

# Working Toward EXCELLENCE

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## Educating the Digital Generation

*In the 21st Century, digital technologies are pushing learning into a new dimension. Our students are changing. Are we?*

BY JOHN NORTON AND  
SHERYL NUSSBAUM-BEACH

WHAT DO FIFTH graders at Huntsville's Terry Heights Elementary, senior English classes in Mountain Brook, eighth graders at Winterboro School in Talladega County, and kindergartners at Vestavia Hills Elementary East have in common?

They've all become "bloggers" on the World Wide Web, where they are regularly writing, sharing artwork, developing projects and participating in online homework assignments—often for community and worldwide audiences. It's fun and engaging, sure, but it's also perfectly in keeping with effective teaching strategies.

"Work that engages students almost always focuses on a product or performance of significance to them," says school improvement

expert Phil Schlechty, whose ideas about student "ownership" of learning have been influential in many Alabama schools. "Students are more highly motivated when their parents, teachers, fellow students, and other (important audiences) make it known that they think the student's work is important."

At Vestavia East, Charlotte Wilson is using her new-found blogging skills to display the work products of Maya and Matthew, Jenny and Peyton, the two Jacks, and all the other kids in her kindergarten class. Parents and other visitors to the WilsonWhiskers blog are welcome to offer ideas and encouragement. To further entice parents to drop by their virtual space, Wilson and her children are also posting digital snapshots of classroom activities. (Visit [wilsonwhiskers.blogspot.com](http://wilsonwhiskers.blogspot.com))

"The children are so excited

and engaged," says Wilson, one of 100 teachers from 20 schools who participated in an online exploration of 21st Century learning this spring. The program, sponsored by the Alabama Best Practices Center and supported by Microsoft Partners in Learning grant, used two web-based learning platforms to engage the school teams—Elluminate Live for real-time meetings after school, and the popular Tapped In education community for asynchronous collaboration.

"This has been one of the best experiences I have had in my career, and I've been teaching for many years," says Wilson. "I become more intrigued about the possibilities of what we are doing every day."

Wilson and other Alabama teachers who are beginning to infuse technology into their everyday class-

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### ON THE WEB

#### Use Technology to Support Literacy

The Literacy Matters website is a resource for middle and high school teachers, parents, and students. A new section provides teachers with up-to-date and practical information about how to use technology tools as a part of reading and writing instruction. You'll find sample lesson plans, online tools, and additional resources.

<http://snipurl.com/techliteracy>

## 21ST CENTURY LEARNING

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# Our 21st Century Schools Are Exploring the Future of Teaching and Learning

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*Working Toward Excellence* is a quarterly publication of the Alabama Best Practices Center. The Best Practices Center, located in Montgomery, works to identify and promote promising education practices, with an emphasis on staff development for teachers and administrators. It collaborates with existing organizations such as the State Department of Education, higher education, local school systems and schools, the regional inservice centers and others. It is facilitated by the A+ Education Foundation, with the generous support of BellSouth Foundation, Community Foundation of Greater Birmingham, Microsoft Corporation, Wachovia Foundation, and the State of Alabama. For more information, call (334) 279-1886.

John Norton, *Editor*

BY CATHY GASSENHEIMER  
ALABAMA BEST PRACTICES CENTER

A TEACHER LAUGHINGLY told me recently, “We bought new phones at home, and my eight-year old took it upon herself to hook them up.” We’re not really surprised when we hear stories like this. Today’s students have been exposed to technologies like cellular phones, computer games and the Internet almost since birth. Researchers are describing them variously as “digital natives,” “Generation M(edia),” or “the Net Generation.”

The young people in today’s classrooms are multi-taskers who regularly use technology outside of school to learn and communicate with peers. In a recent article, “Portrait of a Digital Native,” teacher Tom McHale quotes one of his high students: “If I’m doing some extensive work at home, I can carry on a conversation with friends and read a deep article,” she says. “I can jump from one thing to another very easily. Most kids can.”

Perhaps, says McHale, citing recent research that suggests young brains can be trained to multitask, “the digital generation has developed multitasking prowess beyond that of its parents.”

In the face of all this change, many schools are like islands, surrounded but isolated from the digital flood—still firmly grounded in the learning styles of of the last century. Many teachers still teach like they taught when Generation M’s parents were in school.

Education consultant Marc Prensky ([www.marcprensky.com](http://www.marcprensky.com))

describes those of us who grew up before the advent of the World Wide Web and other technologies of the past 15 years as “digital immigrants.” Digital immigrants, he argues, “typically have very little appreciation for (the) new skills that the Natives have acquired and perfected through years of interaction and practice.”

Prensky then poses this provocative question: “Is it that Digital Natives *can’t* pay attention, or that they *choose not to*? Often from the Natives’ point of view their Digital Immigrant instructors make their education *not worth* paying attention to compared to everything else they experience.”

## ABPC’s 21st Century initiative

Whether or not we agree with Prensky, it seems clear that if we expect to engage today’s students, our teachers must become more skillful in using new tools and strategies that match the needs and habits of the 21st Century learner.

As one small part of a larger, long-term effort now being undertaken by many concerned education, business and political leaders, the Alabama Best Practices Center is offering a two-year professional development program that engages small teams from participating schools in powerful conversations about 21st Century Learning. With support from Microsoft Corporation’s Mid-Tier Grants Program, ABPC recruited 20 forward-thinking schools to participate during Spring 2006 in an online curriculum we call “Keeping Up with the Net Generation.” (A second cadre

of schools will be selected for 2006-07.)

The curriculum exposes school teams to the concepts of 21st Century learning, introduces engaging web-based technologies that trailblazing teachers are already using in their classrooms, considers how these web tools can help students develop 21st Century skills, and encourages teachers to begin experimenting and sharing with online colleagues.

Our school teams are supported by 10 educators from schools across Alabama whom we have named “21st Century Teacher Fellows.” These outstanding teachers serve as facilitators of our online professional development activities and will also work with educators and the public “face to face” at selected meetings and schools.

The Fellows are also sharpening their own 21st Century skills and knowledge by working with virtual tools and environments and collaborating with like-minded colleagues. The Fellows are supported by Sheryl Nussbaum-Beach, a 21st Century Learning consultant and former school system technology leader in Virginia; and John Norton, facilitator of the national online Teacher Leaders Network and editor of ABPC’s *Working Toward Excellence* journal.

## Why is this work important?

Our goal is to help schools explore the future of teaching and learning. The challenge is much bigger than technology. It’s really about redefining what it means to be educated in a knowledge-based digital age. It’s about engaging students who are “digital natives” and preparing them

to be successful in a world that will require technical knowledge, expert decision making, complex communications, creativity, leadership, and habits of building personal capacity.

The 21st Century Schools initiative is also a response to an urgent need for schools in Alabama and the U.S. to meet global challenges. As the world flattens and economic competition increases, the United States is losing ground to nations whose school systems have embraced 21st Century learning. A passage in the 2003 Microsoft report *Educating the 21st Century Citizen* notes that “it’s not just access to technology that is important in creating a digitally-inclusive world. Of even greater importance is acquisition of ‘digital literacy’—the knowledge and skills necessary to use these technologies and the ability to adapt to the rapid pace of their change.”

Education, business and civic leaders in Alabama must fully support teachers as they learn how to teach for the 21st Century. Web-based technologies offer teachers unprecedented opportunities to help students develop analytical skills and apply knowledge from across the curriculum to a problem—and to work in collaborative teams seeking solutions to real-world challenges. Teachers can’t do it alone. Policymakers and others who set the standards for our schools share an equal responsibility to make this happen.

We believe it’s time for all of us who have a stake in Alabama’s future to have powerful conversations about the best ways to prepare our students for the challenges of the 21st Century. ❖

For more information about ABPC’s 21st Century Learning project, contact Cathy Gassenheimer at [cathy@aplusala.org](mailto:cathy@aplusala.org) or call (334) 279-1886

## ABPC 21ST CENTURY SCHOOLS

DISTRICT	SCHOOL
Athens City	Athens Middle School
Auburn City	Wrights Mill Rd Elementary School
Birmingham City	Central Park Elementary
Cullman City	Cullman Middle School
Decatur City	Cedar Ridge Middle School Chestnut Grove Elementary School
Huntsville City	Challenger Middle School Terry Heights Elementary School
Madison County	Buckhorn High School Hazel Green High School
Mobile County	Calcedeaver Elementary School George Hall Elementary School
Mountain Brook	Mountain Brook High School
Shelby County	Oak Mountain High School Vincent Middle & High School
Talladega County	Winterboro School
Trussville City	Trussville City schools
Tuscaloosa City	Northridge High School
Tuscaloosa County	Hillcrest High School
Vestavia Hills	Vestavia Hills East Elementary

## ABPC 21ST CENTURY FELLOWS

**Brandi Caldwell**, English, Speech and Debate teacher, Mountain Brook High School, Mountain Brook City Schools

**April Chamberlain**, Technology Team Leader, Paine Intermediate School, Trussville City Schools

**Suzanne Culbreth**, Geometry teacher and Technology Coordinator, Oak Mountain High School, Shelby County Schools

**Randy Fullington**, Science teacher, Greenville High School, Butler County Schools

**Scarlett Gaddy**, Social Studies Department Chair, Hillcrest High School, Tuscaloosa County Schools

**Felicia Myers**, Computer Education/Technology Support teacher, Calcedeaver Elementary School, Mobile County Schools

**Jeanne Simpson**, Math teacher, Cedar Ridge Middle School, Decatur City Schools

**Aimee Smith**, Math Department Chair, Cullman Middle School, Cullman City Schools

**Wendy Steadman Stephens**, Librarian/Media Specialist, Buckhorn High School, Madison County Schools

**Jacqueline Thornton**, Library Media Specialist, Greenville Elementary School, Butler County Schools

# Interview: Technology Leadership for 21st Century Learning

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*Shawn Nutting, the forward-thinking technology director for the Trussville City Schools, is working to balance Internet safety and access for 21st Century learning.*

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WHEN THE TRUSSVILLE City Schools went online as a brand-new school system in July 2005, Shawn Nutting was there to turn on the switch. The fledgling district's newly minted Director of Technology was barely 30 days into his first full-time job in public education, after a corporate career in which he served as an Information Technology (IT) manager and designer for several Internet-related technology companies.

Nutting brought a business perspective to his new work—a belief that students are “customers” whose needs should be met by school and district staff. Nutting also came with the attitude that schools must either adopt a technology-infused approach to teaching and learning or risk leaving their students on the education-and-career sidelines.

Nutting's progressive views about balancing Internet safety with the ample access necessary for a rich 21st Century learning experience matched the vision of new Trussville Superintendent Suzanne Freeman, who shares his conviction that safety and access are not incompatible notions and that school systems are obliged to provide both.

In a recent interview, Shawn Nutting explained his outlook on school district firewall and filtering policies and described several steps the Trussville Schools are taking to realize the full education potential of technology and the World Wide Web.

## **Why leave the corporate world and go to work for a school district?**

I've always worked for start-ups and growing companies. The chance to be associated with a brand-new school district and possibly have some impact on education was very attractive. There are some differences, of course. With a technology company, technology is obviously the prime focus. In education, technology is just one of many priorities, one more thing that enhances the student experience.

## **As an IT director in a school district, you're also operating in a public world rather than a private world. That**

**creates pressures for school technology directors, who not only answer to administrators, board members and educators in their districts, but to the community.**

That's true. In Trussville, we're pushing the use of technology in the classroom very hard, because we think it adds tremendous value to a student's experience. We're finding that the more multimedia experiences you give them, the more they become engaged in their school work. But the flip side of that is you're doing a lot of Internet access, and we all know the Internet has incredibly wonderful things but there can also be some negative experiences.

**Some school districts and their technology directors have responded to concerns about inappropriate Internet content by establishing tight “filters” to make sure nothing that might be objectionable gets through. What is your view of filtering?**

Of course you have to be cautious. But my goal for the school district is to provide the best education we can for students through the use of technology. And I think when you are not allowing them access to the Internet—to blogs, wikis, podcasts, and all the social software that can be part of a very powerful

learning experience—you're stifling student creativity. You're not meeting the school district's mission, which is maximizing the learning potential of every student.

We have Internet filtering software in place, like Dan's Guardian ([dansguardian.org](http://dansguardian.org)), and we're looking at some other options to further enhance our filtering software. But my superintendent, the Board of Education, and myself definitely believe that you're doing a disservice to a student by not harnessing their interest in all these web-based tools and using them in the classroom.

The only way you are totally going to block every possible bit of inappropriate content from the Internet is if you totally block the Internet. And you just can't do that. The Internet is too woven into our society now—it's going to be a part of our students' lives as they grow up and take jobs and live in the future.

**We understand that Trussville is using some proactive strategies to create a safe environment where teachers can pursue this 21st Century learning. Tell us about that.**

We're implementing the Microsoft Learning Gateway Framework. Basically it's the Microsoft SharePoint portal server—it's a humongous website that's

accessible to certain audiences who have security permissions. We're going to be able to do blogs, wikis, podcasts—to use all those kinds of tools internally, among the schools and classrooms in our district—simply by having a secure log-in.

Every student is given a way to personally sign on to the protected district network, and through your network sign-on, you're getting access to the SharePoint site. So if a student named Nicholas Jones posts something to the blog on the school website, it begins with "Nicholas Jones said..." There isn't any anonymous posting, so if you've got a student who is putting inappropriate content up there, you can deal with them directly. Or you always have power as an admin to remove that content or ban them from the site.

We're one of the first districts in Alabama to go to an all-Windows architecture for our network. The Windows platform, for all the integration and collaboration we're trying to do, is the most efficient platform out there right now.

**This approach sounds like a secure alternative to the public Internet. But doesn't it limit what teachers can do? Aren't there teachers who want to be able to access the public Internet as well?**

Yes, and we do make it possible for teachers who are more proactive to do that. One of the (Alabama Best Practices Center) 21st Century Teacher Fellows, April Chamberlain, is an example. She teaches at our intermediate school. She's doing blogs, wikis and podcasts without the security of our SharePoint site. But she monitors everything those students are doing, she works with them, helps post with them. She's comfortable doing that—she's educated her students about safe and responsible behavior on the Web beyond the secure boundaries of our school system network. And we have

many other teachers like April who are comfortable working with their students on the (public) Internet.

What we're trying to do is offer teachers who don't have that comfort level with the technology, or aren't quite ready to move their students out into the larger sphere of the World Wide Web, a way to still use some valuable web tools in their classroom and do it in a totally safe and secure environment.

**When teachers want to go outside of your secure system, do you have guidelines for them? Do you have a conversation with them about safe, responsible Internet use?**

Yes, we have an Acceptable Usage Agreement (that provides guidelines for usage of the district's technology resources), and through professional development we try to explain to teachers, "here is what these sites are about, here are the things that can happen, so if you've got the comfort level, go ahead."

You know as well as I do that the minute the students leave school, they're going home and they're getting on the Internet. So you've got to educate them and make them understand which kinds of behaviors can hurt them, then let them have the experience and let them learn from it.

We need to teach them that giving out your home address is not a smart thing to do because, yes, your friends are looking at that, but there are also predators who are out there looking for that. And for some kids, if you don't expose them to that kind of safety information in the school environment, they're not going to learn it, because they're not going to be exposed to it at home.

**Tell us something about what your teachers are doing on the Internet.**

*Continued on page 6.*



## AVOID AN I.T. RANGE WAR!

*Excerpted from "More Voices Create Better Policies" by Doug Johnson, School Administrator magazine (August 2005)*

"Who decides what should be blocked by our school district's Internet filter? Our technology director has been checking more little boxes on our filter. Just yesterday he decided to block all games, even educational ones."—Librarian

Because many school districts have not yet figured out how to create good policies about technology use, complaints (like this) are not uncommon. Unilaterally made and often unofficial rules are creating what seems like a new range war—not between the cattle ranchers and the shepherders but between the educators and the technologists.

The techies often win by default because they have, as the librarian put it, the know-how to check "the little boxes." Their more extensive knowledge about technology leads to practices that become *de facto* that others with less savvy find difficult to dispute. I have a mantra I often ask teachers, librarians and administrators in our district to repeat: "Technicians don't make school policy." It sinks in if people say it regularly.

The best rules and guidelines are those developed collaboratively. In our system, both our district technology advisory committee and building technology committee have policy development as a major task. These small groups meet a few times each year and are comprised of a variety of stakeholders—teachers, librarians, administrators, students, parents and community members with our technology personnel serving as ex-officio members.

This approach has worked well for our district. On the difficult filtering issue, our district committee decided as a result of the federal Children's Internet Protection Act that we would install a filter, but it would be set at its least restrictive setting. Any teacher or librarian can unblock a website with a simple request—no questions asked. Staff members are required to continue to monitor student access to the Internet as if no filter were present. The technicians now know it is the responsibility of the teaching staff, not theirs, to ensure students do not access inappropriate materials. This is a worthy policy decision that could not have been reached without a variety of voices during its making. ❖

*Doug Johnson is director of media and technology, Mankato Public Schools, Mankato, MN 56002.*

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Our teachers who have begun experimenting with web-based tools are doing some amazing things. April Chamberlain works with elementary education students. And when she first turned on one of her blogs for a class project, she had some remarkable effects. The elementary students, when they're working in isolation, tend to spell phonetically—their spelling can be atrocious, frankly. And within a couple of days of working with a classroom blog, they were correcting each other's spelling. That's a very simple thing, but it's one example of how learning can change. One of her blogs was a school safety project. They were learning the content really well because they were so engaged—they were doing the research and making a product that they were able to share with the community. On the side, they were learning to spell better!

I don't know how you can look at that experience, as a teacher, and not see how powerful a tool that is. Here's another thing: April's students who had Internet access at home were working on the project in the evening—because they wanted to, not because it was mandated as homework. These kids are getting online, looking at the blog and doing the research because they have an interest—not just in the content, but in the process that the technology makes possible.

How often do you see kids take the math textbook home and start calling each other because they're excited and they want to do extra problems in the book? But that's exactly the kind of thing that happens when you introduce something like a blog and invite the kids to collaborate. Search in Google and you'll see how math teachers are using blogs in just that way.

That just doesn't happen with a textbook. But it does happen when kids work with the same content online. It's unbelievable. You're hitting something that they have an interest in, which is sitting in front of a computer and learning from their peers. They're going to be sitting in front of that computer anyway, networking with each other, so why not focus that interest and energy on positive things and get educational results?

### **Why is Trussville so focused on “how can we make as much of the Internet as possible accessible to our students,” when so many other districts are not?**

Our superintendent Suzanne Freeman is outstanding in her commitment to 21st Century learning. All I ever hear from her is “what are we doing for the student.” She truly believes that students are our customers. That's what we're here for. And our school board fully supports that outlook.

Not only are we trying to educate the students about safe, responsible online experiences, we're trying to educate parents through the newspapers, through letters and other materials going home with students, through things like open house at the schools. We're about to have a Technology Day

after hours at school that's specifically for parents to look at what we're doing. We're preparing the city council, the mayor and the school board so they understand what we're about—that we're pushing the opportunities for our students to be adept in 21st Century skills.

It's such a valuable tool that we've got to offer it to our students, but yes, be aware that at some point in time somebody may find some material that's offensive. We do our diligence every day to block all of that stuff, but you're not going to prevent everything.

### **How would you describe a good school district IT department?**

All of us in my area share the same philosophy that we're here to serve the students. My guys are not here solely to fix computers; they're here to teach people technology. We don't just say ‘your printer problem is fixed’ and leave—my folks go around all day showing people how to use the technology better. “Here's a wiki—you've never seen one? Here's what you do with that.”

When an issue (about blocking or filtering) arises, we sit and look at it from a customer service perspective. Is this truly beneficial to the children we are expected to educate? Is this something we should be making possible in the classroom? And if the answer is yes, well then we need to figure out a way to relax the (access) policy to allow this through.

### **So you bring a customer service outlook to your work.**

Yes, and I think that's where a lot of people on the technology side of things lose sight. You're not here to support the network—you're here to support the people ON the network.

As an IT manager I'm always walking on the fence. I can't allow you to have everything, because that will slowly degrade the network. But I'm also not here to lock absolutely

everything down to where you can't do anything with kids, just for the convenience of my job.

Some other school IT directors look at me like I'm crazy, because I allow things on my network that they never would. Like instant messaging. If you have the right filtering software in the background, you're OK. Could someone get an exploitive message through the instant messaging filter? Absolutely. It could happen. But our teachers are communicating all day long through instant messaging, with each other, with staff, even with family. How could I ever block that? That's one of our best communications tools around here. It's quick and easy. It doesn't require a teacher to leave the classroom. It's a great tool.

### **You're required under the Children's Internet Protection Act to hold a public meeting where you address your Internet safety policies. What will you say to your community?**

I'm going to show the multimedia content that's been developed this year by our students and teachers, using the Internet. I'm going to show them some of the blogs, wikis and podcasts, how, through social software, the students are learning from each other.

I'm going to sell them on what we really think we need to do for their students to be successful. And then, if we have a negative event somewhere down the road—and believe me, that can happen to any district, whatever their policies—we will have established some understanding in the community about why Internet access is so important and why the risk is necessary. ❖

*A longer version of this interview is available at <http://snipurl.com/nutting>*

## EDUCATING THE DIGITAL GENERATION

*Continued from page 1.*

room work recognize that they are teaching the first generation of “digital natives,” students whose childhood experiences are far different from those of their parents and grandparents. These students have grown up with video games, cell phones, the Internet, instant messaging and other technologies that are profoundly shaping the way they think and the way they view the world.

“Digital Natives are used to receiving information really fast,” says Marc Prensky, a consultant who specializes in the impact of technology on learning. “They like to parallel process and multi-task. They prefer their graphics *before* their text rather than the opposite. They prefer random access. They function best when networked. They thrive on instant gratification and frequent rewards.”

While some educators may despair over the impact of technology on “these kids today” and continue to teach as they’ve always taught, others realize that the changes in society wrought by the Digital Age are not going away. If schools expect to remain relevant and meet the academic needs of their current clientele, they will have to adjust to new learning styles.

“This generation of students isn’t going to sit still for a lecture during a 90-minute block class, when a lecture is all there is,” says Laurie Fowler, professional development director for the Tuscaloosa County Schools. “That’s just a fact.”

“As we have more and more kids who are 21st Century learners, more of our teachers are trying to become 21st Century teachers,” Fowler believes. “There are teachers who have been very successful teaching in a traditional mode, with lots of lecture and classroom discussion. But if they hope to continue that success with 21st Century students, that

can no longer be the only mode of instruction.”

“We better be ready with all the different teaching styles and technology,” says Sabrina Sheffield, a science teacher at Hillcrest High in Tuscaloosa. “I think my students expect it. If I don’t have something almost every day for them, I feel like I’m not just letting them down, but I’m at risk of boring them.

“No longer can I stand in front of a classroom and just talk for an hour and a half and expect my students to understand and comprehend the circulatory system or the digestive system. There’s got to be some higher order thinking, some interaction, some technology, some problem-based activities to make the learning stick.”

### Making the transition to 21st Century learning

Hillcrest High in Tuscaloosa is typical of several schools we visited last Fall to talk about the role of technology and the Internet in today’s classrooms. (We also visited Shelby County’s Oak Mountain High and Decatur’s Cedar Ridge Middle School). In each of these schools, we found a strong push for technology infusion among administrators and teachers.

At the same time, the educators in these schools freely admitted that the transition to 21st Century teaching will be a process of years, not weeks or months. Administrators continue to pursue the resources to build technological capacity, while teachers search for the time needed to learn about new tools and teaching strategies, revise lesson plans, and experiment in the classroom. Meanwhile, everyone in the school enterprise remains immersed in long-standing responsibilities, including meeting the demands of Alabama’s high-stakes accountability

*Continued on page 8.*

## TECHIE TALK AND WEB LINGO

**Wiki? Podcast? Social networking?** One hallmark of the Digital Age is new-word creation. Many terms you hear in discussions of 21st Century Learning may be strange to the ear. Here are brief definitions of several expressions used in our stories and sidebars. If you find others that puzzle you, search the “Wikipedia” ([en.wikipedia.org](http://en.wikipedia.org)).

**asynchronous** – Literally means “not at the same time.” Blogs, threaded discussion boards and emails are examples of asynchronous tools. An asynchronous course is one in which the instruction is delivered at one time and the work can be done at a different time.

**blog** – A weblog or Internet diary. Weblogs enable users to publish comments, images and ideas instantly for other people to read. Bloggers frequently include weblinks to other materials to enrich the content of their postings. Teachers and students may use blogs to extend class discussions, pursue collaborative projects, publish the products of their work, or communicate with parents, experts, students in other schools, etc. Free, easy-to-use weblog services like Blogger make it simple for the non-expert to create a blog.

**filtering** – Filtering is the process of controlling access to a network by analyzing the incoming and outgoing packets of information from the Internet. School systems often use filters to guard against certain content reaching students.

**podcasting** – Podcasting is a method of distributing multimedia files, such as audio or video programs, over the Internet for playback on mobile devices and personal computers. Podcasts are often distributed using RSS (defined below) feeds. Teachers and students use tools like digital recorders and editing software to produce audio/video “podcasts” about things they are learning.

**Read/Write Web** – A phrase used to describe the evolution of the World Wide Web from a medium used primarily to find or post information to a medium where those with shared interests can communicate, collaborate, and form temporary or long-term social networks. Often referred to as “Web 2.0.” One key tool in the growth of the read/write web is RSS, web-based software that lets users keep track of new postings on the Web.

**RSS** – “Rich Site Summary.” Anyone who creates Web content (websites, blogs, wikis, etc.) can use RSS software to create a data feed that supplies headlines, links and article summaries to others who “subscribe” to your content source. Most free blogging services include simple directions for including an RSS feed in your blog. Those who want to keep track of your new blog entries will subscribe, often by creating an account at a free “aggregator” service like Bloglines. A daily visit to your Bloglines account will show you summaries of all new material at the blogs, wikis, webpages, etc. you subscribe to.

**social networking** – Social network theory emerged in the 1950s to describe the ways people are connected together through family, work, community, etc. In the context of the Web, social networking refers to the communications and relationships that develop through the use of social software—Internet applications that help connect friends, business partners, teachers, students and others together using a variety of tools.

**social software** – Web-based tools that promote social networking, allowing people to “rendezvous, connect and collaborate” and to form online communities. “Old-fashioned” examples include email listservs, message boards and the like. More recent examples range from publishing tools like blogs and wikis, to information sharing sites like Flickr or Delicious, to social network services like MySpace or eHarmony.

**wiki** – Wiki is the Hawaiian word for quick. A wiki is a website that anyone can edit at any time. Users can easily add, remove, or otherwise edit all content on a wiki page, very quickly and easily. This ease of interaction and operation makes a wiki an effective tool for collaborative writing, brainstorming, and project development. Typically, a wiki website provides an easy way to monitor changes and restore earlier versions of pages. Some free wiki services offer the option of password protection to prevent non-participants from editing pages.

*Continued from page 7.*

testing. It truly is an example of “rebuilding the engine while flying the airplane.”

At Hillcrest, “every available dollar” is invested in computers, digital projectors, online services and the professional training teachers need to expand their 21st Century repertoire, says principal Jeff Hyché. “Technology use is exploding, so it’s never enough, but we maximize the resources we have. We are very fortunate here to have a faculty that is open to innovation.”

Hillcrest is working to replace old-style overhead projectors with digital LCD equipment that allows teachers to project Powerpoints and other material from classroom computers. The digital projectors also make it possible for teachers to display a live feed from the World Wide Web directly onto large classroom screens—although Hillcrest, like many schools built before the mid-1990s, currently lacks the infrastructure to meet the bandwidth demands of its 65 teachers and 1200 students.

“That’s a problem we hope to have resolved in the next year,” said assistant principal Rita Thomas, who serves as one of the school’s technology leaders. While Hillcrest has come up with some innovative “work-arounds,” Thomas agrees that reliable “on demand” access to the Web will accelerate the transition to seamless, everyday technology-infused teaching.

Like other schools on a limited technology budget, Hillcrest is always looking for “innovative” ways to obtain new equipment. Teachers and administrators write grants, enter contests and conference drawings, look for additional funding from the PTO, and take advantage of offers from educational publishers to provide digital equipment as part of a textbook contract.

U.S. history teacher Shari Gilbert is one of the school’s most creative technology users. During a quick visit to Gilbert’s U.S. history classroom, we observed a multimedia lesson

on the Kennedy presidency and the “Camelot” era, complete with Powerpoint data slides and maps, video clips of speeches and important events, and background music from the early 1960s.

Gilbert is also one of Hillcrest’s most successful technology scroungers. She used funds from a teaching award to purchase an interactive “smartboard” for her classroom and also won a set of “e-clickers” at a professional conference. The e-clickers look something like television remotes—they’re actually handheld instant survey tools that allow students to interact with material projected onto the smartboard. Gilbert uses them to poll her students, stage group games and mini-quizzes, and review for exams, all the while gathering useful feedback from students about their understanding of the content she’s teaching.

“The students love it—it’s very attention-getting and engaging,” says Gilbert. “They can immediately see how many got a question right or wrong. If too many miss it, you know it’s time to go back and do some review.”

Some Hillcrest teachers have also begun to experiment with web-based tools like blogs and wikis that increase interactive learning. Social studies department chair Scarlett Gaddy is piloting her first classroom blog with AP Government students. Among other work, they’ve helped the Alabama League of Women Voters keep tabs on bills as they move through the state Legislature. “It’s our first effort, but we’re learning more each day,” says Gaddy. “I’m convinced we have to include more methods like this that address how students learn today.”

In addition to her duties as Tuscaloosa County’s professional development leader, Laurie Fowler teaches technology integration courses to pre-service teachers at the University of Alabama. As she works

with teachers and teachers-to-be, she tries to keep technology in perspective, she says.

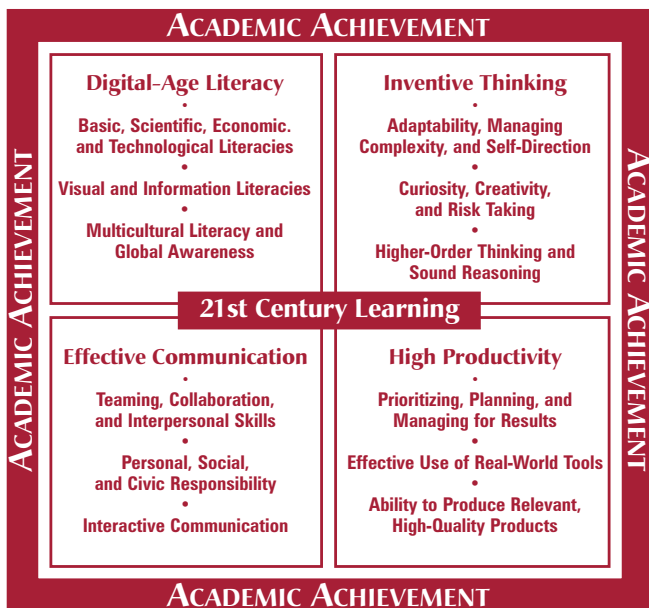
“You don’t want technology to become the objective of teaching or to take over all of the instruction. But we have the capacity with today’s technology tools to really target what we use—show a clip from a video, not the whole thing. Or zero in on a few specific items in a website rather than spend a whole class period surfing through it. We can learn to pinpoint our technology use, not just to meet the needs of a whole class, but of subgroups of students who have a particular need.”

The key to widespread technology adoption, says Fowler, is to push teachers past their fear of unknown consequences. “We try to foster the risk-taking attitude. We have teachers with technology training roles in all of our schools, and other teachers who are just natural experimenters. So if you try it and it flops or it needs a tweak, there are a bunch of other people who can help you.”

But as Stephanie Hickman, a media specialist and one of Hillcrest’s technology trainers, reminds us: “The technology part is the easy part. We can help our teachers learn to use this or that technology. It’s putting it all together in ways that really challenge students to learn more deeply—that’s the hard part.”

### **Why should we care about 21st Century skills?**

The emerging Digital Age is not only changing the way children learn, it’s changing the workplace and the kinds of jobs today’s students are likely to find when they grow up. Peter Vaill, an organizational change expert, says that “in the world of work, whether we’re talking business or government, health systems or universities, or voluntary organizations, everybody is dealing with enormous increments of change.”



“I use the metaphor of riding down a wild river in permanent whitewater,” says Vaill. “Everybody is in permanent whitewater. One of the things I run into all the time in organizations are people who say ‘We’ve never done it this way before. It’s not business as usual, it’s business as unusual.’”

In a world of “permanent whitewater” and unpredictability, many experts say, it’s critically important for schools to rethink curriculum and instruction with the realities of the 21st Century in mind.

These advocates contend that every child in America will need a special combination of knowledge and skills to succeed as effective citizens, workers and leaders in the decades ahead. The skills set, which is supported by technology but is not about technology, has been refined during the last several years by several organizations, including the Partnership for 21st Century Skills.

The Partnership is a coalition of 26 business, education, and community organizations committed to raising awareness about new research on learning and the expectations of today’s workplace. Members include technology companies like Microsoft, Verizon, Apple and Intel and education groups ranging from NEA and AFT to the American Association of School Librarians.

The Partnership’s skill set for the 21st Century includes:

- Information and communication skills (information and media literacy skills; communication skills)
- Thinking and problem-solving (critical thinking and systems thinking; problem identification, formulation and solution; creativity and intellectual curiosity)
- Interpersonal and self-direction skills (interpersonal and collabora-

tive skills; self-direction; accountability and adaptability; social responsibility)

- Global awareness
- Financial, economic and business literacy, and the development of entrepreneurial skills to enhance workplace productivity and career options
- Civic literacy

Reformers who support these goals argue that emerging technologies—in particular, the interactive technologies available on the World Wide Web—are particularly conducive to the acquisition of skills like those described by the Partnership.

### New definitions of literacy

Educator David Warlick, whose Web commentaries and projects have made him a high-profile global advocate for 21st Century learning, argues that “we must expand our notions of what it means to be literate, to a new model that springs out of the 3Rs and reflects the changing nature of information.”

Being literate, Warlick says, still means being able to read text, write a report, and calculate numbers on paper. “But these Basics of the industrial age are merely a starting place for (contemporary) literacy.”

With the emergence of the Cyber Age, the meaning of literacy has expanded from skills associated with processing and making meaning from text and images to include the skill of “information navigation,” Warlick and others say. The literacy of tomorrow may have more to do with becoming your own personal reference librarian, capable of navigating through confusing, complex information spaces.

“The very nature of information is changing. In what it looks like,

what we look at to view it, where we find it, what we can do with it, and how we communicate it,” says Warwick. “Our definition of literacy must also change.”

To be truly literate today, students must gain a range of skills Warwick identifies as the four E’s. Students must be able to *expose* valuable information from a global electronic library; *employ* the digital information to accomplish goals; *express* ideas compellingly so that they not only communicate, but also compete for the attention of information customers; and grapple with the *ethical* issues of an information-driven world.

Former Xerox senior scientist John Seely Brown contends that the World Wide Web has rapidly evolved from an high-tech repository of information to what he says is “a true medium” that honors multiple forms of intelligence and “leverages the small efforts of the many and the large efforts of the few.”

The new Web, sometimes called “Web 2.0” or the “read/write Web,” is a place filled with tools (blogs, wikis, podcasts and other social software) that enable everyday Internet users “to digitally disseminate their ideas and experiences, a reality that has implications for teaching,” New Jersey high school teacher Will Richardson wrote in a recent *Educational Leadership* article.

“Teachers,” says Richardson, “must consider whether our curriculums should change now that students have the ability to reach audiences far beyond our classroom walls and to acquire their own primary sources.”

Teachers are losing their already tenuous status as arbiters of knowledge and information, Richardson believes. A more important role for teachers in the 21st Century will be to help students learn “how to identify the source of a piece of information, gauge that source’s reputation, compare the information with what’s already known, and make a judgment about its authenticity and relevance. We must teach students how to actively question and evaluate published information instead of passively accepting it as legitimate.”

Digital tools—from blogs, wikis and instant messaging to complex educational video games—support the kinds of learning that new research says is most effective:

- The work of students shifts from “being told” to “discovery and experiential learning.”
- Learning itself shifts from mostly deductive or “linear” reasoning toward a balance with lateral thinking and “bricolage” (tinkering and fiddling to find a new way to do something).
- Learners shift their attitudes from “if we don’t know, we won’t try” to “if we don’t know, we link, lurk and try.”

In the book *How People Learn*, developed by the National Research Council (available free online), we can read about the importance of “adaptive expertise” to successful learn-

*Continued on page 10.*

## SNAPSHOT OF A 21ST CENTURY TEACHER

On a mild and sunny November day, students in Suzanne Culbreth's geometry class at Oak Mountain High School might be gazing out the windows, longing to be just about anywhere else. Instead, they're shoving their desks together into groups of three as they prepare for a game Culbreth calls "Geometry Survivor."

Culbreth hands each group a basketful of math manipulatives—plastic geometric shapes that appeal to tactile learners. The teams will race to see who'll be first to solve a series of problems projected on the whitescreen at the front of the room. As a problem appears, each student manipulates his or her play pieces to solve the puzzle. Then they check each other's work, resolve any discrepancies, and shout out the solution with more enthusiasm than one might expect from teenagers who haven't been out of bed all that long.

Standing near the back of the room, Culbreth identifies the winners, then follows up by quickly demonstrating the problem's solution on the whiteboard—20 feet away. She's using a wireless Geometer's Sketchpad, equipped with an electronic pen that allows her to mimic the students' hands-on activity by manipulating virtual shapes on the device's small rectangular screen. The lesson is a nice mix of teaching-learning styles: teacher-led discussion, kinesthetic learning, collaboration, and engaging technology. All the while, with her wireless interactive pad in hand, Culbreth is free to move about the classroom as she monitors both her students' understanding of the content as well as their behavior.

Culbreth's lesson is very much in sync with the learning strategies Oak Mountain's teachers are investigating as part of their "Working on the Work" initiative—a comprehensive professional development program based on teaching concepts developed by the Schlechty Center for Leadership in School Reform. Oak Mountain's faculty has devoted a year of intensive study to the WOW approach, which is rooted in the idea that teachers must create meaningful work for students that "motivate(s) the student to expend the energy to do what needs to be done to learn what needs to be learned."

Make the students the workers and make teachers the leaders of learning, center founder Phil Schlechty proposes. At the end of the day, he says, students should always be more tired than their teachers.

Culbreth is also one of 10 Alabama teachers selected by the Alabama Best Practices Center as a 21st Century Teacher Fellow. With support from a Microsoft Partners in Learning grant, this team of innovative educators is exploring the potential of web-based tools and digital technologies to deepen their teaching practice.

*(Continued on page 12)*

## EDUCATING THE DIGITAL GENERATION *Continued from page 9.*

ing. "Adaptive experts are able to approach new situations flexibly and to learn throughout their lifetimes. They not only use what they have learned, they...continually question their current levels of expertise and attempt to move beyond them. They don't simply attempt to do the same things more efficiently; they attempt to do things better."

With the Web, advocates say, we have for the first time a medium that can truly honor multiple forms of intelligence—abstract, textual, visual, musical, social and kinesthetic. We have the chance to construct the kind of differentiated learning in our classrooms that we instinctively feel we must have to reach everyone. The tools available on the Web and in other digital formats, these advocates believe, can enable every student to become engaged in his or her ideal way of learning.

### Steam engines on sailing ships

The difficult challenge, of course, is for schools to "retool" themselves to better integrate these technologies and teaching concepts into everyday instruction that meets 21st Century learning goals.

Tom Carroll, president of the National Council on Teaching and America's Future and a former technology leader in the U.S. Department of Education, describes today's high-capacity computers, interactive software and wide access to the Internet and the World Wide Web as *transformational technologies*.

As these technologies become pervasive, Carroll says, society is going through a transitional period. "A lot of what we're doing in our schools today is similar to putting

steam engines into wooden sailing ships," Carroll believes.

"We're bolting new technology onto old technology. We're putting computers into classrooms that weren't designed to have them there. We're trying to steal teachers' time away from the tasks that they have already been assigned to do new tasks."

Before we fully achieve the benefits of this new technology, Carroll says, we will have to fundamentally change the structure of our schools, the training of our teachers, and the organization of the curriculum. Ultimately, we will have to redefine the roles of teacher and student.

Change expert Michael Fullan says that engaging ourselves in the process of significant innovation requires focus, flexibility, and resilience. "People often start with grand intentions and aspirations, but gradually lower them over time in the face of obstacles and in the end achieve precious little." Knowing is not sufficient, Fullan writes. "Only knowing-by-doing, reflecting, and re-doing will get us anywhere."

Hard-pressed as we are as educators in today's public schools, we must turn our attention to the authentic educational needs of our 21st Century students.

In the Digital Age, John Seely Brown urges us to remember, "Students are pushing learning into a new dimension; it's a mistake to continue to try to teach them in time-worn ways." ♦

*If you'd like to pursue these ideas in more depth, read John Seely Brown's article "Growing Up Digital" at <http://snipurl.com/BrownGUD> and Michael Fullan's "Learning to Lead Change: Core Concepts," prepared for Microsoft's Partners in Learning initiative, at: <http://snipurl.com/MFcore>*

# ACCESS for All: Alabama Enters the World of Distance Learning

*A new distance-learning network expands academic opportunities for students in rural and hard-to-staff schools.*

BY JENNIFER PYRON

AT GORDO HIGH SCHOOL in rural Pickens County, 475 students in grades 7-12 gather in a high-tech classroom to learn the skills needed to succeed in today's competitive job market. Their teachers—accomplished educators selected for their expertise in advanced subject matter—are nowhere to be seen. But that's all part of the plan.

Until recently, Gordo High could only offer a bare-bones curriculum, with very few electives or higher math and science classes. Principal Steve Street believed his students deserved more than that. When he learned of a new distance-learning program now being piloted by the State of Alabama, he saw a solution to a long-standing problem.

The school eagerly completed the State Department of Education's application process and was selected as a pilot site. Training began in September 2005 and interactive online instruction began in January 2006.

Distance learning, Street explains, "allows us to offer courses we normally wouldn't be able to offer, giving our students more opportunities to learn. Many of our students want to enter the health care industry. Having access to Latin and Calculus really helps them prepare for their future."

"And the kids love it," Street says. "They really do."

## **Bridging the teacher gap through technology**

One of the challenges Alabama's rural and inner city schools face is recruiting and retaining qualified teachers to teach the rigorous courses that high school students need and want, including Advanced Placement courses (Alabama ranks 14 out of 16 southern states in AP offerings), higher academic courses, and important electives.

In 2005, Governor Bob Riley announced plans for a statewide distance learning initiative called ACCESS (Alabama Connecting Classrooms, Educators and Students Statewide). He envisioned a program that would use technology to connect teachers and students across the state, offering young Alabamians in hard-to-serve school settings the opportunity to engage in levels of learning previously thought impossible.

Distance learning—learning experiences in which instructors and students are separated by space and/or time—is a growing trend throughout the nation, and states in the Southeast are among the leaders. A recent survey by the Southern Regional Education Board (SREB) found the successful completion rates of online courses often top

90 percent. In several Southern states, the rate for completing AP courses online was as high as that of students taking the same courses in traditional classrooms.

Governor Riley's vision became a reality in January 2006, with the launch of ACCESS in 24 pilot high schools across the state. Half the schools receive state funding for ACCESS. The other half are funded through an Appalachian Regional Commission grant, which requires the schools to have community partners-in-learning. In March, three support centers—based at Troy University, the University of Alabama, and the Madison City Schools—were created to recruit, hire and manage online or "e-teachers"; provide professional development; and furnish Help Desk support to schools, e-teachers and students.

"It was a big challenge to implement the program so quickly on such a large scale," says Melinda Maddox, Director of Technology Initiatives for the Alabama Department of Education.

"We spent the first semester of the school year working on curriculum development and getting connectivity in all the pilot sites. Once everyone was up and running, we began offering courses. Now we're assessing which delivery methods work best and trying to determine how to meet the needs of the students effectively and efficiently."

The state assists the pilot sites in developing and offering advanced diploma and advanced level courses that are not otherwise available in the school or school system, including foreign languages, electives, and higher math. The schools are equipped with state-of-the-art interactive equipment and connectivity that enable them to deliver and receive all models of distance learning.

Currently, Gordo High and other pilot schools primarily offer high quality web-based instruction, which can be asynchronous (delivered by the teacher and received by the student at different times); synchronous (real-time instruction); and blended instruction (both synchronous and asynchronous) combined with individual student tablet laptops. Live sessions are made possible through a statewide network of Interactive

*Continued on page 12.*

## ACCESS FOR ALL

*Continued from page 11.*

Videoconferencing (IVC) Labs, which offer two-way video and audio connectivity.

Distance learning does not eliminate the job of the classroom teacher—it simply redefines what a “classroom” can be in the 21st Century, says Maddox. ACCESS offers new challenges and opportunities for the program’s certified e-teachers (who also teach conventional classes in their own schools).

In their distance learning role, e-teachers “create the learning network,” she says. “They develop relationships with students in the receiving schools, either online or in the IVC lab. They lead class, pace the students and really get to know the students’ strengths and weaknesses. And, of course, they still grade the tests!”

Maddox says teachers in the pilot schools have been ready and willing to jump in and try new things. And the e-teachers are not content to begin and end with the technology that ACCESS offers. They are experimenting with other web-based 21st century learning tools to deepen their understanding of how technology can enhance their students’ learning.

## Opening doors in rural Alabama

ACCESS wasn’t Gordo High School’s first encounter with distance learning. The four high schools in Pickens County already shared a Spanish teacher, who taught classes via Interactive Videoconferencing. But Steve Street says the ACCESS

program has pushed Gordo’s curriculum offerings to a whole new level. Twenty-two students take Latin I classes online. One student is participating in an advanced Calculus class via IVC. And four students are studying the works of William Shakespeare through an IVC class received from Dallas County High School.

“The ones taking the IVC Shakespeare course have built strong relationships with the teacher in Dallas County,” says Street. “In fact, she came to our school on her spring break to meet the students in person and talk about their progress in the course.”

More distance learning courses will be offered in the fall. Gordo High is also creating partnerships with Beville State Community College and Shelby State Community College to offer AP classes and dual enrollment options for students.

Teachers at Gordo High School have reacted with enthusiasm to the ACCESS program. In fact, many are considering becoming e-teachers in the future. And the community

of Gordo is benefiting, too. Every Tuesday, local beef cattle farmers visit campus for Continuing Education classes “netcast” from Auburn University. It’s a win-win situation as far as Street is concerned: the businessmen get quality professional development and the school’s IVC lab gets great exposure.

ACCESS is transforming Gordo High into a 21st Century school community where technology-infused learning is becoming an everyday affair. “This program has really opened my eyes to the world of technology,” says Street. “It’s given me and my staff an opportunity to see how other teachers in other systems teach, which helps us get new ideas and techniques.”

Most of all, Street says, “It gives me great satisfaction to know that the kids at Gordo High School are getting the opportunities they need to compete in today’s economy.” ❖

*For more information on the ACCESS program, visit the website at [www.accessdl.state.al.us](http://www.accessdl.state.al.us).*

## SNAPSHOT OF A 21ST CENTURY TEACHER *(continued from page 10)*

Another Schlechty principle is that “Students are more likely to engage in the work asked of them if they are continually exposed to new and different ways of doing things.”

In January, Culbreth was among several ABPC Fellows who began experimenting with weblogs or “blogs” as a classroom teaching tool. Culbreth says she was inspired by the work of Darren Kuropatwa, a Canadian high school teacher whose innovative use of blogging with his calculus and applied math classes has drawn worldwide attention.

Culbreth established three “GeoBlogs” for her first, second, and fifth period geometry classes, using a free web service called EduBlogs. The plan, as she explained in her first blog post to her students, was this:

“Each day I will post the Geometry Topic of the day and (an) assigned scribe will then reply to my post with a description of what he/she learned in class. Basically, you are reteaching what I covered in class using your own words. You can include examples from class, from the text or from online resources. You can also add information that you think would be helpful – especially if I left something out! Then the discussion can begin with other students asking and answering questions.”

Culbreth emphasized that the blog activity would be “strictly business” and sent an email letter to parents explaining the benefits of educational blogging. “My students have been very professional and have given me no reason to moderate their comments,” she says.

Among the reasons Culbreth gave to her students for the new activity were these: “One of the best ways to learn is to teach someone else! Sometimes seeing a concept a second time from another perspective makes it ‘click.’ The blog will be there 24/7. Your teacher is not always available. I’m old and I have to sleep!” (And our favorite) “Y’all are all online anyway, so why not make your time useful with geometry?”

Culbreth says the “scribe” activity is working well. “We’re still not at the stage where we have a lot of back and forth conversation. But we’ll get there!” ❖

Visit Suzanne Culbreth’s 5th period blog at: <http://sculbreth.edublogs.org/>

Read Suzanne’s email to parents: <http://www.abpc21.org/res/SuzCletter.doc>

# Getting Started with Classroom Blogging

*A middle school math teacher who's discovered the power of classroom blogging offers some practical tips and safety guidelines.*

BY JEANNE SIMPSON

*NOTE: A RED WORD in this article indicates that a web link is available in the sidebar "Classroom Blogging Resources."*

The first time I heard the word "blog" was about two years ago. The reading specialist at Decatur's Cedar Ridge Middle School, where I teach 7th grade math, was talking about what a great tool weblogs or "blogs" could be for improving student writing. It sounded like fun, but I did not think I would find much use for them in math.

It wasn't long before I started hearing about blogs in other places: TV shows, the news, on the Web, and even at church! None of these associations with blogs piqued my interest enough to cause me to want to begin a blog of my own. I am a busy person. I didn't need or even want an online journal, and I felt no interest in reading anyone else's. I just didn't see a classroom application.

All of that changed late last fall, when I attended my first meeting as a 21st Century Fellow with the Alabama Best Practices Center. During a presentation on 21st Century learning, I saw two things that got me excited about using blogs in the classroom. One was a **video** of Will Richardson's students from Hunterdon Central High School in New Jersey, talking about their own school blogging experiences. Will

is a well-known **advocate** of educational blogging and the author of a new book, *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms*, which is a great resource for teachers just getting started.

(He was also a guest presenter at our ABPC online workshop in March, "Teaching with Blogs.")

I was also intrigued by the work of **Darren Kuropatwa**, a math teacher in Winnipeg, Canada, who is doing some amazing things with his regular and advanced math students through blogging. Both of these teachers are using blogs to stimulate and expand students' dialogue about the topics in their classrooms. Darren describes his classroom as having "glass walls" because what he is doing with his students is available for anyone to see through his blogs.

Darren's work may have appealed to me because we both teach math. He has his students take turns posting a summary of what was learned in class each day, including problems and diagrams from the board. His students are demonstrating a thorough grasp of the mathematical content through their writings. I am impressed with the clarity of their thoughts and the obvious effort and time they spend making their posts accurate but interesting. Talk about owning the learning! If a student is absent or has trouble understanding the lesson, the blog is a source of help for them.

It can also be a resource for students in other schools. Darren posts challenges for his students on his math blogs and they frequently comment on each other's solutions (as do other students around the world!).

Darren has been blogging for a little over a year, and I have been blogging for just a few months. I am nowhere near his level, but I am pleased with the success of my first steps. I began a **blog** for all of my classes this semester. I chose to use **Blogger** after looking at several different websites that host blogs. It accommodates a school teacher's budget (free!), and looks very professional, but it is easy to learn how to use.

I post assignments and other announcements daily, and parents and students have given me quite a bit of positive feedback. It is very easy to learn how to create and update a blog, and it does not take long to update it each day. I also have posted links to articles that I think would be useful for parents and to websites that reinforce what we are learning in class. My blog has become what I envisioned doing with a website, but it has been much easier to learn how to create and update as needed.

I am ready to take blogging to the next level by involving my middle school students in the posting. I wanted to give the parents a chance to become familiar with my blog

*Continued on page 14.*

## ON THE WEB

### The New Shape of Information

This enlightening presentation by David Warlick helps educators to understand how we might tap into the new information environments in order to better prepare children for their information-driven, technology-rich future. A great place to start your journey!

[http://snipurl.com/  
NewShape](http://snipurl.com/NewShape)

## CLASSROOM BLOGGING RESOURCES

URL links indicated in Jeanne Simpson's article:

### Will Richardson

Video clip about high school blogging:  
<http://snipurl.com/WRRichardsonvideo>

Will's blog about classroom blogging:  
<http://www.weblog-ed.com/>

### Darren Kuropatwa

Pre-calculus classroom blog:  
<http://pc4sw06.blogspot.com/>

Applied Math classroom blog:  
<http://am40s.blogspot.com/>

### Jeanne Simpson

Jeanne's math classroom blog:  
<http://7westmath.blogspot.com>

Jeanne's blog on education blogging:  
<http://mathmusings.blogspot.com>

Jeanne's safe blogging guidelines:  
<http://snipurl.com/JSguidelines>

Blogger (free blogging website)  
<http://www.blogger.com/start>

**Jeanne found these references helpful "as I am learning about this exciting use of technology":**

### Pew Report on Teenage Blogging

More than half of online teens have created content for the Internet  
<http://snipurl.com/teenblogging>

### Helping Your Kids Blog Safely

CBS News tech analyst Larry Magid offers tips to parents on how they can ensure their children blog safely.  
<http://snipurl.com/BlogSafely>

### A Difference

A wonderful discussion about managing blogging risks, with teacher Darren Kuropatwa.  
[http://snipurl.com/blogging\\_fears](http://snipurl.com/blogging_fears)

### How Can Children Stay Safe Using Blogs?

Australian government site offers tips for any kind of Internet activity.  
<http://snipurl.com/StaySafe>

### Blog Safety

Teens, parents, and teachers can learn about the benefits of safe blogging.  
<http://www.blogsafety.com/>

## GETTING STARTED

*Continued from page 13.*

before asking them to let their child participate. There are some parents who are tech-savvy enough to have valid concerns about allowing their children to begin blogging. One of my students is actually my own son (oh, the things I could write about that!), so it is very easy for me to put myself in a parent's place.

I will be sending home a letter that will explain what I am trying to do, and it will direct the parents to **my blog on blogging** for some more information, including my safe blogging guidelines. I will send home a copy of these guidelines for the parent and student to sign. The students will give me their email address, and I will invite them to join my blog. At that point they can begin posting.

I have not wanted to jump into this part of blogging too quickly. I feel that it is my job to educate the students about proper Internet etiquette and safety. I have researched the work of other teachers who are blogging with their students, and I have incorporated many of their ideas into my policies. The links to the information I found are posted in my safety blog and in the sidebar to this article. I want to spend some time in class discussing the reasons for the rules before I let the students begin posting. I have already had some students give their first and last names when they left comments, so I did not publish those comments, and I talked to the individual students about not including traceable information about themselves.

I am not going to require all students to participate at this point. I have many who want to post, and I think the enthusiasm will be contagious. Most of my students have Internet access at home. At this point, we don't have time built into the school day for students to have access to school computers for this

type of use. I don't think it is fair to require them all to participate if they don't all have computers at home. We'll look for options for those who want to take part but don't have home access.

I am not too worried about students posting inappropriately. They have other outlets for rude behavior that will not be monitored by a teacher! I have set up the blog so that I am emailed a copy of each post. All posts are subject to the same guidelines as any other work that is turned in to me. If a student writes something inappropriate, I will deal with it the same way I would deal with the same words in a note or an essay.

If someone does something wrong, we will deal with the problem, but I don't think that is a reason to avoid using blogs. I can give a child paper and pencil. If left to their own devices, they may not put those tools to proper use. However, if they are given clear instructions and consequences, and if they know I am going to see what they have done, they will save the shenanigans for an unsupervised moment.

Today's students are eager to interact with technology. They want to share their thoughts with the world. Many are seeking out unsupervised places such as MySpace to begin social networking. I believe they will participate in school-sponsored networking just as eagerly. Not only will they have the chance to learn proper Internet behavior, they will have the opportunity to clarify their thinking and deepen their understanding of academic concepts through classroom blogs. ♦

*Jeanne Simpson has taught middle and high school math and currently teaches seventh graders at Cedar Ridge Middle School in Decatur, AL. She is a National Board Certified Teacher and a 21st Century Teacher Fellow of the Alabama Best Practices Center.*

# Learn More about Cool Web Tools That Can Deepen Student Learning!

Alabama teachers involved in our 21st Century Schools initiative are drawing on these resources and others as they experiment with the many tools available on the World Wide Web adaptable for classroom use. For definitions of terms, see the glossary on page 7!

## Learning with Blogs

**TEACHING WITH BLOGS RESOURCE PAGE** – Here's a terrific collection of elementary and secondary resources compiled for two online classroom blogging workshops sponsored by the Alabama Best Practices Center. Browse this page for ideas and how-to information. One-stop shopping!

<http://snipurl.com/ABPCedblogging>

**WAYS TO USE BLOGGING IN EDUCATION** – A great list of idea-starters by Anne Davis, who works at Georgia State University with faculty, staff, and students in the area of instructional technology. You're bound to get some ideas!

<http://snipurl.com/WaysToEdBlog>

**VIDEO BLOGGING IS ELEMENTARY** – The script, video filming, production, and news reporting at this class webpage are all done by 3rd grade students in Atlantic City. The teacher helped a little with the editing!

<http://www.starw.org/acrc/>

**SAFE BLOGGING RESOURCES** – Canadian teacher Darren Kuropatwa is a global leader in the movement for safe, responsible classroom blogging.

<http://snipurl.com/blogsafty>

## Learning with Wikis

**THINK OUTSIDE THE BLOG** – "Web logs are great vehicles for an interactive exchange of ideas between a handful of people," says educator Tim Stahmer. "But blogs are not as effective when a large number of people want to collaborate, contribute, and easily find information on a given topic. That's when you need a wiki."

<http://snipurl.com/schoolwiki>

**FOR TEACHERS NEW TO WIKIS** – Provides evolving information on how to incorporate wikis into your classroom. You're invited to contribute ideas, information, and insights regarding wikis and their value as a collaborative, public writing tool.

<http://snipurl.com/oaai>

## Learning with Podcasts

**CURIOUS ABOUT PODCASTING?** – This page of resources about podcasting for educators and students was assembled by consultant Gary Stager. "Podcasting offers educators and students remarkable opportunities for their voices to be heard in their local communities or the around world."

<http://www.stager.org/podcasting>

**PODCASTING CRAZE COMES TO K-12** – Educators are starting to see how podcasting can help hone students' vocabulary, writing, editing, public speaking, and presentation skills, and other skills that will be

valuable in the working world, such as communication, time management, and problem-solving. (*Education Week* – may require free registration)

<http://snipurl.com/EWpodcasting>

**THE EDUCATION PODCAST NETWORK** – A meeting place for educators interested in the potential of podcasting, developed by education technologist David Warlick, a leader in digital learning. Lots of resources and K-12 examples.

<http://snipurl.com/EdPodNetwork>

## Learning with Webquests

**HOME OF THE WEBQUEST** – The inquiry-driven webquest concept was developed more than a decade ago by Bernie Dodge, a professor at San Diego State. Dodge has maintained this resource site ever since, and it's definitely your first stop!

<http://webquest.sdsu.edu/>

**A WEBQUEST ABOUT WEBQUESTS** – Over the years, many teachers have been introduced to the webquest teaching strategy and there are many, many teacher-made webquests out there (just search Google!). Some are excellent, many are not. This tool developed by Bernie Dodge teaches teachers how to produce high-quality webquests.

<http://snipurl.com/dpl6>

**CREATING A WEBQUEST** – It's easier than you think, says this great how-to article at *Education World*. Step-by-step directions with thoughtful commentary and additional resources.

<http://snipurl.com/CreateWebquest>

## Sizzling Social Software

**RIP, MIX, LEARN** – Delicious, Flickr, Mappr, Furl! Trapped in this physical space, we just don't have room to introduce you to the dozens of social software tools that educators are using. So we're sending you to teacher Darren K's workshop blog on the subject. Explore. If you're not a "concrete sequential," you'll get a lot out of it!

<http://ripmixlearn.blogspot.com/>

**RICH SITE SUMMARY** – The first step in understanding the educational potential of "social networking" on the Web is to understand the concept behind RSS. EduWeb guru David Warlick has collected these resources for you!

<http://snipurl.com/DWandRSS>

## Alabama Classroom Blogging and More!

**A RESOURCE PAGE IN PROGRESS** – We're using the Delicious social bookmarking tool to highlight classroom blogs, wikis, and other web projects in Alabama. Check back often!

<http://del.icio.us/abpcjohn>

Find links to other resources on this topic at: [www.bestpracticescenter.org](http://www.bestpracticescenter.org)

### Outdated Learning is "Risky Business"

Our current educational system "neither engages many students nor helps them succeed," says Chris Dede, a 21st Century Learning expert at the Harvard Graduate School of Education. "Failure to address this problem will result in a dismal economic future." Dede's thoughts are amplified by the voices of several prominent business leaders in this *Edutopia* article, "Risky Business." One proposal: Give cash awards to teachers who help sharpen their students' tech skills.

<http://snipurl.com/RiskyBusiness>

### Educating for the New Economy

The emerging New Economy is driven by entrepreneurship, technology and innovation, says this 2005 report, "Transforming Learning for the 21st Century: An Economic Imperative." A primary challenge for U.S. education is to transform children's learning processes in and out of school and to engage student interest in gaining 21st Century skills and knowledge. The authors offer their ideas about how to accomplish that task. (Learning Point Associates)

<http://www.learningpt.org/tech/transforming.pdf>

### A Generation Immersed in Media

To what extent does an environment saturated with new and evolving media influence the lives of young people? The Kaiser Family Foundation and Stanford University researchers tackled this question in a recent study titled *Generation M: Media in the Lives of 8-18 Year-Olds*, which examined media use among a sample of more than 2,000 3rd through 12th graders in the United States.

<http://snipurl.com/GenerationM>

### The Read/Write Web is Changing Education

Weblogs, wikis, podcasts, and similar tools introduced over the last few years have ushered in what teacher/author Will Richardson calls the "Read/Write Web," a phenomenon that is changing the face of society. Classrooms are beginning to feel these effects as well, as thousands of teachers and students use the Web to publish their work, collaborate on projects, and engage in online conversations.

<http://snipurl.com/ReadWriteWeb>

### 21st Century Teaching

This article from *Access Learning* (March 2005) examines a key issue associated with the 21st Century Skills agenda. "There's a disconnect between the content taught, the technology tools used, and the 21st century skills needed to apply the content and tools effectively." The Partnership for 21st Century Skills (a coalition of education groups and technology companies) has developed Literacy Maps which show the three-dimensional texture of 21st Century learning.

<http://snipurl.com/fbdt>

### Resistance is Futile

"Resisting today's digital technology will be truly lethal to our children's education," says e-learning expert Mark Prensky. "They live in an incredibly fast-moving world significantly different than the one we grew up in. They not only need things faster than their teachers are used to providing them, they also have many other new learning needs as well." Prensky warns against using technology "to do old things in new ways." For the digital age, he says, "we need new curricula, new organization, new architecture, new teaching, new student assessments, new parental connections, (and) new administration procedures."

<http://snipurl.com/MPrensky1205>

## Working Toward EXCELLENCE

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