



# Online School *for* Girls



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### Whitepaper – April 2011

This quarter, our Whitepaper has a different focus. Whereas last quarter, we discussed macro trends in Online and Blended Learning, this month we wanted to bring it to a personal level.

Susanna A. Jones, the Head of School at Holton-Arms School in Bethesda, Maryland, recently completed the Online School for Girls' course in Blended Learning. Though Susanna has been an advocate for technology in classrooms for a number of years, she describes her experience in this course as a true journey in understanding the impact that technology can have today on all parts of a school. In this whitepaper she shares that journey.

We encourage you to send any feedback on our Whitepapers. We hope that they are a good and relevant snapshot for you into the world of Online and Blended Learning, and give you practical insights and information that you can put to use in your school.

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## Current Trends in Online and Blended Learning

April 2011

Susanna A. Jones, *Head of School, Holton-Arms School*

Recently, in addition to hosting a Chinese teacher, making decisions about snow days, and determining whether we have anything to learn from the Tiger Mother, I've been taking a course entitled "Introduction to Blended Learning" offered by the Online School for Girls (OSG). Over the last two years, experience in online teaching has taught OSG that teaching online or truly "blended" is quite different from face-to-face teaching—it is not simply adding online content to a face-to-face course. This insight prompted OSG to launch professional development courses for teachers. My section of the popular Blended Learning course included teachers and administrators from across the country and two from the American School of Bombay.

It's very possible that you're thinking, "What is blended learning?" Actually, that's a good question and one to which there is no set answer. For the purposes of this course, blended learning was defined as "courses that combine face-to-face classroom instruction with online learning and reduced classroom contact hours (reduced seat time)."<sup>i</sup> So what makes it blended is that teaching and learning take place both online and in a traditional classroom setting, as opposed to a purely online class or solely in face-to-face setting. iNACOL (the International Association of K-12 Online Learning) predicts that blended learning "is likely to emerge as the predominant teaching model of the future."<sup>ii</sup>

The emergence of online learning as a major factor in education prompted my taking the blended learning class. I also knew that I would learn about key technological resources so that I would better understand what is available to teachers. I wanted not just to learn about the resources, but actually try them out; to find out how easy or hard it might be to master them; and to explore firsthand the opportunities and challenges to employing these resources in our teaching.

I would divide what I learned into two categories: 1) mastering various specific technical vehicles; 2) developing an understanding of the applications for these vehicles in an educational setting as well as the theoretical aspects of blended learning. There is layering here: when using technology, you need to understand the vehicle's potential to understand how to apply it; you will understand that potential better if you have actually tried to use it yourself. Quite honestly, once you start playing around with the tools, ideas for their utilization naturally emerge. In addition, when you are taking a class where others are also experimenting with the same technology, you benefit from the sharing of ideas among classmates. In addition, because the blended learning class takes place online, you are both learning the technology and learning online simultaneously, another layering aspect of the experience.

The course used Voicethread and discussion boards extensively. I had used discussion boards a little before—they basically consist of posting a comment to which others can respond and vice versa. In essence, you have a written online conversation amongst a group of people. Voicethread allows you to write, record or film your comments, so it offers a more personal format. For my first Voicethread, in which I was supposed to introduce myself, I prepared notes and redid my submission three or four times. I also had to get accustomed to simple things such as where to position myself for the computer camera. By the end of the four-week course, though, I was producing Voicethreads with the ease of writing an email or making a phone call. This is very user-friendly technology.

We also had to learn how to make a screencast. In a screencast, you film what is happening on the computer screen with accompanying commentary. When you've seen a video that demonstrates how to go through a series of steps on a computer—for example, how to use a new software program, you've watched a screencast. You look at something like that and think: how would I ever be able to do that? However, with tools like Screencast-o-Matic, it's actually remarkably simple.

More specifically, in that assignment, we were supposed to use the screencast to describe a tool or resource to our classmates. Once again there were layers. In my case, I chose to demonstrate something called Prezi. Prezi is a free presentation tool somewhat

### Suggested Resources

Clayton M. Christensen, Michael B. Horn and Curtis W. Johnson, *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* (2008)

Charles D. Dziuban, Joel L. Hartman, and Patsy D. Moskal. *Blended Learning*: <http://net.educause.edu/ir/library/pdf/ERB0407.pdf>

John Watson, *Blending Learning: The Convergence of Online and Face-to-Face Education*: [http://www.inacol.org/research/promisingpractices/NACOL\\_PP-BlendedLearning-Ir.pdf](http://www.inacol.org/research/promisingpractices/NACOL_PP-BlendedLearning-Ir.pdf)

Salman Khan, TED Talk: *Let's Use Video to Reinvent Education*: [http://www.ted.com/talks/salman\\_khan\\_let\\_s\\_use\\_video\\_to\\_reinvent\\_education.html](http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education.html)



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similar to PowerPoint, but much more dynamic. I had seen it used and was intrigued to learn it for myself. So I had to learn two programs: screencasting and Prezi. This was my favorite assignment and from a time and technological perspective, it was the hardest. But successfully mastering the rudiments of Prezi (which is very cool) and creating a screencast that explained it proved tremendously gratifying.

As an added benefit, we also learned about the resources and tools that other people presented. I discovered Wolfram-Alpha, a site that describes itself as a “computational knowledge engine.” You can enter a mathematical expression and it will give you multiple different ways to understand the equation: graph, geometric form, alternate forms of the equation, roots, derivatives, indefinite integral, global minimum, etc., etc.—from Algebra 1 to Calculus. Someone else shared the Google Art Project. On this site you can explore the collections at museums all over the world. The Metropolitan in New York or Versailles or the Uffizi all wait for the click of your mouse and you can move from room to room, zooming in on individual works of arts to a point where you can even see brushwork. And again, it’s all free!

I accomplished all that I hoped and more. I learned a lot about the resources that are available for teachers, some of which have uses for administrators. I learned that there is a huge array of resources out there, some of which may be more useful than others. And I learned that they are all quite accessible and easy to use; not more than an hour or three to four tries achieves mastery of the rudiments and allows one to use the tools with some facility. Technology can be intimidating both because we think it will be complicated and because we don’t think we have the time to master it. I would say these characteristics no longer pose obstacles—quite the opposite. The challenge is that there are so many useful tools available that knowing where to start and how to find them can be overwhelming. The web comes to the rescue here, too, with sites like ISTE Learning (International Society for Technology in Learning) that provide direction.

However, the implications of this technology go way beyond simply being able to record a Voicethread, create a nifty Prezi presentation, or be presented with all the aspects of a calculus problem. As we think about technology as a “disruptive innovation” in education, to use Christensen, Horn and Johnson’s phrase from *Disrupting Class*, it is these implications that stand out as truly important, something I now understand much better than I did five weeks ago.<sup>iii</sup>

I would argue that technology may (and should) revolutionize education to a degree not seen since the invention of the printing press. The printing press arguably contributed to the Reformation and the scientific revolution, two events that permanently transformed Western Civilization and ultimately affected the rest of the world as well. The Reformation spurred a major expansion in the number of people educated, and beginning with the scientific revolution and the Enlightenment, the range of subjects taught has also expanded. The actual delivery of education, however, has changed hardly at all.

Socrates taught a group of students sitting in a room. He asked them questions and they responded. Is that much different from today? No. In fact, institutions as august as Harvard Law School pride themselves on employing the Socratic Method. Today, students much of the time still sit in a classroom with a teacher at the head of the class. They read books, listen to lectures, answer questions in class, take tests and exams, and write papers, as they have done for centuries.

The agricultural revolution, the Reformation, the industrial revolution, the scientific revolution, and the Enlightenment failed to change the delivery of education—why should the information revolution do so? And if it does, how will it? The possibility certainly exists that it won’t. Academia is remarkably conservative—it is, after all, the process of transferring the wisdom and knowledge of the past from one generation to another. However, the forces for change are gathering daily and the potential for a transformation that will benefit students and thus society is at hand.

First, the answer to why change might actually happen. The explanation comes from *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* by Clayton M. Christensen, Michael B. Horn and Curtis W. Johnson. They argue that technology is proving to be a “disruptive innovation” in education. Disruptive innovation occurs when an innovation emerges that completely transforms an industry. Examples of disruptive innovations include: the Kodak camera (and then the digital camera), the Bell telephone, the Sony transistor radio, the Ford Model T, the Xerox copier, and the microcomputer.<sup>iv</sup> A disruptive innovation starts out as something inferior to whatever already exists: “But by making the product affordable and simple to use, the disruptive innovation benefits people who had been unable to consume the back-plane product.”<sup>v</sup> Those people start to buy the new product, it gradually improves, and over time transforms the market. Take the microcomputer for example. When it first came out, only big, powerful mainframe computers existed. No one could really imagine why anyone would want a device that couldn’t really do much. But microprocessors grew more powerful; software became simpler, and over time more and more people began using microcomputers. Eventually, microcomputers came to dominate the computer market, in the process, completely altering the way we do business, communicate, manage our personal affairs and even entertain ourselves.



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According to Christensen's research, the growth of online education—from 45,000 to 1 million participants in eight years—is following the pattern of a disruptive innovation.<sup>vi</sup> People are turning to technology to provide various services that their schools do not. For example, students in schools with limited programs take AP courses online; or students who have credits to make up, take classes online, as do home-schooled students. In addition, as programs develop that allow students to learn at their own pace in ways that fit with their learning styles, technology will either replace tutors or make that kind of individualized instruction available to students who previously couldn't afford it. Remarkably, many of Christensen, Horn and Johnson's predictions published in 2008 have already come to pass.

Where will this disruption take us? To "student-centric instruction," say Christensen, Horn and Johnson. In this process, the role of the teacher is going to change. In some ways, the teacher will need to be more skillful, know her students even better, and understand and be able to teach to different learning styles more effectively. In an environment where students can access virtually all knowledge with the click of a mouse, the teacher becomes the facilitator rather than the purveyor of knowledge. This will certainly take some adjustment, but ultimately the reward will be greater student engagement and learning.

Blended learning accomplishes the shift to more student-centric teaching and learning in several ways. One of the most significant ways comes through an approach called "reverse learning" or "flipped classroom instruction" where, the teacher records lessons that students watch for homework (often along with other assignments such as problems, reading or writing), freeing up class time for hands-on activities or individualized instruction. With recorded lessons, students can go back and repeat parts they didn't understand—as many times as they want. They can refer to the lesson while they are applying the lesson—for example, while they are doing a math problem that demonstrates the concept being taught. Because the lesson was taught online the night before, the teacher will have more time to spend with individual students in class to ensure mastery. Or they might have more time for labs in science. Or they might have more time for student-led discussions, role plays or debates.

## Resources Referenced

Online School for Girls Professional Development Courses:  
<http://www.onlineschoolforgirls.org/programs/professional-development>

VoiceThread: [www.voicethread.com](http://www.voicethread.com)

Haiku Learning Management System:  
[www.haikulearning.com](http://www.haikulearning.com)

Prezi:  
[www.prezi.com](http://www.prezi.com)

Wolfram-Alpha:  
[www.wolframalpha.com](http://www.wolframalpha.com)

ScreenCast-o-Matic:  
[www.screencast-o-matic.com](http://www.screencast-o-matic.com)

For example, a AP biology teacher at Hockaday School in Dallas, Texas is using reverse learning in his classes. He has created 10-minute lectures to present content previously taught in class. The students watch the lectures for homework, leaving more time for labs and class discussion. He reports having completed more labs by midyear than he had done all year last year. His students love being able to watch his lectures on their own time, as well as review them as often as they want.

On the opposite end of the spectrum grade wise, at Holton-Arms Linda Caleb and Kathy Chaney dramatically changed the way they teach fifth grade Design Technology. The students now do most of their content learning online. The class only meets every few weeks, but does so for larger blocks—even a full day (in essence, collecting and merging all the short blocks they didn't use on a regular basis). During that time they tackle big projects, like building small solar cars, where they apply what they learned independently. This approach has proved enormously successful. The girls have responded extremely well to the online learning environment, eagerly doing their assignments and even expanding beyond the required work when a topic peaks their interest. Moreover, the hands-on projects are much more effective when they have longer periods of time in which to work.

Discussion boards, wikis, and VoiceThread offer effective opportunities for reflection outside of class. Students can do a reading or watch a video and then respond online. They have time to think before joining an in-class discussion, and perhaps, more importantly, they interact with their peers and their teacher prior to the class discussion making for a

richer in class experience. In addition, in a traditional setting, most assignments are handed into the teacher who grades them and returns them to the individual students, interaction occurring only bilaterally between the student and teacher. In these kinds of collaborative, multi-lateral environments, students have more opportunity to learn from each other. Teachers have also found that because everyone must participate in these types of online activities, there is more accountability. Moreover, they have discovered that students who are reluctant to speak up in class, often readily participate online.

Finally, quick online assessments allow teachers to have a more accurate gauge of their students' understanding. Quiz programs like Quia, used by the Hockaday biology teacher, allow teachers to create quizzes that efficiently measure students' grasp of material, while providing students with immediate feedback. It also produces reports for the teacher which enables him or her to have a more nuanced picture of students' understanding. Another online resource, Khan Academy makes students complete ten problems



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on a given concept before being allowed to move on. In addition, it can provide teachers with specific information about how long it took a student to do each problem and which problems she answered correctly and incorrectly. As Salman Khan, the founder of Khan Academy said at the NAIS conference last week, “the expectation should be mastery, not a grade.”<sup>vii</sup>

Another benefit of online education is the enhanced opportunities for students to collaborate. For a number of years, we have understood the benefits of collaborative activities. However, there are always logistical challenges related to time and space—it’s not always easy for students with busy schedules who may live miles from each other to get together to work on group projects. However, online space and time are irrelevant. Whether it’s through VoiceThread, discussion boards, wikis, or any number of online collaborative tools, including Google docs and apps, students can work together in all kinds of ways. Moreover, they can work with students from other schools and from other parts of the world. The possibilities are truly endless, allowing for multiple dimensions of learning.

Employing technology in education does not mean substituting a computer for the teacher. Nor, does it mean simply taking what we already do and putting it online. In some ways, the preparation for blended teaching takes longer and is more differentiated, intense and nuanced. As students learn from each other as well as from the teacher and the vast wealth of the web, they assume more ownership of their own learning, while at the same time their teachers have a greater capacity to ensure that each individual achieves mastery. In a blended learning environment, students are more engaged, held more accountable, have more opportunities to express their thoughts, to reflect, to collaborate, and to learn through hands-on, experiential activities. They will learn more, better.

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<sup>i</sup> Charles D. Dziuban, Joel L. Hartman, and Patsy D. Moskal. Blended Learning. Boulder, CO: Educause, 2004. Research Bulletin 2004.5: Educause. Web. 15 June 2010, 2. <<http://net.educause.edu/ir/library/pdf/ERB0407.pdf>>

<sup>ii</sup> John Watson, Blending Learning: The Convergence of Online and Face-to-Face Education. Vienna, VA: North American Council for Online Learning, 2008. Promising Practices in Online Learning. North American Council for Online Learning. Web. 10 June 2010. <[http://www.inacol.org/research/promisingpractices/NACOL\\_PP-BlendedLearning-Ir.pdf](http://www.inacol.org/research/promisingpractices/NACOL_PP-BlendedLearning-Ir.pdf)>, 4.

<sup>iii</sup> Clayton M. Christensen, Michael B. Horn and Curtis W. Johnson, *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* (2008)

<sup>iv</sup> Christensen, Horn, and Johnson, *Disrupting Class*, 50.

<sup>v</sup> Christensen, Horn, and Johnson, 47.

<sup>vi</sup> Christensen, Horn, and Johnson, 91-92.

<sup>vii</sup> Salman Khan, Presentation at the National Association of Independent School’s Annual Conference, February 25, 2011.