |  |  |  |  | X |
| **Online Games to Reinforce Skills** |
| Mathletics |  | X | X | X | X | X | X | X | X |  |
| RAZ Kids |  | X | X | X | X | X |  |  |  |  |
| Spelling City |  |  | X | X | X |  |  |  |  |  |
| Websites to reinforce basic skills | X | X | X | X | X |  |  |  |  |  |
| iPads | X | X | X | X | X | X | X | X | X | X |
| Ticket to Read |  | X | X |  |  |  |  |  |  |  |

**Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum?**
We do not have a formal system, but the tech team continually communicates with classroom teachers to support core subjects with technology.

**Classroom use of I-Pads, laptops, tablets, etc.**

* In each Pre-K through 1st grade classroom, we have sets of five iPads.
* In the 2nd, 3rd and 4th grade classrooms, and in the LS Language Arts and Math Resource rooms, we have sets of 8 iPads
* In the Upper School, we have five sets of 9 iPads that are used by the Math and Science teachers.
* Most of the teachers at HTS have iPads, and many teachers use their iPads with classroom Smartboards.

We do not have a true 1:1 iPad ratio. In most cases iPads are used by a fraction of the class for “center” activities, but occasionally, the teachers will borrow sets so that every student can work with an iPad. We have a few laptops used by tutors, but they are not used widely at HTS.

We have three computer labs in the school, and each class goes to the lab at least once a week for a 40-45 minute technology class.

**Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?**
There are five ways we communicate information to our parents:

* Parents can find language regarding school technology use from the HTS Parent Handbook on our website.
* Parents can also find the Parish Social Media Use Guidelines on our Website.
* Parents must sign and return a”Technology and Internet Usage Agreement” mandated by the Archdiocese of Washington.
* We also send out a note to parents via Email introducing the accounts and websites used by HTS students.
* Each grade has a Technology class blog, with weekly lessons, links to useful websites, and other information. Links to our technology class blogs can be found here:
	+ <http://www.htsdc.org/faculty-homework-pages/miller/>
	+ <http://www.htsdc.org/faculty-homework-pages/morell-last-year/>

**Professional development for faculty:**
Last summer, HTS ran a series of summer workshops to help strengthen the technology skills of our faculty, and to encourage better technology integration. The list of classes, and links to the presentations can be found below:

* Integrating Technology into Curriculum: <http://htstechnologyblog.blogspot.com/2012/07/integrating-technology-with-prezi.html>
* Web 2.0 Tools for Teachers: <http://htstechnologyblog.blogspot.com/2012/08/some-great-web-20-tools-for-hts-teachers.html>
* HTS Tech Tools 101: <http://htstechnologyblog.blogspot.com/2012/08/notes-from-hts-tools-101.html>
* Strategies for Searching, Researching and Citing Sources on the Internet: <http://htstechnologyblog.blogspot.com/search/label/Research>

We also run informal iPad training and collaboration sessions.

**What in-house tech support does your school offer to students and teachers?**
We have a team of technology teachers who work to support technology integration in the classrooms in a variety of ways, from maintaining iPads and in-class computers and Smartboards to suggesting resources to support core subject learning through technology.

We also maintain a blog to help communicate to teachers some of the lastest developments in educational technology. The link to the blog can be found here:
<http://htstechnologyblog.blogspot.com/>

**Please provide a faculty/ administrator contact for follow up questions.**
Mary Beth Morell - Technology teacher/coordinator - [mbmorell@htsdc.org](http://us.mc845.mail.yahoo.com/mc/compose?to=mbmorell@htsdc.org)

**LAB SCHOOL OF WASHINGTON**

The Lab School of Washington (LSW) believes technology integration into instruction is critically important. Head of School, Katherine Schantz captured it best in the Summer 2012 issue of The Lab School LINK publication: “...(I)t increases the productivity of the mind. It assists with executive functioning, attention, memory retrieval, and print disabilities so that students can focus on critical thinking skills.” Technologies can also offer more engaging opportunities to learn content. Therefore, electronic tools and digital resources have been incorporated into instruction across the curriculum from elementary through high school. Types of tools and resources include:

* Subject specific software/ apps
* Organizational software/apps
* Digitally accessible text necessary for speech-to-text applications and manipulation, such as copy and pasting. Our school wide goal is to provide as much text as possible in an accessible format.
	+ Handouts
	+ Teacher created assignments
	+ Textbooks
	+ Books (most through Bookshare.org which all of our students have access too)
* Speech-to-text applications
	+ DragonNaturally Speaking
	+ Features already available on Apple computers
* Visual projection/ interactive devices
	+ Promethean Boards
	+ Projectors
* Video use
* Video creation
* Web resources

(Please see <http://techlabdc.wikispaces.com/TEACHERS> for just a sampling of the many tools and resources used by teachers. A more updated and expanded site is currently being created and will launch later this year or summer for all the members of the LSW community.)

LSW has recently been noted for our use of technology in the classroom in the following Washington Post articles:

* + [iPads Especially Helpful for Special-Needs Students](http://www.washingtonpost.com/lifestyle/advice/ipads-especially-helpful-for-special-needs-students/2012/04/17/gIQAQn1iQT_story.html?wpisrc=emailtoafriend)***, The Washington Post,*** April 18, 2012
	+ [World Record Attempt Starts at Lab School](https://www.labschool.org/ftpimages/541/misc/misc_94978.pdf)***, The Northwest Current,*** May 16, 2012

An article published last week also referenced an LSW student who has found a love for technology after using it at school. The article is titled, [Managing Your Child's Screen Time](http://www.washingtonpost.com/lifestyle/style/managing-your-childrens-screen-time/2013/01/03/9c47cea2-2e84-11e2-89d4-040c9330702a_story_1.html) ***(The Washington Post Magazine,*** January 6, 2013)

**Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum? (We welcome specific examples of how your faculty incorporates technology in classroom activities and at home assignments.)**

The Director of Educational Technology (Daniel Hartmann) is charged with this duty and working with teachers to integrate technology into the curriculum. Here are a few examples (from so many!) of faculty integration taking place in each division:

* High School
	+ On October 3, the Lab Senior class journeyed to Baltimore to participate in the American Anthropological Association's exhibit "Race: Are We So Different?" which was on display at the Maryland Science Museum and funded by the National Science Foundation. It was designed to address the history, the science and the lived experience of race. Students were asked to examine their own ideas about race as they explored this exhibit, which presented race as an artificial social construct and biological fiction. Lab students began a cross-curricular approach to compose a multi-media exhibit for our school gallery. This involved creating an overall summary video for the exhibit that was put together using separate videos taken by students on their iPads. Students were asked to create group videos using their iPads that answered questions they were given before entering the exhibit. This was much more engaging than writing answers on a piece of paper. Students also voiced their opinions in reaction to things they were learning while at the museum.
* Junior High
	+ Matt Fratalli teaches and entire course exposing students to technology
		- His teacher homepage explains:
			* “**Integrated**” means “together.” In this class we will work on advanced computer projects that are linked together with a content class. For example, we will create a computer animation of a newspaper article that was read in social studies class. We will learn the following software: **Assistive technology** which is tools that help you read and write, **Flash** for animation creation, **HTML** for website creation, **Scratch** for video game creation, **Sketchup** for building creation, **iMovie** for film creation, **Print Shop** for memory book creation, **Google Docs** for newspaper creation and **Mavis Beacon Teaches Typing** to improve keyboarding skill. We will also learn about internet safety and literacy. There is a timeline hanging on the wall.
	+ Web resources were used to complete a teacher created WebQuest. ([Click here for an brief explanation of a webques](http://en.wikipedia.org/wiki/WebQuest)t.) Their webquest involved taking on the role of travel agents and planning a vacation for a good friend of the teacher to Canada as part of their larger unit on Canada.
		- There is a lot of research supporting the effectiveness of this type of lesson design.
* Intermediate
	+ Industrialist Club builds a model of bridge built in the early 20th century. However, they use an engineering student friendly software program to build a model before they actually build a real model of it. Their actual model allows them to see if their calculations for bridge support actually work in the actual world.
* Elementary
	+ Ms. Palmer uses her Promethean to engage students with the manipulation of letters through games she has created for the interactive board.
	+ Ms. Murrett has students diving into the concept of research in her science class using iPads. Her students also create a presentation in groups using apps on the iPad. I have been very impressed.
	+ Jennifer Durham is exposing students to more and more interactive digital books. She is also asking students to read aloud while the iPad is recording so that they can listen back and work with their teacher to recognize areas for improvement.

**Classroom use of I-Pads, laptops, tablets, etc. (We are also interested in collecting information on numbers of devices and ratio of students to device.**

There is a tremendous demand for the use of electronic devices in the classroom. The high school received a gift allowing LSW to launch a 1:1 iPad program (all high school students and faculty members have a school issued iPad). It has been a tremendous success. The rest of the schoolalso have access to iPads, laptops, and what is left of our desktops, which are being phased out. There is a device for about every 5 students in those divisions. Faculty members a given a school issued laptop or desktop that is also available for student use during instruction.

**Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?**

LSW’s Appropriate Use Policy (AUP) concerning the use of all electronic devices can be found in the parent and staff handout book. Students and parents in junior high and high school must sign an acknowledgement form and return it with the schools health forms. If necessary, the document is updated over the summer by the AUP committee. Expectations for students are also mastered at the classroom level throughout the year as the rules are constantly reiterated while students participate in activities involving technology. A series of after school parent workshops focusing on issues generated by technology are just about to be launched. They will take place throughout the year. These will be led by Psychological Services, the Director of Educational Technology, and members of the Educational Technology Committee (faculty and staff).

**Professional development for faculty**

The Director of Educational Technology finds teachers who have created exciting lessons and works with them to create a lesson to deliver to faculty who sign up to participate during half days and after school. The director also brings in experts from outside of Lab to help teachers master existing technology tools on campus. For example, a representative from Promethean has come twice this year to offer teachers one on one help. Teachers can also request to attend conferences and workshops of their choosing.

**What in-house tech support does your school offer to students and teachers?**

LSW employs two full time technology support staff members and one intern to support the school’s technology infrastructure, such as the wireless network. They also assist teacher and student technology issues. The Director of Educational Technology is responsible for all iPad and Promethean assistance and occasionally assists the technology support staff with their requests.

**THE LANGLEY SCHOOL**

The Langley School Technology Department models and supports meaningful integration of technology into all areas of the academic program. Technology is not taught in isolation, but is used as a tool for learning and as a medium for students to share their knowledge within and beyond our classroom walls. When used to its full potential, technology transforms classrooms into student-centered environments that build independent, creative, and global learners. This model aligns with The Langley School’s Strategic Plan for “preparing a generation of students to thrive in the 21st century” and with the school’s technology plan.

The following is an excerpt from the recently developed Langley School Technology Plan. This is the vision that we have set forth for the next three years:

*The Langley School will continue to shift from a traditional classroom teaching model to a mobile, student-centered, blended environment that gives students the opportunity to learn and share their knowledge anytime and anywhere. During the 2011-2012 school year, significant funds were allocated to update the existing technology so that students and teachers have uninterrupted access to the best resources available. The next step is to leverage this investment and implement the goals included in this plan to ensure that students are pushed to become critical thinkers, independent, life-long learners and global citizens in the 21st century. To make this transition, teachers will be provided with systemic professional development and opportunities to develop personal learning networks to move their use of technology forward. They will be part of a learning community that recognizes the strengths of each of its members and takes full advantage of the knowledge of their colleagues both within and beyond our campus to improve their instructional practice. As students have more access to technology in and outside the classroom, teachers will confidently leverage these tools to give students additional opportunities to be creative and collaborative learners.*

As you can see from this vision, the focus is on sound, effective pedagogy and not technology tools. The goal is to be purposeful in our use of technology and ensure that it is adding value to instruction and not simply being used for technology’s sake.

Curriculum

When students begin their education at Langley, we want to ensure that they are comfortable with the available technology. Therefore, every kindergarten student visits the computer lab for 45 minutes each week. Half of each kindergarten class comes at a time and an instructional technologist develops lessons that are aligned to the academic curriculum. This allows the classroom teacher time to provide reading instruction to a smaller group, while the other half of the class develops basic computer skills, such as manipulating a mouse, navigating between windows and programs and beginning to understand how technology can be used as a learning tool. After kindergarten, the model transitions from a scheduled class to one that is fully embedded into the academic day. The students do not have a scheduled technology class. Instead, instructional technologists regularly visit the classrooms and co-teach lessons that integrate technology with the head teacher. The instructional technologists attend grade-level team meetings and meet individually with classroom teachers to plan lessons and projects. These projects give students the opportunity to be creative, collaborate with their classmates and share what they have learned with their peers. In this manner, we are not teaching technology skills in isolation and students are immediately applying the technology they learn to master the academic curriculum. This model continues through eighth grade. Additionally, Middle School students select fine arts classes that include technology options, such as digital art and moviemaking. Middle School students also have electives at the end of the school day which includes technology choices such as Designing an iPad App and Langley Reporters.

Evaluating Technology

Many different parties are involved when evaluating and selecting technology to ensure that we leverage our collective expertise when making decisions. These parties include all members of the technology team, the administrative team, the Board, and the faculty, along with student feedback. It is critical that teachers are deeply involved in the process since they know best what will work for their students. Often we use pilot programs to evaluate the effectiveness of a tool before allocating significant resources. For instance, we are currently piloting a Google Chromebook that every second-grade student and teacher will have the opportunity to test and then share their experience with the instructional technologists. This feedback will be instrumental as we make a replacement plan for second-grade devices.

Use of iPads, Laptops, Tablets, Etc.

At this point, we have 1:1 mobile device access for all students in grades 3-8. Sixth- through eighth-graders have been given an iPad to use in school and at home throughout the school year. Fifth-graders each have a MacBook Air laptop that they use at school and fourth-graders each have a PC laptop for school use. This year each third-grader has a personalized iPad to use throughout the school day and kindergarten classrooms share six iPads. First and second grades have access to laptop carts. Additionally, all students use the one PC and two Mac computer labs on campus.

Parent Education

We feel it is very important to provide resources so parents feel confident supporting their children as they navigate the online world. We are bringing an expert to campus this winter. She will spend an evening with Langley parents sharing her insight into raising children to be positive digital citizens. This individual will also meet with faculty and students in grades 5-8 to reinforce the responsible use of technology.

Professional Development for Faculty

We are fortunate to have a four-person instructional technology team to provide ongoing, individualized professional development for our faculty. The instructional technology team members attend webinars and conferences and follow educational technology blogs to ensure that we are aware of all new developments and tools in the field and can pass this knowledge on to the faculty. We purposely use a number of approaches to training teachers. First, we look to the teachers in our school. During faculty meetings we ask them to share best practices relating to technology. It is so much more powerful for educators to see their colleagues, instead of the technology team, showing how they are using tools with their students. At the end of last school year, we took this sharing to a new level and had an EdTech Share morning. Teachers from Langley and other independent schools led over 20 technology workshops for our faculty. Secondly, we have moved to an individualized approach to meet the professional development needs of each teacher. A member of the instructional technology team meets individually with every teacher. During this meeting, they pinpoint strengths and weaknesses and develop a plan to move this teacher forward in his/her use of technology. In addition to this meeting, teachers meet one-on-one with instructional technologists throughout the year for support when planning a lesson, to learn a new technology tool or when they have questions about the available technology. Lastly, time is set aside during beginning and end-of-year workdays for new technology training, such as the implementation of iPads or a new student information system.

Technical Support

Langley has a network administrator, an iPad program manager and a technologist who support the hardware at our school and understand how important it is for teachers and students to have uninterrupted access to technology. They are accessible via phone or email and immediately respond when technology issues arise.

Follow-Up Questions

Feel free to contact Chris Lindsay, director of technology at The Langley School, with questions.

Email – clindsay@langleyschool.org

Phone – (703) 356-1920 x827

**MCLEAN SCHOOL OF MARYLAND**

**Curriculum - teaching and applications**

As with most schools, we use technology throughout the curriculum to support classroom instruction and student learning, Kindergarten through grade 12. Teachers incorporate a broad range of tools that support student learning and success--- in an assistive capacity.

Highlights include online textbooks and novels, interactive math apps, SMART Boards, Smart Table, iPads, netbooks, student laptops, digital cameras, *Adobe Design Premium,* student blogs, Library resources at home and school, animation, graphic and web design tools, *Facebook* fan pages, *Google Docs,* and many more resources that support classroom learning.

Assistive technology tools and support:

Sound Field Amplification Systems used in multiple classrooms -great for kids with poor hearing, ADD and/or other attention issues.

*Kurzweil 3000- text to speech software*

*Inspiration- graphic organizer*

*Dragon Dictate- speech to text software*

*Read Naturally- reading fluency software*

Digital textbooks and novels are made available for student use

*Bookshare, Learning Ally,* etc.- provide digital and audio books

Teacher web pages with homework assignments, class handouts, videos, notes, and class resources

Here are some examples of classroom technology learning activities-there are a great many more that are not listed here.

* Grade 5 timelines created in social studies on classroom netbooks
* Interactive math practice on the iPads in Lower and Middle School
* Grade 6 social studies and grade 8 history books online that offer interactive material and a “read aloud” option
* Curriculum resource websites accessed on classroom equipment to enhance lessons
* Upper School courses utilized technology extensively for research, presentations, class notes, class blogs, homework help from teachers in the evening, Biology textbook loaded in *Kurzweil*, Literature novels from *Bookshare* loaded on student iPads, *Dragon Dictate* utilized on student iTouch to support writing, video editing on the new iMacs, and more.
* Ancient Rome mock election speeches researched, written, performed and filmed by students in grade 8 Latin classes on the iPads
* Grade 6 vocabulary practice and related activities on the iPads
* SMART Board instructional activities and presentations in grades 1-12
* Smart Table learning activities in Kindergarten and grade 1Discovery Streaming video and class resources utilized school wide
* Middle and Upper School students use school laptops, desktops, and netbooks where needed, as needed to enrich their learning and complete various assignments, research, online activities, blog posts, collaborative work, etc.
* Digital cameras and Flip cams are utilized in multiple classes to document student activities, take photographs for digital editing, photograph sports teams for the website, photograph school events for Yearbook, an Upper School elective, and photograph field trips, etc.
* Scratch animation programming in grades 3, 4, and 7
* Video editing projects and class presentations related to curriculum
* *Google Docs Presentation-* collaborative research projects built as a team
* Graphic and Web design projects
* Science web quests
* *Dragon Dictate* app used in class to support student writing
* We have some teachers beginning to use *Kurzweil* in their classroom instruction, 8th grade lit for example for one of the classes.
* Third graders are going to create trading cards on the iPads about the colonial occupation that they were assigned in the classroom.

**Classroom use of I-Pads, laptops, tablets, etc.**

Classroom use of our hardware resources is extensive- from large screen demonstrations using ceiling mounted projectors and interactive white boards activities to Upper School student blogs in English classes and iPad learning activities in Kindergarten through grade 8.

**Numbers of devices and ratio of students to device.**

Extensive hardware devices are available to students throughout the school including the library, classrooms, and computer labs. In addition, older students may elect to bring their own laptops, iPads, and netbooks to class and connect to our campus wireless network.

School hardware resources include multiple digital cameras, scanners, printers, desktops, laptops, netbooks, tablets, iPads, Alpha Smarts, SMART Boards, a Smart Table, projectors and Sound Field Amplification Systems. For example, every Middle School English student is provided with a Netbook to support the writing program.

**Parent education**

Our technology acceptable use policy and other school policies are stated in our student handbook and published on our school website.

In the past, we have offered evening presentations on internet safety to our community families. We have also held technology nights in the past with various speakers, and might do as well in the future.

Kurzweil 3000 emails- with how to information and training sessions during Middle School parent conference days

Library resources – Follett’sDestiny and online subscriptions posted on our website and shared at K-12 Back to School Nights

Cecily’s Advocacy February Workshop- offers our parents and DC community different topics including this year’s keynote address, “the Healthy Use of Technology: Setting Limits on the Virtual World” presented by Dr. Edward Spector, Psy.D., LLC

**Professional development for faculty**

Technology training is incorporated into our professional development program as new technology is introduced in our classrooms. This year thus far, training has included *Kurzweil 3000*, SMART Board implementation*, Discovery Streaming* options, *Google Docs*, iPad apps and usage, and other classroom tools.

On a continuous basis, we offer one-on-one training to faculty and staff.

Our dedicated network administrator and technology faculty offer in-house support to students and teachers. Most of our repairs are managed in-house.

Sue Minkin

Technology Department Chair

sminkin@mcleanschool.org

**SHERIDAN SCHOOL**

**Curriculum - teaching and applications**

We don’t have a traditional curriculum to teach technology; rather we believe that technology should be integrated into daily instruction and used in authentic ways that foster deeper learning. For example, we use Google Docs to teach the writing process, Skype to connect language classes with native speakers, and wiki’s to help students construct knowledge in their own words. The teaching of content drives technology use. We favor this approach because the content remains the focus, not the technology. To ensure that our students leave with the tech skills they need to be successful, we are creating a developmentally appropriate “road map” of skills the students should learn and when.

**Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum? (We welcome specific examples of how your faculty incorporates technology in classroom activities and at home assignments.)**

We don’t have a policy per se but we have certain criteria that we look for in adopting new technology. A big point of emphasis for us is moving away from desktop programs towards cloud based apps. We also want to adopt apps that allow single sign on with Google Apps for Education to eliminate login issues.

**Classroom use of I-Pads, laptops, tablets, etc. (We are also interested in collecting information on numbers of devices and ratio of students to device.)**

All of our classrooms, from grades 3-8, have 18 Windows 7 laptops. This gives each classroom, enough computers for ⅔ of the class. This model easily supports much of the collaborative work that happens in the curriculum. When whole class sets are needed, additional laptops can be borrowed from a neighboring room. Our 8th grade classroom utilizes iPod Touch devices as part of their math and reading curriculums. Students may bring in their own iPod or the school will provide one for them.

**Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?**

At the start of each school year parents are provided with the [Supplies and Technology Contrac](https://docs.google.com/document/d/16JI-UpVNfHVnDV1UpZHrqeRuSNSEWTe1MkuFlFRHmIY/edit)t. This document contains our responsible use agreement and lists our expectations and policies. Throughout the academic year, as teachers introduce new technology to their students they also are asked to inform parents of the new tools they will be using.

**Professional development for faculty**

Formal professional development for the entire faculty is planned to meet major initiatives of the school. This year, the topics covered were Google Drive and blogging. Informal professional development is a constant theme at Sheridan. The Technology Dept. offers drop in sessions, for teachers, on Wednesdays when there are no faculty meetings. Staff who’ve identified technology as a professional goal regularly meet with the Director of Technology. Resources of interest and upgrades to existing tools are highlighted in the staff blog. Additionally, many staff attend tech focused workshops and conferences throughout the year.

**What in-house tech support does your school offer to students and teachers?**

Sheridan offers full tech support for both students and teachers. The school has a full time support tech that handles both classroom and mobile devices.

**Brian Hewlett**

**Director of Technology**

**Sheridan School**

**bhewlett@sheridanschool.org**

**SIDWELL FRIENDS SCHOOL**

Provide a brief description of how your school incorporates current technology ***as an academic tool***.

* Curriculum - teaching and applications

Sidwell Friends School teaches 5 sections of computer programming in the Upper School in a lab that features iMacs running OSX, Windows 7 and Ubuntu Linux. This affords students the opportunity to develop in multiple environments. We also offer robotics in all three divisions. Though this is an extracurricular activity, the teams are led by full-time faculty accessible throughout the school day.

Technology skills are taught in a lab in grades 2 & 3 and 5 & 6. They are embedded into the classrooms across the other grades. Sidwell is moving toward an embedded model of technology instruction and thus our formal technology classes are reducing significantly. This is being done over time to allow us to increase the number of devices and skill of teachers.

Technology is also significantly embedded into our library curriculum. Databases, online tools for citation and research, such as Noodlebib and Zotero and collaborative writing tools such as Google Docs are all part of our library curriculum.

* Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum?  (We welcome specific examples of how your faculty incorporates technology in classroom activities and at home assignments.)

Sidwell is in the process of a K-12 program review based on a series of Long Range Priorities. This process will inform Sidwell’s program direction for the next 12 years. Because technology serves the needs of curriculum, and because our process for fulfilling the Long Range Priorities is in development phase, we lack the criteria to develop a formal system for monitoring and evaluating technology throughout the curriculum.

We recognize this as a need and are eagerly working, as a community, to move our planning to the next level. We are deep believers that pedagogy should drive technology and not the other way around. Thus, our decision to delay in the development of an evaluation tool for technology integration is deliberate.

That being said, Sidwell recognized the need to build around a system that made it easier for us to see what others were doing and to coordinate across grades and subjects. We also wanted a system to make it easier for our students to access and organize class work. Thus, Sidwell made a K-12 commitment to the Haiku Online Learning Platform in August of 2012. Now, every class in grades K-12 has a presence on Haiku. Though use of the platform varies across teachers, we now have a common tool from which to share, collaborate and gather, even if linking out to other resources. This common platform makes is easier for teachers and school leaders to see what is being done across the school.

* Classroom use of I-Pads, laptops, tablets, etc. (We are also interested in collecting information on numbers of devices and ratio of students to device.)

Sidwell provides iPads at a 2:1 ratio to students in grades K-1. iPads are provided at a 1:1 ratio in grade 4. Grades 2 & 3 will be added to the program next year. The ratio is still being considered for those grades. Sidwell provides Lenovo laptops to students at a 1:1 ratio in grades 5-8. In the Upper School, students are allowed to bring their own devices. Our wireless network was recently expanded to provide adequate access for up to 3 devices per student. Online resources are being added to allow students secure access to Sidwell resources from their personal devices.

Beyond this, we have a PC lab in the Lower School, and a PC language lab in the Middle School. The Upper School features a PC language lab, a Computer Science lab with iMacs running OSX, Windows 7 and Linux, a PC writing lab, a Mac media lab, a Mac instrumental music lab, a Mac choral music lab and 48 laptops for science labs.

* Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?

Formal communication regarding policies comes through the parent handbook. We host meetings for parents of students in 4th grade to discuss online accounts. Meetings for parents with students new to our 1:1 middle school program are hosted at the beginning of each school year to discuss laptop expectations. We also host a meeting for parents of middle school students to discuss on-going issues of the laptops.

The school has worked with our parents association to bring in speakers regarding child development and technology. Our technology staff participates in these events.

* Professional development for faculty.

Each division has one full time technology coordinator dedicated to helping teachers integrate technology into the classroom. This person also works in concert with the IT and library staff to provide a rich learning and support experience for our teachers and students. Professional development looks a little different at each division. However, all include embedded classroom support, before and after school workshops, and facilitated conferences and school visits.

Sidwell Friends School also hosts the Connections Conference at the end of each school year. This tradition began last year. This three day conference comes with one day of breakout sessions and two days of half or full day sessions to give teachers a more immersive experience. We invite teachers from other schools to join us on this professional experience and host networking events throughout the three days to help build our teachers’ professional network both within and outside the Sidwell community.

* What in-house tech support does your school offer to students and teachers?

Sidwell Friends School has a dedicated technician for each division. We also have a database administrator and a network engineer.

**Please provide a faculty/ administrator contact for follow up questions.** This information will be included in the e-binder.

Alex Inman, Director of Information Services
202-537-2496
inmana@sidwell.edu
@alexinman97

**ST ANDREWS EPSICOPAL DAY SCHOOL**

Technology at St. Andrew’s is integrated in all aspects of learning in support of the school’s mission to “know and inspire each child in an inclusive community dedicated to exceptional teaching, learning, and service.” With faculty guidance, technology facilitates communication and organization, engages student imagination, and broadens understanding.

A recent publication of the school’s Center for Transformative Teaching and Learning (<http://www.cttl.org>) entitled “Think Differently and Deeply” gives a full picture of the research-informed and innovative teaching practice at St. Andrew’s. This publication from November 2012, [available online](http://www.thecttl.org/resources/think_differently_and_deeply/index.aspx), contains an article on academic technology.

**Background**

Since each faculty member first received an Apple laptop in 1999, the school’s technology initiatives have been designed to enhance mobility, ubiquity, and the classroom experience. For more than 15 years, the school has supported multiple platforms, Windows, MAC, and Citrix (Windows), with shared network storage, wireless networking, mobile classroom laptop carts, computer classrooms and labs. Following the merger in 2008 with St. Francis Episcopal Day School, and the subsequent addition of grades four and five, technology and academic leaders re-examined technology needs and infrastructure on both campuses, to support all areas of the school most effectively and efficiently.

**One-to-one teaching and learning**

As a result of this needs analysis, in 2011, the school piloted a one-to-one student laptop program using the MacBook Air in grade five. Following the success of the pilot, the one-to-one laptop program began in September 2012 with grades four through six, and for 2013 will expand to include all students in grades four through twelve.

At the Lower School campus, faculty also each has an Apple laptop. Pre-kindergarten through grade one have classroom sets of six iPads, with grades two and three using MacBooks from a shared classroom cart. In 2013, we will bring iPad classroom sets to grades two and three as well, while also keeping the MacBook cart.

This fall, every employee and student in grades four through twelve will have an Apple computer for a total of well over 500 machines. Additional laptops from former classroom carts will be used as loaners or repurposed. Staff members will retain the ability to work in a Windows environment through Citrix, when necessary.

**Infrastructure Improvements**

In preparation for the one-to-one program, in late 2011, the school brought in an outside consultant to examine all aspects of the technology infrastructure, including wireless network, servers, support personnel and training efforts. Recommended changes were put in place during 2012, resulting in a vastly improved and robust infrastructure. The school replaced its aging wired and wireless network with equipment from Aruba Networks, replaced all servers with an array of redundant HP servers powered by VMware. One set of servers was moved offsite (with a redundant set on campus) to leased space in a data center linked via 10 Gbps fiber connection. During the same period, the school also increased bandwidth from 50 to 200 Mbps, added two new members to the technology staff, subscribed to CrashPlan Enterprise for all faculty, staff, and student backups, and moved from a software-based VPN connecting our two campuses to a 100 Mbps point-to-point connection. The school also subscribed to Barracuda Web Filtering for student laptops.

Administration of all Apple devices is carried out centrally by the tech department using the Casper Suite from JAMF software. (<http://www.jamfsoftware.com/>)

All classrooms have been equipped with SmartBoards for several years, and several classrooms are using Apple TVs for mobile IOS device projection.

**Staying Current and Managing Change**

As technology use expands, new software and additional teaching tools appear constantly in a steady stream. Faculty and students are demanding that technology be increasingly mobile and fluid. They take for granted the reliable, ubiquitous access provided by laptops, wireless networks, mobile devices, and continuously syncing web-based services such as Google Drive, Dropbox, Schoology, and others.

A decade ago, SAES introduced Moodle as its learning management system. In September 2011, the school changed from Moodle to Schoology giving faculty a full academic year to make the transition. A similar transition is expected to take place with the move to Google Apps for Education, away from our current email, though the transition will not be done over a complete academic year.

Our Math department is experimenting with iPads for teaching to enhance student engagement, enable wireless projection, and use the tablet features for ‘spontaneous’ collaboration on math problems.

Other future initiatives include the development of a STEAM Lab Initiative (using 3D printing, laser cutting and more) in conjunction with the design curriculum currently planned by the visual arts and science departments for the Postoak campus which houses grades four through twelve.

**Planning and Decision-making**

A key element of effective and budget-conscious technology planning is the *structure* of the decision-making process in the school.

Making sure that technology task force committees are not overly large, represent all interested parties, and have key decision makers on them is crucial for the successful implementation of major tech programs or changes. For example, in advance of the one-to-one laptop program, the school established a task force to examine the questions, plan the process, and spearhead the implementation. The committee included the academic tech coordinator, tech department members and director, the assistant head of school, the Dean of Studies, the chief financial officer, two faculty members who are technology leaders, as well as division heads pertinent to the varying agenda as the program developed from the pilot stage.

Committee members brought their specialized expertise and each made appropriate contributions to the process. For example, the technology director and the CFO developed a 10-year business plan for the laptop initiative, and the dean of studies and academic tech coordinator partnered to bring the developing plans to the academic leadership and the department heads. The department heads were given the technology leadership responsibility to inform and engage their faculty members in the laptop planning.

The school has two key leadership committees – the management team and the academic team, two groups comprised of small groups of key leaders with some overlap in membership. These committees are kept informed of the process of technological change in two ways, either by one of their members being on the task force, or through periodic updates by the academic tech coordinator. The board of trustees has been updated regularly by the head and assistant head, a one-to-one task force member.

Additionally, as the laptop program plan evolved, it was incorporated via the leadership of the department heads into the annual late fall curriculum planning process. This is department-based and highly structured, culminating in the course approval/scheduling followed by student registration in the early spring.

Two other points are worth mentioning in the effectiveness of this process. The key role of dean of studies, a position currently held by an experienced faculty member who is also the head of the school’s Center for Transformative Teaching and Learning (<http://www.thecttl.org>) and sits on several important leadership committees, has facilitated communication about the laptop program between the administration and the faculty.

Additionally, now that the laptop program implementation is underway, the one-to-one task force has transformed into an ongoing committee, called the Emerging Technologies Committee with much the same cross-sectional composition that ensures better transparency for initiatives and change, and more representative decision-making.

The decision chain involved in transitioning to a one-to-one laptop program was based on a temporary variation in the school’s existing leadership structure and decision-making process. This ensured solid information gathering and dissemination, consensus building, and flexibility.

**Tech Support**

*Question:* What in-house tech support does your school offer to students and teachers? Please provide a faculty/ administrator contact for follow up questions.

For faculty and staff, the tech department has set up a school email address for any support issues which generates a support ticket and an automated email response. A member of the tech department then contacts the individual and repairs the problem either in person or remotely depending on the situation. WebHelpDesk is the ticketing system.

Students currently have most of their tech issues filtered through the librarians who contact the tech department as needed. With the introduction of the grades four-twelve laptop program next year, specific support times will be established for students as well as an email address for parents and students to contact during non-school hours.

Roberto Hoffman, the director of technology, can be contacted for further information at rhoffman@saes.org.

**Current technology****as an academic tool**

Faculty at St. Andrew’s are dedicated to understanding their students as individual learners and based upon the latest neuro-educational research, using an array of teaching approaches and tools to meet student needs.

With the introduction of the laptop program, teachers will be able to rely on a consistent suite of tech tools for all students, as well as a more specialized set of software tools for differentiating learning based on student course selection and learning needs.

A full suite of software used by students and faculty includes:

1. Mac OS X – Mountain Lion
2. Adobe Creative Suite
3. Firefox
4. Chrome
5. Google Earth
6. Inspiration
7. Kidspiration
8. WPBD 2013 (bridge design software)
9. SAM Animation
10. Lego programming software
11. iMol (<http://www.pirx.com/iMol/index.shtml>)
12. Molecular Workbench
13. Microsoft Office
14. Scratch
* Specialized scientific software for courses
* Online subscription services including Schoology (learning management system), Google Apps, IXL Math, Atomic Learning, Wixie, PCR Educator, and many more.
1. Barracuda web filtering
2. CrashPlan Pro (web-based backup – all faculty and student laptops)

Web-based subscription services are increasingly important with fewer software packages requiring installation. The advantage of these services is their ubiquitous availability for students and faculty, no load on tech staff, and online collaboration features.

The use of a web-based learning management system, Schoology (<http://www.schoology.com>) offers students and faculty a virtual learning environment with most of the features of a ‘bricks and mortar’ classroom – discussions, quizzes, assignments (posting, submission, correction and grading), calendars, audio/video, and more. One of the strongest features of Schoology for our teaching approach is the ability to differentiate assignments for students.

The goals of technology to broaden horizons, enable collaboration, and deepen interest by making learning relevant are met by the varied suite of software and subscriptions offered to faculty and students, particularly the school’s use of Google-powered online suite of applications, including email, which will become the school standard late this spring.

Faculty use specific technologies such as robotics programming, probeware in sciences, Geometer’s Sketchpad and Nspire for Math, Creative Suite in visual arts and others.

Several other unique creative applications are used in various disciplines; for example, SAM Animation is used for Life Science or Biology students to animate processes and teach classmates.

**In-school system for monitoring, evaluating and adapting technology throughout the curriculum**

Faculty monitor and evaluate new technologies primarily through sharing their practice in their departments and as cross-disciplinary colleagues. Professional development in the form of local and national workshops, conferences and webinars for faculty is strongly emphasized and encouraged so faculty are regularly exposed to new technologies within their disciplines.

A long-standing program of varied summer grants for teachers is in place, as well as several specialized awards for faculty, to improve their teaching and courses, and technology is often a focus of these grants.

The annual Departmental Curriculum Review (DCR) process, led by the dean of studies, brings an in-depth analysis of tech use by faculty in the classroom, provides a plan for the following year, and brings up any requests for new software or tools. This information is used in the budget planning for academic technology. During the DCR, departments submit requests for academic software and tools for the following year to the academic tech coordinator; these are then considered for approval by the Emerging Technologies Committee.

The school also uses FolioCollaborative (<http://www.foliocollaborative.org>/) for professional development. As the school moves towards the one-to-one laptop program, the faculty is encouraged to include technology in their annual professional goal setting.

Curriculum mapping via Rubicon Atlas also provides a method for evaluating, monitoring, and adapting the use of technology in the classroom since the course overview maps are made public on the school website and shared by teachers in department meetings.

The academic tech coordinator and other members of the tech department and the library work closely with students and faculty on technology, and maintain currency on the latest trends. This information is conveyed through the Emerging Technology Committee and initiatives are decided.

Currently, during the 2012-13 academic year, to prepare for the expansion of the laptop program, department heads have held several special meetings about technology, and all faculty have had several meetings and in-service time devoted to preparing for the one-to-one program. From June 12-13, 2013, the school’s Center for Transformative Teaching and Learning (<http://www.thecttl.org/>) will host a three-day technology conference, *Emerging Technology and the Learning Brain,* at school with three nationally renowned speakers. This conference will focus on all aspects of using technology in the classroom to enhance teaching and learning based on the latest neuro- scientific research.

**Parent education**

*Question:* How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?

In the Lower School, preschool through grade three, newsletters from homeroom teachers, as well as an all-school newsletters are emailed to every family. Regular classroom visits, parent education nights and special events bring families into the school to learn about their children’s education, including technology.

In the Intermediate School, weekly homeroom and all-school newsletters are emailed to families. To introduce the I.S. laptop program in January 2012, a letter from the head of school was sent out, followed shortly by a parent breakfast. The same procedure is being followed this year, as the program expands to the Middle and Upper Schools.

A special email address, with numerous key recipients, is available to parents and students in the laptop program for questions and problems during non-school hours.

The school website has a special ‘One-to-One Laptop’ section containing general information, updated FAQs, a video of laptop use in the classroom, and a technical document containing the policies and procedures of the program.

Each September, an introduction workshop is held for students and families to explain the laptop program, hardware/software, and policies and procedures relevant to the grade level of students.

Last year, the academic tech coordinator was invited to a meeting of the school’s parents association to explain and answer any extra questions about the integration of one-to-one laptops in the classroom.

The school handbook for families contains the technology acceptable use policy, or code of conduct.

Further questions can be addressed to Anne Macdonell, Academic Tech Coordinator at amacdonell@saes.org.

**ST PATRICKS EPISCOPAL DAY SCHOOL**

As an academic tool, we integrate technology into the general curriculum whenever we see opportunities to help students create, collaborate, communicate, or gather / organize information. To give some examples, Kindergarten through Grade 2 use VoiceThread to help students reflect on field trips and learning experiences. (VoiceThread lets students record voice comments connected to pictures from the experiences.) Grade 3 students conduct research on select websites and on subscription databases. Some of them also use the child friendly programming tool Scratch, from MIT labs, to create games and simulations related to what they're learning. This year, we are planning for all Grade 3 students to create a video game based on life in colonial Jamestown. Students in Grades 4 through 8 learn to vet websites so that they can successfully conduct research on the open Internet. Occasionally, they use Skype, and we're planning several activities involving Skyping with experts. They use spreadsheets to analyze data. They compose, revise, and share documents and websites using Google Docs and Google Sites. They also continue using the tools they learned in the Lower School--in more sophisticated ways, of course.

When we plan our strategy for integrating technology, we use the International Society for Technology in Education (ISTE) standards as a guide. We have an annual survey that we use to see how well we are implementing the standards.

When it comes to the classroom use of mobile devices, we have started to take some big steps. Starting next year, we’re hoping to move away from using desktops and to have students rely almost entirely on mobile devices. Our students in Grade 7 and 8 have a one-to-one laptop program. In Grades 2 through 6, we have one class set of laptops per grade. We also have one cart of iPads for Kindergarten through Grade 3 and one cart of iPads for grades 4 through 6. That makes our ratio of devices to students in Kindergarten through Grade 6 slightly better than one device for every three students. We have plans to continue improving this ratio very soon.

When it comes to parent education, we have about one parent workshop per year that focuses specifically on technology. At the beginning of the year, we ask all parents to read with their children and sign our Technology Use Agreement. We are in the process of rolling out a blog that will give parents frequent updates about how students are using technology in school. The blog also has a page to share resources that can help parents at home.

Currently, we provide tech support through two IT professionals and our technology coordinator, who provides both tech support and education. Soon, we will be welcoming a new member to our team, a Director of Information Technology. The technology coordinator uses time at faculty meetings, grade level team meetings, and orientation sessions to provide technology-related professional development.

# STONE RIDGE SCHOOL OF THE SACRED HEART

# Curriculum - teaching and applications

Technology plays a major role in the curriculum and programs at Stone Ridge. As the School continues to implement the 1:1 Laptop Program in the Upper School, roll out iPads for Lower and Middle School students, and integrate smart boards that offer touch capability (namely, Promethean Boards) with excellent teaching in all divisions, it is clear that Stone Ridge seeks to be ahead of the curve and competitive with its use of sophisticated technology in teaching. Congruent with its Mission and Philosophy, Stone Ridge is committed to preparing students with skills for creativity, communication, collaboration, information fluency, and critical thinking to embrace the use of technology, become ethical digital citizens, and to transform the world through the creation of positive digital leadership.

Supporting the School’s Mission of inspiring young women to lead and serve with purpose, the technology program is fully dedicated to the integration of developmentally appropriate technology to enhance and support programmatic objectives through project-based learning and adherence to nationally recognized standards for technological literacy. The success of the academic technology program is evident in students’ competence with new technologies and the integration of technology in student-led initiatives such as the student run social action website [www.ImpelledToAct.com](http://www.ImpelledToAct.com/) and the iClub, a student-led club to learn about and develop iPhone apps.

The entire faculty and staff and all Upper and Middle School students are provided with email accounts and have access to multiple quality online subscription-database resources. Faculty are encouraged to create and use course pages accessible through the internal student/faculty portal, *Inside SR,* and Upper School teachers use their course pages to disseminate information and update syllabi and course plans. Many Upper School teachers take web portals to the next level and enhance students’ skill development through the use of collaborative Web 2.0 tools and social networks like Nings and Edublogs.

**Classroom use of I-Pads, laptops, tablets, etc.**

* All Upper School First Academic students are issued an Apple MacBook Pro for the 1:1 Laptop program.
* Each of the three division technology labs has current iMacs.
* All Sixth through Eighth Grade students and their teachers are in the 1:1 iPad program.
* The Lower School has been outfitted with an iPad cart, which holds 30 new iPads.
* The Middle School Library offers Kindles.
* Currently 46 teaching spaces/classrooms have Promethean Boards allowing users the opportunity to manipulate content with a board pen or their finger.
* All computers are dual boot offering Mac OS X and Windows 7 operating systems and the latest versions of Microsoft Office.
* Students have access to Adobe Creative Suite 5 and new Cloud-based applications, such as Evernote (allowing them to create personal electronic portfolios accessible from any internet connection.)

**Parent education**

At the beginning of each year, Stone Ridge parents are provided with a Responsible Use Policy. This policy includes information about the School’s expectations and policies concerning the use of the technology tools at school and at home. Parents and students are expected to sign this form acknowledging receipt of the policy and an agreement to adhere to school policies.

# Professional development for faculty

Stone Ridge provides faculty with various forms of professional development in the area of technology. These forms include but are not limited to on-site software training with the Division Educational Technology leaders and IT staff, one-on-one training and coaching with Divisional Educational Technology leaders, workshops and conferences sponsored by AIMS and ISTE, training at faculty meetings, and the school is currently developing a peer training/development program.

# What in-house tech support does your school offer to students and teachers?

* Helpdesk Support services
* Proactive IT
* Support/Monitoring 24/7 Mobile Device Management (MDM) Data backup (Mac and PC)
* Anti-Virus (AVG) and Backup/Disaster Recovery
* Multiple platform support including Mac and PC
* Documentation – All network documentation is updated in a proactive manor and available in both hard copy form and electronic client portal.

**WASHINGTON EPISCOPAL SCHOOL**

### Summary

* Technology is one of many tools used at Washington Episcopal School to individually guide each student to be informed, skilled, knowledgeable, compassionate, and discerning 21st century global citizens.
* The integration of technology into our curriculum is guided by national standards.
* Students work with iPads, laptops and desktop computers in both classroom and lab environments.
* Classrooms are equipped with SMARTboards, projectors, and document cameras to support a variety of approaches to engaging students.
* A formal process for evaluating and integrating technology into classrooms and curriculum is in place, supported by the administration, faculty, and IT staff.
* Parent Education is a growing consideration at WES, both in terms of understanding how technology is used in the classroom, and how to use technology at home to support students.
* A critical component in the success of our technology programs has been integrating technology education into our existing professional development programs for faculty.
* Everyone at WES, from the IT staff to students, plays a role in supporting each other in using technology effectively to support our mission of being connected to one another as well as the outside world.

### Introduction

As part of our mission, we at WES believe that, amongst a broad range of learning and teaching methods, today’s digital learners must be engaged through the thoughtful implementation and use of technology. As an Episcopal school, we are called to love, respect and honor the students entrusted to our care. In order to best prepare our students it is imperative that we know them- emotionally, intellectually and spiritually - as completely as possible. Part of our knowing is to discern the most effective teaching and learning methods that apply to each student and then to supply the teachers with the tools and knowledge necessary to meet the needs of each child.

Our mission also calls WES students to be connected to one another as well as to the outside world. By utilizing the resources available through technology and the Internet we create the potential for our students to solve real world problems and to connect with students from around the world. Our students can also learn how to use these resources ethically and morally to contribute to the common good of society. By providing these opportunities for WES students we are preparing them to be informed, skilled, knowledgeable, compassionate, and discerning 21st century global citizens.

### Technology and Curriculum, Classroom Use

The use of technology in the Washington Episcopal School curriculum is designed to support the underlying focus of our curriculum programs, ranging from skills reinforcement in mathematics to enrichment in social studies. Following the guidelines of the International Society for Technology in Education’s National Educational Standards in Technology (ISTE NETS), the use of technology is integrated into all aspects of our curriculum, beginning in Nursery and continuing through Grade 8. Ultimately, the goal is to provide our students with the skills and understanding necessary to be successful digital learners and good digital citizens.

Early Childhood

In our Early Childhood program (Nursery through Kindergarten) both traditional computers and iPads are introduced to students. The focus of lessons on traditional computers, which are held in a computer lab, is to develop the vocabulary and basic motor skills associated with computer components and the use of keyboards, mouse and printers, through websites and specialized applications reinforcing age appropriate skills in mathematics, emergent reading, and decision-making skills.

iPads are introduced in Transition (age 4), and are used throughout the year in the Kindergarten (age 5) classroom to reinforce skills in all subject areas. With a ratio in the Kindergarten classroom of one iPad for every two children, teachers can use the iPads in a variety of ways. For example, an app on the iPad for practicing writing reinforces correct letter formation, allowing students to work independently in small groups. Other examples allow students to collaborate, working in pairs to solve math problems.

All Early Childhood students and teachers benefit from interactive whiteboards in their program. SMARTboards in the early childhood classrooms and the EC science center were specially mounted so that students could touch and manipulate applications directly on the screens. These applications reinforce lessons about math, science and language arts and the lessons are taught by classroom teachers trained to use the SMARTboards.

Primary Grades

From a technology perspective, the Primary Program (Grades 1 through 3) is a time of transition, laying the foundations for the Elementary Grades. Time is spent in the computer lab working with traditional software applications to support the curriculum, while iPads continue to be used to support and reinforce skills development in all subjects in the classroom.

The Grade 1 classrooms each have a set of iPads, allowing one iPad for every two students. Grades 2 and 3 also have access to iPads as well as computers in the technology lab. Video projectors and SMARTboards are used in all grades to demonstrate mathematic principles in conjunction with our school-wide curriculum, enVisionMATH. Grade 3 also uses ALEKS, an online application for math facts. The projectors and document cameras are also available in every room, allowing teachers to share student work, examples and print materials easily with the entire class. Internet based resources supporting our reading program, Storytime, are also used in the classroom, as well as being available to students for use at home.

Elementary Grades

In our Elementary program (Grades 4 through 6) the focus is on developing the skills necessary to successfully use a laptop computer to support writing development, presentation skills and research projects. Students in the Grade 4 focus on developing proper keyboarding skills using an interactive program that tracks individual progress and adaptive challenges to each student. Students in Grades 5 and 6 complete a number of multimedia projects, combining text and images either in a document or presentation. Similar to the reading program in Primary grades, the math curriculum includes web-based components which can be used in school and at home.

As part of the elementary program, there is a focus on Digital Citizenship, and an introduction to the academic use of Internet tools such as blogs and forums. For example, the Grade 6 uses a teacher-monitored closed blog for peer reviews and discussions of books.

Students in Grades 4 and 5 have access to laptop carts which are shared between the classrooms. A total of 40 laptops are available to the four classrooms. While mathematically this is a ratio of one computer for every two students, the schedule of the classes allows the teachers to have a computer for every student as often as necessary.

In Grade 6, a set of laptops is kept in each class, allowing the students to each have a laptop available for them to use.

All of the classrooms have technology such as SMARTboards or projectors and document cameras allowing teachers to engage the students in a variety of methods, based on the individual requirements of the class and curriculum.

Middle School

In our Middle School program (Grades 7 and 8) students have access to a large variety of technology, to support their use of specialized applications. For example, a computer lab with 15 iMac computers supports the Digital Arts program, where students develop multimedia projects using the latest audio / video software. These computers, along with a laptop cart and classroom desktop computers provide sufficient resources for each student in Grades 7 and 8 to have access as needed to a computer.

This year, the Grade 8 is piloting a 1-to-1 iPad program, using Google Apps as a document platform. Students use the iPads for writing, note taking, reading, as well as using specific apps for math, foreign language, science and social studies.

Middle School classrooms also have technology such as SMARTboards, projectors and documents cameras which are used by students and teachers to work collaboratively on projects and share activities.

### Monitoring, Evaluating and Adapting Technology

A key strength of Washington Episcopal School is our faculty of experienced and dedicated educators. Technology is viewed is one of many integral tools for supporting our academic programs. As with all of the tools used in the classroom, our faculty plays a critical and leading role in the use of technology in the classroom.

The integration of technology into our classrooms and curriculum follows a three stage process. New technologies and applications of existing technology are first piloted in a particular classroom or situation. These pilots, often initiated by faculty members, are supported and monitored by our IT staff. For example, for the academic year 2012-2013, we are piloting a 1-to-1 iPad program with our Grade 8 students. The iPads, equipped with a keyboard case and access to Google Apps as well as subject specific iPad apps, are used in school and at home.

The results of the pilot are evaluated by faculty, administration and IT, to determine opportunities for expansion. At this stage, significant investment in technology, professional development and support are made to ensure the successful expansion. One area that has seen significant expansion this year is the use of SMARTboards throughout the school. We doubled the number of boards in the school for the 2012-2013 school year, and through a combination of workshops and onsite training have made a significant investment in faculty training.

The final stage involves the periodic review of existing applications. These reviews will consider if an application is still meeting the needs of the students, as well as evaluate potential alternatives, such as newer technology.

### Parent Education

Parent education is a growing consideration for the technology program at WES. For a number of years, parents have been informed by the school about technology use through the school’s Acceptable Use Policy, which outlines the roles and responsibilities of the students, parents, and faculty in monitoring the use of technology.

Parents are interested in learning more from the school about opportunities and challenges of technology use at home. This is increasingly important as more opportunities exist to extend the use of in school technology tools to out of school use. Websites which support our math and reading curriculum in the Primary and Elementary programs are available to students outside of school, as well as the extensive resources on the WES library website for age appropriate research.

We are addressing these opportunities by including more information about technology and its use at school and home in regular grade level meetings with parents. We also share resources from organizations like Common Sense Media with parents.

### Faculty Professional Development

One of the greatest challenges created by the increased use of technology in the classrooms is the effective management of professional development for faculty. The demands on the time of classroom teachers are many, and providing the time for training and lesson plan development is critical to the success of our technology programs.

At Washington Episcopal School, we support our teachers with 3 types of opportunities. First, teachers are encouraged to attend workshops, seminars, symposiums and other activities to learn from other schools and outside experts about the latest improvements in teaching. Often, it is these activities which plant the seed of an idea for a new project or activity using technology. In order to pursue these ideas, the second opportunity which is provided is additional planning time during the regular school day for a teacher to work out the details of a new lesson plan or activity, with support from IT resources. The third opportunity is traditional training, offered in-house during professional development days, which are led by outside experts or staff members who have piloted a particular technology.

### In-House Technology Support

Students and teachers are supported at Washington Episcopal School by our IT staff, by tech savvy faculty members, and most interestingly, by our students. Many of our faculty members have go-to students in their classes for technology issues, which is very empowering for the students and provides a dynamic to the relationship between students and teachers that is very positive.

**THE WOODS ACADEMY**

**Curriculum- teaching and Applications**

The Woods Academy uses technology throughout the curriculum to enhance and extend learning. Students and teachers from Montessori through eighth grade use technology as an academic tool. These tools include both hardware and software.

Several of the purchased software that the school currently uses included: SIRS Discover for research, World Book Online for research, Discover Education for research, review of skills, and online quizzes, Microsoft Office Suite, Type to Learn 4, Everyday Math online, Kidspiration for graphic organizers, Pinnacle Studios for video editing, ReadingA-Z.com subscription for lower school reading material, edhelper.com subscription for lower school subject resources, Kurzweil for assistive reading and writing, and online textbooks in the upper grades. Montessori, first grade, and eighth grade use iPads in the classroom. Teachers and the Director of Technology have purchased over 90 apps for students to use. Students and teachers also utilize various free resources that include online web sites and free software. Some examples of web sites that teachers and students regularly use include quia.com, spellingcity.com, mathfacts.com, nlvm.usu.edu, and arcademicskillbuilders.com. Free software that is used is GIMP for photo editing, Audacity for sound editing, Windows Movie Maker for videos, and CamStudios for screen casting. Students are also given a Google Apps for Education account once they enter fifth grade. This allows them to save work online and collaborate with teachers and students.

The classrooms at the Woods Academy also have hardware that enhances instruction. Most classrooms are equipped with an Epson Brightlink interactive projector. Several classrooms have document cameras. Each classroom also has Wi-Fi powered by an Aruba wireless network. Computers and iPads are also available for use.

At The Woods Academy, technology specific projects and courses are also included in the curriculum. Starting in second grade, students complete a robotics unit with the WeDo Robotics curriculum from Lego. Third graders and fourth graders complete computer programming projects using Scratch and Microsoft Kodu. Fifth graders complete a robotics unit with the Lego NXT curriculum. Sixth graders continue to computer program using both Kodu and Alice programming as well as develop an electronic portfolio through Google Sites. Seventh and eighth grade students learn how to creates videos and edit digital photographs.

**Do you have an in-school system for monitoring, evaluating and adapting technology throughout the curriculum?**

Monitoring existing technology use is challenging. Some of the online subscriptions give usages reports, but software installed of the iPads or computers do not include usage reports. The School can monitor the frequency that laptop carts and computer lab are being used. However, the use of classroom computers and iPads are not tracked. The School can also use its Sonicwall firewall to monitor what web sites are being used by staff and students.

To evaluate technology use, the school is currently working with brightBytes. This company has developed a product called Clarity that evaluates a school’s technology use The Woods Academy also uses surveys, benchmarked against ISTE standards, created through Google Forms and Survey Monkey to survey teaching staff and parents.

**Classroom use of iPads, laptops, tablets, etc.**

* Three laptop carts with 18 laptops each
* One computer lab of 19 computers
* Resource computer lab of six computer
* Two computers per classroom in grades first through fourth
* One iPad per classroom in Montessori
* Two iPads per classroom in first grade
* 32 one-to-one iPads for eight grade students (expanding for 2013-2014)
* Six one-to-one laptops for assistive technology

Students to Device Ratio: 312 / 140. This is almost a 2 to 1 ratio.

**Parent education: How are parents educated/informed about expectations and policies concerning the use of equipment in school and at home?**

Parents are issued a Parent/Student handbook at the beginning of the school year. Within the handbook there is a section on the School’s acceptable use policy for technology. There was also an orientation meeting for parents and students prior to the eight grade students begin issued iPads. The School has also provided after school sessions about Internet safety. These sessions were presented by speakers from outside the School.

**Professional development for faculty**

The School offers the faculty technology professional development in the following ways: workshops given by the Director of Technology, technology consultant led workshops hosted at the school, offsite technology workshops held at conferences or software companies’ offices, and a technology web site and technology themed blog maintained by the Director of Technology.

**What in-house tech support does your school offer to students and teachers?**

The Technology Department provides feedback, guidance, and support on technology issues to improve customer service and support the school directions and initiatives. The department also identifies potential projects and programs which would serve to enhance technological opportunities between the Woods Academy and its students and staff. The Technology Department’s in-house staff is comprised of a full-time Director of Technology and a part-time Technology Support Specialist. The Director of Technology provides support in the form of technology integration and instruction of technology classes for both students and staff. Both the Director of Technology and Technology Support Specialist provide support with all technology related systems and programs. These systems and programs include the School’s wired and wireless network, student information system, classroom web sites, accounting system, phone system, PA system, door access system, surveillance system, iPad program, staff and student file systems, VPN, assistive technology program, and all computer and tablet operating systems, software, and hardware.