

Is the Paperless Classroom Possible?

Business professors who step off the paper trail not only save resources and streamline course content, but also prepare students for an increasingly digital business environment.

by Allen H. Kupetz

Last spring I taught a new elective, “Managing Technology,” a course for non-engineers who might someday manage technical people, projects, or products. I decided to teach the course in an almost entirely paperless format: no textbook and no hardcopy papers. Students could take notes directly on their laptops, which our school provides as part of tuition. I used the Blackboard course management system to deliver all my presentations and non-copyrighted readings.

You’ll note that I mentioned the course was *almost* entirely paperless—for some situations, print still wins out over digital. But the completely paperless classroom is not the goal. Rather, the goal is to take advantage of technologies that truly help faculty cut print costs, ease distribution of materials, and facilitate learning. Moreover, striving to do more work electronically helps meet the needs of a new generation of students who are now entering business school more comfortable than ever with the digital—and increasingly paperless—world.

The Paperless Advantage

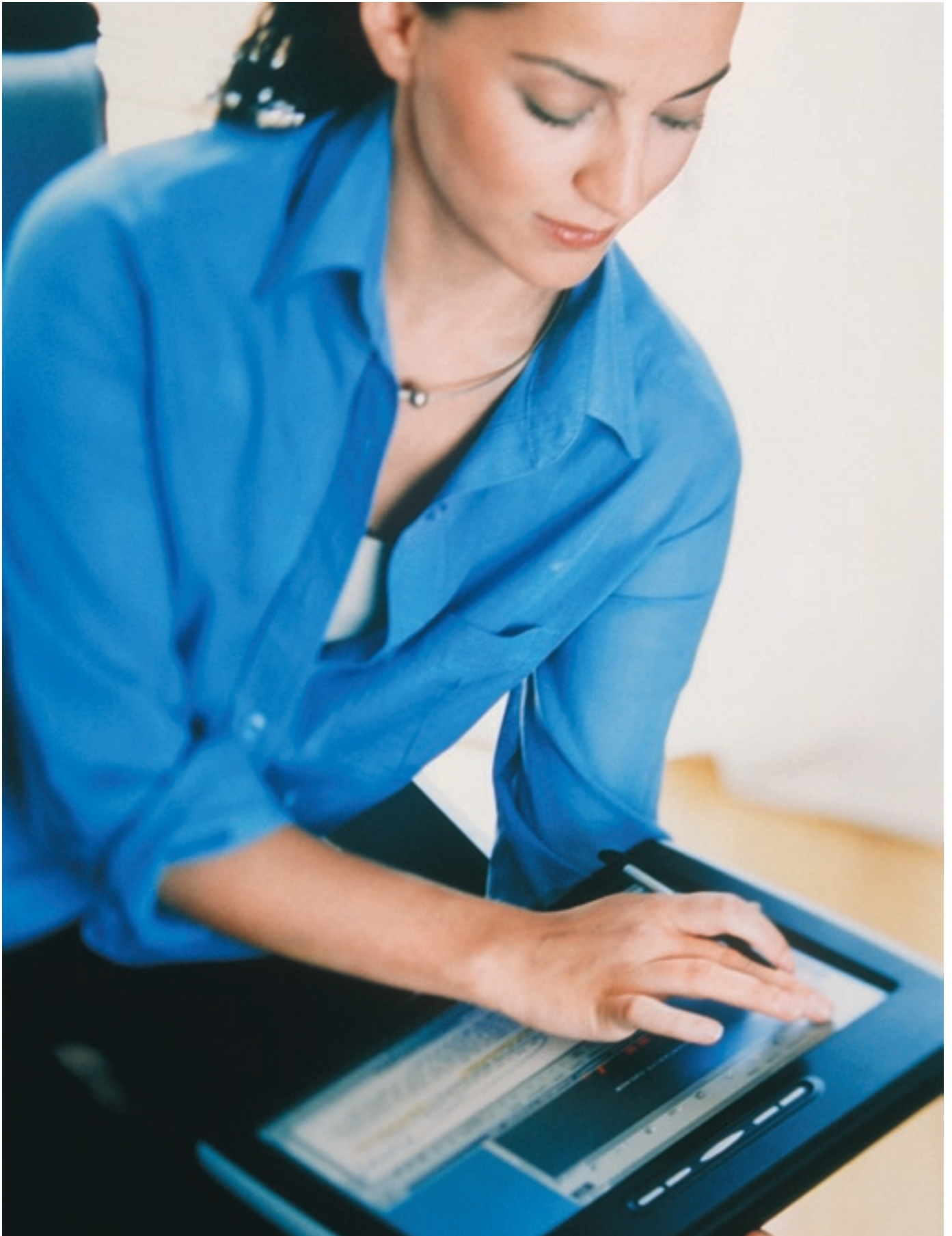
I have shared my approach with some of my colleagues and their typical reply has been, “Why bother going paperless? What are the advantages?” In fact, there are at least three tangible benefits to a paperless classroom. First, business students learn to appreciate what “going paperless” has to offer. The paperless approach encourages students to think about the advantages of digital communications and the cost savings companies with paperless practices might enjoy. Second, when students and faculty depend less on printing, mailing, shipping, buying, and storing paper, they use fewer resources.

Finally, I’ve found that a paperless classroom allows professors greater flexibility in several ways:

It cuts the cost of cases. For example, many professors still order hardcopy cases, from sources like Harvard Business School Cases (HBSC) and Ivey Publishing, through the campus bookstore. This approach can double the per-case cost for students, with no benefit to anyone but the bookstore itself. Why not go paperless? HBSC allows professors to bundle together all the cases in a course electronically. Then, students can pay HBSC directly and download the cases immediately.

In contrast, Ivey still sends students paper copies, which must therefore be ordered in advance. This inconvenience adds nothing to intellectual property protection since a student can still scan the paper and distribute it digitally anyway. We are teaching the Napster generation. I predict Ivey will go paperless soon as well.

It eliminates the need for printed textbooks. For my core course that required a textbook, I experimented with Zinio (www.zinio.com), a digital publishing company. Zinio can convert printed materials, including textbooks, into a digital format that allows authors to protect their intellectual property through





a basic digital rights management scheme. The format still allows readers to “turn” the pages, highlight relevant passages, and search for key terms. The biggest advantage is that the downloadable textbook is about half the price of the hardcopy version.

I did find two significant disadvantages to using a digital textbook. First, students can’t resell the book at the end of the term. And, second, my students—hardly a scientific sample—said they hated reading the e-book on their laptops and printed it out anyway. Still, before I turned to Zinio, my students complained most about the cost of the textbook. Given that, I believe the advantages outweigh the disadvantages: I’ll teach the class next term with no textbook.

It allows à la carte course planning. With the cheaper cost of digital content, professors already can pick and choose exactly what cases and articles they want to include in a course, in *à la carte* fashion. What the paperless classroom *could* mean, however, is that professors could purchase the single chapter of a textbook that’s relevant to their classes, rather than the whole book. After all, most professors would rather not purchase the entire book when only a single chapter suited their needs. By allowing these professors to purchase chapters separately, publishers would actually increase their incremental revenue.

Don’t scoff. You used to have to buy music a whole CD at a time—now people pay more on iTunes on a per-song basis because they are buying only the songs they want. It will happen in textbook publishing as well. Students will demand it, just like they now insist on e-mail access to professors and PC projectors in the classroom.

Upgrading to Web 2.0

Some professors may be reluctant to make the paperless leap because they are not familiar with wide selection of Web-based, easy-to-use, free applications loosely bundled together under the banner of Web 2.0. Smart use of the newest Web 2.0 resources can take the paperless business classroom to the next level.

The term “Web 2.0” is difficult to define. It encompasses social networking and the broad range of user-generated and user-managed content. Think of Blogger, Facebook, YouTube, and Wikipedia. I encourage my colleagues not

to worry that their students are already much more familiar with these tools than they are. Instead, they should be readying students to use these technologies in the real world, rather than showing off their slide rule skills.

Here’s a quick primer on the sites that students already are using. I believe these sites, and others like them, will prove valuable in the classroom and increasingly common in the business world:

Blogger (www.blogger.com) is a free service that allows you or your students to create a web log, or blog, to post ideas online and have others in the class reply. It’s great for promoting dialogue; helps those not inclined socially, culturally, or linguistically to raise their hands in class; and can support anonymous posts. While Blackboard has a similar function, I think Blogger’s user interface is better and, more important, it will be available to students after graduation.

Facebook (www.facebook.com) and its more professional cousin LinkedIn (www.linkedin.com), to which I belong, is a useful tool to teach about the power of networking and relationships. For younger students, it also allows the professor to remind them that “once posted” equals “always posted”—that is, their pages will be cached and always available for anyone to find. This reminder helps them understand what kind of impact today’s poor judgment could have on future employment opportunities.

YouTube (www.youtube.com) allows users to share video content. While the majority of the content has little educational value, there are some constructive uses. After a recent academic conference hosted by the Rollins China Center, we posted the panel discussions on YouTube for easy access. Years ago we might have mailed DVDs that would just sit in the recipients’ desk drawers. Now this content is available not only to those who could not attend, but also to people we never knew would be interested. Thus, YouTube can be a valuable tool for information sharing or marketing.

Wikipedia (www.wikipedia.org) is a great idea that I believe isn’t quite ready for graduate education. However, it does provide the underlying software to users at no cost under what the Open Source community calls “copyleft.” With this free software you can create collaborative works that everyone in the class can edit in real time, with the most current version always available to all students. Note that this does not ensure accuracy—which is the basis of my primary concern with Wikipedia—but it does provide a means to create a consensus.

For almost a year, I’ve been traveling around the country giving a presentation that I call “The Future of *Les*” to small and medium-sized companies. In the presentation, I

Paperless Ethics

With all of the advantages of the paperless classroom, it does highlight one central problem: The same PDAs, mobile phones, and laptops that facilitate access to and sharing of information also provide students with additional opportunities to cheat. As much as we want our students to maintain a sense of honesty and integrity, some will still try to take advantage of wireless communication to cheat on exams.

In truth, however, we haven't yet discovered a fail-safe way to eliminate cheating in traditional classrooms.

I recently gave a test to my students in my "Managing Technology" course, which covered about 50 vocabulary words and terms that I think managers need to know, such as "disruptive technology," 802.11, and WiMAX. I gave the students a traditional hardcopy test where they filled in the blanks and short answer segments in ink. However, at the end, I asked the following extra-credit question regarding many professors' primary concern when it comes to giving a paperless exam. It was one for which I didn't have the answer:

Given what we have discussed about wireless technology, peer-to-peer communications, Bluetooth, etc., please explain how I could have offered this exam paperlessly, but still have prevented students from using their computers to look up the answer or help other students. This is a technology—not an ethics—question.

Most students responded with similar answers: Don't allow students to connect to the Internet via a cable, and turn off the wireless capability that exists in all our classrooms. Still, those answers did not address all the ways that electronic cheating could occur. They don't solve other student-to-student connectivity opportunities like peer-to-peer 802.11, Bluetooth, and cellular text messaging.

Even though a paperless course may open the door to student-to-student cheating, I still believe such an approach offers too many advantages to ignore. Next term, I will give the exam paperlessly. To deter cheating, I will rely on the same tools that universities have relied on for years: our strict integrity policy; my physical in-class monitoring; and, in the end, my students' sense of academic honor.

describe how the wireless, cashless, and paperless revolutions will impact their businesses, their relationships with customers, and their bottom lines.

For example, I promote Blogger as a human resources tool to encourage internal dialogue—a company might use it to announce to its employees a change in a benefits program. I describe how sites like Facebook and MySpace can be powerful marketing tools; after all, companies like Burger King have more friends on MySpace than anyone else. YouTube is a low-cost way to put promotional videos online without paying millions for airtime on television. And Wikipedia is a useful tool for companies preparing technical manuals because it empowers employees at all levels to make constructive changes.

The corporate audiences seem receptive to the changes these sites promise to make to the business world. Faculty need to realize that most business students are, too.

Become a Paperless Evangelist

In his 1999 essay, "How to Stop Worrying and Learn to Love the Internet," the irreverent author Douglas Adams wrote: "Anything invented after you're 30 is against the natural order of things." As the lone paperless evangelist at my school, I have confronted many faculty who agree with this sentiment. I have been guilty of annoying nearly all of my colleagues as they stand at the copy machine or carry home stacks of papers to grade. As such, I have to be ever-diligent in my paperlessness or face the charge of hypocrisy.

If you would like to pick up the mantle of "paperless


evangelist" at your school, I offer three tips that go beyond the classroom:

1. Employ *feng shui*, the Chinese practice of positioning objects to create harmony, in your office. Get rid of all filing cabinets and freestanding bookcases—I have. If you have either of these, paper will fester and multiply. And your printer? Get rid of it. A paperless professor no longer needs it.

2. Back up your hard drive regularly and store those backups away from your computer. I have external hard drives in my office and at home. Once a week I back up all my files to both. As a result, all my files exist in three places, and I can avoid those Luddites who anxiously await a hard drive meltdown to remind me that their manila folders never crash.

3. Remember that "paperless," in the near term, really just means, "less paper."

The fact is, almost all of you are reading this in the magazine delivered to your office; that's how I read *BizEd*. Too bad, though—there are many URLs in this article that would be but one click away if you were reading this online.

For now, though, paperless doesn't mean no paper. It means simply that technology is giving us new options to reduce or eliminate much of the paper we use today and to enjoy the cost savings that result. Moreover, it gives us the satisfaction of introducing ourselves and our students to the increased portability and accessibility of digitized ideas and to a greener way of doing business. 

Allen H. Kupetz is Executive in Residence at the Crummer Graduate School of Business at Rollins College in Winter Park, Florida.