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## Turning the Page: Forget about those bulky backbreakers, digital textbooks are the future

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By Rebecca Hill

October 1, 2010

Remember when computers were mostly used in offices? They were big and bulky with about as much mobility as a beached whale. Forget about using them in the classroom. Forget about reading a book on them. Forget about an app, well, for anything.

Today, computers are the number-one educational tool. In fact, no one can imagine a school without one.



Illustrations by Mark Matcho

They're so integral to learning that many schools are on the fast track to making digital textbooks part of daily classroom life. And many educators can't wait: PBS's 2009 national survey, "[Digitally Inclined](#)," showed that 76 percent of K-12 teachers already use digital media in their classrooms (up from 68 percent in 2008). And 78 percent of those teachers believe that digital media increases a student's motivation for learning.

But it hasn't always been smooth sailing. Some critics question the utility and functionality of digital textbooks, while individual state textbook laws, both cumbersome and inconsistent, have presented their own challenges. On the publisher side, questions about access and cost continue to short-circuit the transition. But make no mistake: we're still moving down that road.

Over a year ago, California entered the fray with its free digital textbook initiative, and Texas, always a textbook trendsetter, is making its move to digital materials with new

initiatives starting in 2011. Indiana, Virginia, Florida, and other states are also slowly inching closer to a shift in that direction. Good thing, because with the

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never-ending explosion of tech devices like iPads, iPhones, and Kindle DXs, kids now expect a variety of fun ways to read, study, and graze the Internet.

#### The digital textbook movement

There's no denying that economics are fueling the move toward digital materials, but it's also about staying on top of what keeps students actively engaged. The amount of time kids spend online is growing: it's now more than seven hours a day, according to a [national study](#) by the Kaiser Family Foundation. And most educators will readily admit that their students know more about technology than they do. "Our children live in a different world," says Sheryl Abshire, the chief technology officer for Louisiana's Calcasieu Parish Schools. "We're going to have to step up smartly to meet their needs or we are going to be irrelevant to them, and I don't think that public education can afford to be irrelevant to our prime customers."

Stepping up smartly means turning individualized learning on its head with digital materials. With econtent, it's easier to customize student learning on all levels. In fact, with digital materials, says children's book author and editor Marc Aronson, we wouldn't be talking about a "class" at all. Instead, "we would be talking about an individual student whose educational needs would be met at his or her level," he explains. "When talking about meeting individual needs, we must remember that the printed textbook is not and never was really a book. It's merely an instructional device that offers materials to make it easier for the teacher to plan and the student to learn by being carefully scaffolded." Think of a textbook as an atlas or dictionary," adds Aronson, "a supplement for a book. Once it's a digital book, it can be used in more ways."

But for some, it's not that easy. "Digital textbooks will not change teaching unless the methodology is changed to go beyond the material provided in digital textbooks," says Todd Whitlock, technology coordinator at Indiana's North Daviess Schools. "Digital textbooks themselves will not do any more to prepare our students for the future than the same material that is bound in a book," says Whitlock. "We know that the ever-present access to technology opens the door to a great deal of project-oriented learning that is not possible in a traditional environment. We need to make sure we allow teachers and students to use all the resources (print, electronic, experts, etc.) to create new knowledge.... This will not only provide motivation for student learning, but will also engage them in its very creation. I believe that this transformation in instruction, content, and environment will have a tremendous impact on student attendance, attitude, and achievement."

#### Implementing a digital textbook program

One important way to transform how instruction is delivered is by training the teaching staff. And as nationwide 1:1 laptop initiatives have shown us, training is a key to success.

Some school districts are easing into digital content, while others, like California's Riverside Unified Schools, have hit the ground running, given the experience and knowledge of their staff and students. And at schools like Arizona's Empire High School and Maine's Casco Bay High School, in-house teams of teachers have offered their colleagues expert training.

Of course, nobody ever said change was easy. In some cases, integrating digital content into the existing curriculum has made educators anxious. At Virginia's Fairfax County Public Schools (FCPS), most staffers were excited about the digital textbook pilot program. "But some teachers were hesitant about how this will impact lessons they have already developed," says Peter Noonan, FCPS's assistant superintendent for instructional services. "This pilot will give us time to monitor the impact of the IT infrastructure and find out what kind, and how much, professional development is needed." Noonan's team is now working to provide additional support to teachers through full-day orientation sessions as well as encouraging collaboration on best practices for digital resources.

Florida's Lake Weir High School initiated a digital textbook pilot program last fall



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with its freshman English classes. The limited launch was beneficial, says Principal Cynthia Saunders, because the administration was able to get feedback before it introduced the program to a large number of students. "We honestly have not had negative issues," says Saunders. "The electronic texts are not mandatory.... But teachers are incorporating more and more technology applications in their instruction."

Another critical advantage? The digital expertise of students themselves. As some educators see it, many districts are merely catching up with their incredibly tech-savvy kids. "Students are coming to school with different skill sets," FCPS's Noonan says. "We need to meet them where they are and use technology for learning." At Riverside Unified Schools—one of the first school systems to switch to digital textbooks—students provided the bulk of the support, says Jay McPhail, director of instructional technology.

One issue that continues to arise is student access, to both hardware and the Internet, although the issue is likely to become less urgent as states begin to change their formulas for distribution of textbook monies, or, as in the case of North Daviess, schools find local funding for technology. Already, 1:1 laptop programs can be found in more than a quarter of the nation's schools, many school buildings provide wireless access, and increasingly students have Internet access either at home or through community centers or libraries. Most educators believe the access issue is beginning to resolve itself.

The digital textbook: it's evolving

Digital textbooks themselves are rapidly evolving. Initially (and even now) publishers provided a PDF of a textbook so schools could have both a print version and a downloadable version. But this method isn't always cost efficient, says Alice Owens, director of technology for Texas's Irving Independent School District. "Right now, we're seeing that many of the companies are requiring us to pay for the hard copy and the digital version," says Owens.

Increasingly, the digital textbook is evolving from a static PDF to a more pliable resource that can incorporate other electronic options. One model is flexbooks, digital textbooks that utilize a web-based collaborative model, include open educational resources, and enable educators to customize and produce their own textbooks. The **CK-12 Foundation**, a nonprofit group, created this model when its founder, Neeru Khosla, wondered if she could get her children a good education, then why couldn't everyone have the same experience? "Digital content should be available to all kids," Khosla says. "It shouldn't be a privilege."

What makes the **flexbook** unique is that using it, teachers can integrate a variety of tools and information like videos, hyperlinks, or simulations to make their lessons more interactive. At California's Leadership Public Schools, where 54 percent of the ninth graders read at a fourth-grade reading level, teachers incorporate literacy lessons into their math and science content. The district's flexbooks have been customized in three ways. In addition to the flexbook with literacy support, there's the original CK-12 flexbook for more advanced students and one with special accommodations like text-to-speech for kids with special needs. Educators can teach the same concepts, says Louise Waters, Leadership's superintendent and CEO, and still support students with a wide range of learning levels. At present, flexbooks are generally used for math and science, though the plan is to add more subjects. They are also created under a Creative Commons License, which means that these adaptations are available to other schools. Finally, they are also aligned with standards in 10 states.

CK-12 obtained its content by forming relationships with colleges and universities and obtaining author donations. James Dann, who wrote People's Physics Book, donated materials. Initially, Dann created the book because he didn't have, in his Menlo Park, CA classroom, a viable tool that encompassed the ever-changing field of physics. "The book has evolved and flexed with students and with the evolution of the class, curriculum, and even physics," says Dann. "When Neeru approached me and told me her vision, I was 100 percent onboard and donated **People's Physics** immediately."

But if the flexbook goes so far as to incorporate author's materials, as well as open educational resources, it begs the question: Why not just use open

educational resources? Some schools, like Empire High School, have been pursuing this model. But most digitally inclined schools believe in a variety of options. Riverside's McPhail reports that they use a combination of open source textbooks from CK-12, content from iTunes University, and other open source materials. "At the end of the day, I envision an iTunes-like model where both paid and free resources are available, and the consumer—schools and students—picks what resource they think is best," says McPhail.

While a flexbook or even a digital textbook provides an organizational structure from which to plan lessons and teach, the vastness of open educational resources can be overwhelming. Who should organize and cultivate the resources to use with digital textbooks or to incorporate into flexbooks?

The school librarian as the digital resource provider

Marcia Mardis believes it's the perfect time for library media specialists to assume their place at the digital learning table. After all, says Mardis, a professor at Florida State University, they're the most qualified for managing this constantly evolving environment. "When we make the move to digital textbooks, it won't be a paper textbook on a Kindle; it will be about open content," she says. "When it is about open content, we are going to see huge opportunities for school librarians."

Currently, Mardis is exploring how K–12 media centers are fitting digital resources into their collections and how librarians are supplying these services. In particular, she's looking at whether the library media specialist is a "teacher" or a resource provider—a question that's plagued school librarians for the last 15 years, Mardis says. "We have been downplaying our resource expertise and talking about how we are teachers." She adds. "It's time to change the rules of the game. We can remind people: look, we are the ones who can help you connect with pieces of open content. We are the people who can help build meaningful activities based on this content."

Sharnell Jackson, a senior fellow at the [Center for Digital Education](#), agrees. According to Jackson, the time is right for librarians to step up and support curriculum instruction through open source content and the latest technology. "The movement towards digital libraries is occurring more and more and is driven by economics, data-driven decision-making," Jackson says. "Librarians are getting more sophisticated in the use of digital materials in support of curriculum instruction in the classrooms."

Librarians like Tom Corbett of Cushing Academy, a prep school in Ashburnham, MA, are taking an even more radical approach. Last year Cushing Academy's library redistributed all of its print books to the classrooms. The library transformed itself into a digital hub, a portal where students can find and use digital content. This idea of managing content, a substantial departure from tradition, has many educators up in arms. But for Corbett, the move was a chance to be a more active partner in the digital environment that his school was creating.

"Librarians need to move from a gatekeeper role to more of a facilitator, collaborator, and participant in the student's research process," he says. "We should strive to be a team member that pushes others (students and faculty) to critically evaluate the resources they are using to support their positions."

"Because school librarians are the 'big picture' people on campus, they are indeed uniquely qualified to be the resource provider by drawing from a wider pool of resources that they know are available on campus," says Connie Williams, a school librarian at California's Petaluma City Schools. "School librarians are needed now more than ever."

As more digital learning environments emerge, they'll need to be effectively managed. School librarians, in particular, Mardis says, must demonstrate their unique resource expertise and skills in content management. If not, it may not get done and we'll likely find that the promise of digital textbooks and flexbooks will never be realized.

Freelance writer Rebecca Hill (bh8811@gmail.com) lives outside of Indianapolis, IN, and often writes about libraries and learning. This is her first feature for SLJ.

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