Teaching Business In a **Web 2.0** World

In an entrepreneurship course at the University of Arizona, student teams tap the power of wikis, blogs, and social networks to take their startups from idea to launch.

by Tricia Bisoux

When Jim Jindrick wants to check on the progress of the student teams in his entrepreneurship class, he doesn't need to make phone calls, send e-mails, or arrange meetings. Jindrick, a mentor-in-residence at the University of Arizona's Eller College of Management in Tucson, simply goes online and logs onto each team's wiki space. There, he can see the full extent of the students' collaboration on their startups, including their latest research and assignments, meeting agendas and minutes, and updated business plans. He can leave comments on their progress and read the comments of other advisors.

"In the past, there could be a week or two between a document's creation and its availability to instructors and mentors," says Jindrick. "With wikis, I can click on any team's wiki space and see the history of their work and exactly where they are today."

Jindrick is among a group of educators at Eller's McGuire Center for Entrepreneurship using wikis—digital documents that allow multiple users to make edits, additions, and comments—liberally in their courses. They began to look seriously at wikis in April 2007 when center director Sharon Hoskinson asked faculty to look for ways to incorporate the latest communications technologies into the center's yearlong entrepreneurship course for undergraduate and MBA students. "We wanted to infuse and embed these technologies, not as add-ons, but as integrated parts of the course," she says.

Hoskinson charged Randy Accetta, the program's business communications director, with the task of studying available technology. Accetta assembled a team of undergraduates to discover what cutting-edge communication tools and strategies students weren't already using to best advantage. Together, they decided that wikis were the way to go.

"The wiki is such a dynamic Web site and data storage tool," says Accetta. "I thought there were great ways for students to run with this technology and learn to use it for any intellectual venture." Wikis help students in three areas crucial to starting a business, says Accetta: internal project management, operational efficiency, and Web site design.

Student teams have been using wikis since the course began in September. In many cases, Eller faculty have found that wikis enable students to do more in less time and work better collectively than they could using more traditional technologies such as course management systems and e-mail. In the process, students haven't just been using wikis to organize the large amounts of information involved in planning and launching a new business. They've also been getting a thorough introduction to the latest Web 2.0 technologies. The more students use such communication technologies in their business coursework, say these professors, the better they'll be able to navigate business in a Web 2.0 world.
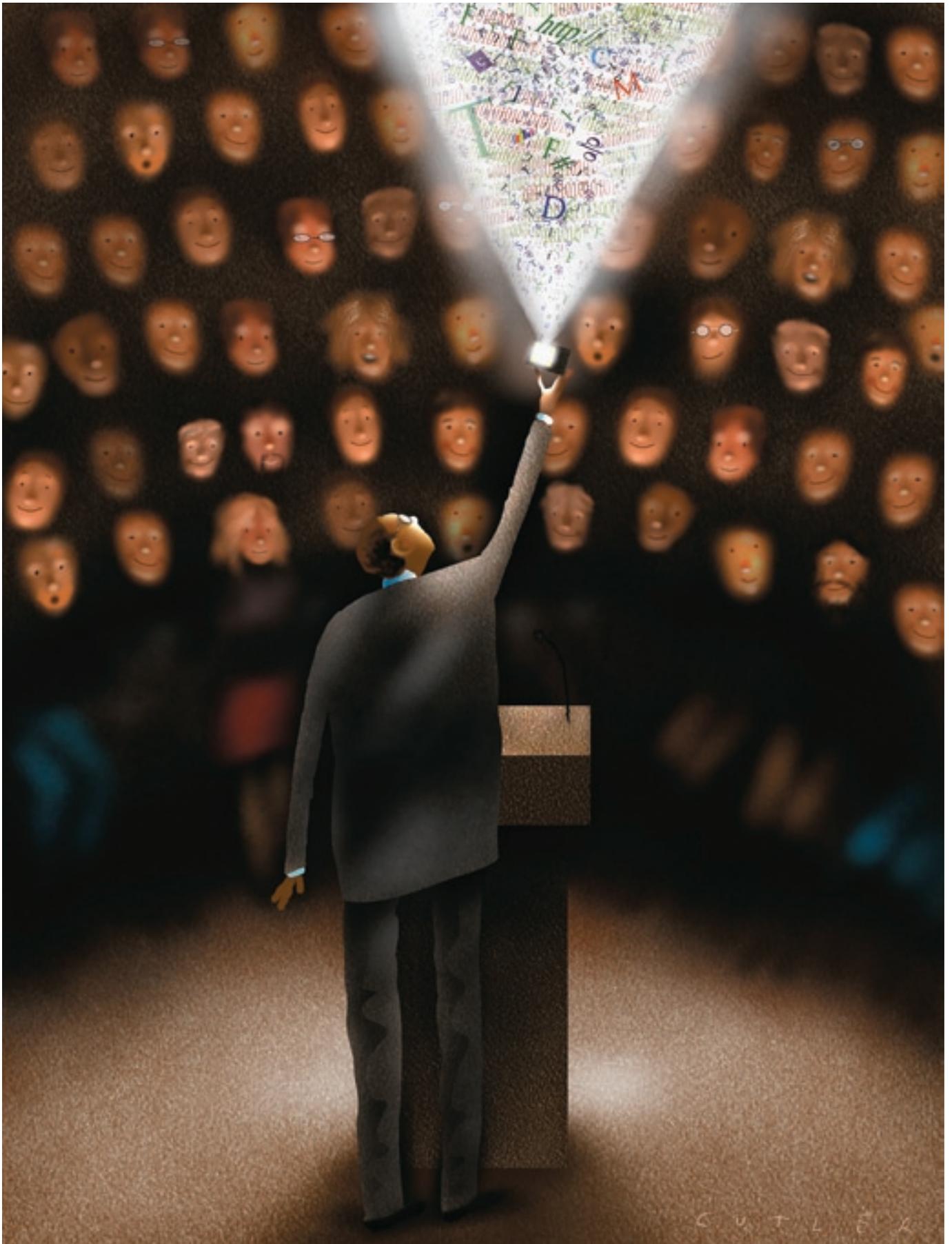
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> —Sharon Hoskinson, director, McGuire Center for Entrepreneurship

Big Problems, Simple Solution

Students in the entrepreneurship program choose to develop new ventures in one of two areas: corporate entrepreneurship, which focuses on projects that would work within an existing company, and traditional entrepreneurship, which focuses on startups. Beginning this year, students at the McGuire Center also are working with students from the University of Arizona's Rogers College of Law to explore the legal implications of their new ventures.

With so many groups accessing the same information—business students, law students, mentors, and corporate sponsors—wikis streamline what would otherwise be a more chaotic process, says Hoskinson. "Before this year, the collection of information was disparate at best, and it all needed to be located, identified, researched, and applied. Teams had to send documents and revisions to mentors and advisors, who had to check them and send them back to the teams," she says. "Students weren't able to capitalize on a full command of the information they had gathered, because there was just too much going on." The wiki, she adds, has become a good solution to a big problem.

Eller's wikis work much like smaller versions of Wikipedia, the well-known user-created and user-edited online encyclopedia. Students and faculty post everything they do for the course to the wiki, including their initial ideas, research, and interactions with mentors. Each team's wiki is password protected. Any team member can modify the content, and when anyone updates or edits a wiki space, everyone involved in the project receives e-mail notifications of the changes.

Wikis not only help keep the project organized; they also keep everyone working at the same pace, says Hoskinson. For example, in the past, if students asked for a mentor's advice independently, other advisors could be left out of the loop. As a result, one well-meaning mentor's guidance could conflict with another's, throwing the team off track. "Wikis help us manage all of this knowledge in a way that the mentors can see, so they can understand how their input is going to impact the entire project," says Hoskinson.

Ways to Wiki

Teaching with blogs and wikis is a way to add a new dimension of learning to the business classroom, say Randy Accetta, Jim Jindrick, and Sharon Hoskinson of the University of Arizona. However, they recommend several think-ahead strategies for effectively embedding Web 2.0 technologies in a business course:

■ Choose the right tool for the right job. "Blogs are great for posting newsletter-type information, which will soon be yesterday's news," says Jindrick. "Wikis are more appropriate for encyclopedic information such as business plans—they organize material that has long-term value."

■ Before introducing blogs and wikis to the classroom, embed them in a few faculty activities as a painless way for faculty members to learn how to use them. "Professors shouldn't have to add on this skill just to teach a course," says Hoskinson.

■ As a faculty champion for a Web 2.0-based course, choose a professor who already lives and breathes the latest communication technologies.

■ Define course objectives clearly. Will students be using wikis to create business plans? Write a textbook? Learn to collaborate on teams? Setting course objectives ensures that the technology is embedded in the course as a means to an end, rather than as the means itself.

■ Create a wiki template, complete with the categories that students will need to properly organize information for the project at hand. A template can serve as a guide to get students started, but also can be modified as needed.

■ Hold a "Wiki 101" class. Even if professors are teaching younger students, they shouldn't assume all of those students are comfortable with these technologies. It makes sense to dedicate a short amount of time at the beginning of the course to show examples of wikis and blogs and discuss how they work. Minimal preparation up front can help all students become more comfortable with the technology.

■ Choose a "techie" on each team to be its "wiki manager." Ideally, this team member should be comfortable with the technology and able to guide others through the process.

■ Know your budget. Many blogging and wiki vendors offer free versions. The drawbacks, however, are that vendors will display advertising in the space and students won't be able to have a dedicated Web address. For a cost, which depends on the number of users and the extent of features, these companies also provide ad-free wiki and blogging tools that offer more versatility.

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This two-way approach allows Accetta and Jindrick to experiment and compare notes on what works and what does not. "We intentionally went with two different wiki programs," says Accetta. "We wanted to see if there were any real differences in using different versions of the same tool."

In addition to Google Docs and Google Groups, Jindrick also uses Google's Blogger to write an ongoing blog, where he notifies students of new assignments, guest speakers, and calendar changes. "Google has many products that students can use, and they're all free," says Jindrick. "They provide a great way for students to learn about publishing online and managing public documents."

The wiki tools still lack some features, says Jindrick. Uploading is still somewhat slow, and the software's editing and graphic design functions are basic. In addition, student wikis must be saved on the vendors' servers rather than on the university's intranet, an arrangement that could put students' data in jeopardy if those servers go down. For this reason, he continually reminds students to back up their wiki documents onto their own hard drives.

These limited features can be "both a curse and a blessing," says Jindrick. "I don't care if my students' wikis are pretty—I want them to focus on content, not fluff," he says. "Still, their wiki presentations are pretty plain. In the spring, when they convert their information to Web sites, we'll spruce them up."

Once completed, each team's wiki will provide the basis for its company's Web site. At year's end, students will be able to avoid the usual last-minute scramble to gather and arrange information for their Web content. Because they've completed the work as they go, they'll have their information at-the-ready to be converted into public Web pages for investors and clients to view.

Testing the Tools

Although he appreciates the wiki's function, Accetta wants to be careful to keep the technology subordinated to the course's real objective—teaching entrepreneurship. "I'm not a big fan of technology replacing human community," he says. "I simply want this to be a tool students can use to collaborate more effectively. I want them to be on the cutting edge."

Before choosing specific wiki software for the course, Accetta researched offerings from more than 30 companies. Some are free but require users to display advertising on their wiki spaces. Other ad-free, more customizable wikis can cost between $50 and $1,000 a month, depending on the number of users.

Accetta's students are using a mid-priced wiki tool from Peanut Butter Wiki, while Jindrick's students are using a tool by WikiSpaces. The instructors are using their different wiki programs in different ways. Accetta's student teams are working externally in Microsoft Word and then posting Word documents to their wiki pages. Jindrick's teams, on the other hand, are doing all their work in the wiki space, using embedded applications such as Google Docs for document creation and Google Groups for group message boards and file sharing.

Tapping Social Networks

Through wikis, blogs, and profiles on social networking sites like MySpace and Facebook, Eller's entrepreneurship students are learning to build and strengthen relationships with a wider network of investors, advisors, and customers. Some teams are providing corporate sponsors access to certain areas in their wikis—that way, they can keep their sponsors apprised of their progress before their businesses even launch.

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> —Ron Burns, president of ProtonMedia

Bringing Virtual Worlds to Business School

As part of its "Duke Digital Initiative," Duke University in Durham, North Carolina, has explored the use of laptops and podcasting to enhance student learning. Now, it plans to experiment with another piece of the Web 2.0 puzzle: virtual worlds.

Duke's Fuqua School of Business recently announced its strategic partnership with ProtonMedia of Lansdale, Pennsylvania. ProtonMedia's product, ProtoSphere, integrates Web 2.0 technologies in a business-friendly three-dimensional virtual world—what company representatives call a "telepresence portal." Together, Fuqua and ProtonMedia plan to explore the possibilities of three-dimensional, computer-generated spaces that can be used for education.

"We're trying to find a thoughtful blend of technology for an enhanced learning experience," says Nevin Fouts, Fuqua's associate dean for information technology. "For instance, if a company offers to present a real-life problem to our students, we could have company executives speak to the students through the telepresence portal."

Second Life, one of the most prominent examples of an online virtual 3-D environment, has already attracted a deluge of media attention. Last summer, INSEAD of Fontainebleau, France, announced that it was building a virtual campus in Second Life where its own students and alumni could meet for courses and other events.

The upside to Second Life is that it provides an interactive central meeting place for users. The downside: It's publicly accessible and vulnerable to an often unpredictable Internet environment. Products like ProtoSphere allow organizations to tap three-dimensional online environments while keeping them secured on private networks. Represented by animated characters called "avatars," students and stakeholders can enter into a 3-D telepresence portal for virtual meetings, training simulations, and project collaborations.

What differentiates an online "telepresence portal" from, say, a video conference? The level of interaction,

An example of a "telepresence portal" for the Fuqua School of Business, generated by ProtoSphere, a virtual worlds software tool by ProtonMedia.

says Ron Burns, president of ProtonMedia. The key word is "presence." "Up until now, the Internet has been viewed as a giant encyclopedia," he says. "Now, its use is shifting. People are using it as a place to go." This next-generation Internet brings users out of isolation into the presence of others, he adds.

Burns emphasizes that the three-dimensional aspect of ProtoSphere is only a small part of its function. It actually bundles several communication technologies in one. In addition to virtual meeting spaces, the software includes voice-over-Internet-protocol (VoIP), Web 2.0 social networking tools, blogs, wikis, and messaging. The program also includes application sharing so that users can share their desktop contents with each other.

"When I'm on the network, I could be looking at a two-dimensional page, or I could jump into 3-D to look at a simulation or have a conversation with someone," says Burns. "The 3-D aspect is not the whole story."

Fouts believes the tool could be useful for virtual information and brainstorming sessions, and especially for learning simulations. For example, students who need to learn negotiation skills could enter a virtual world, represented by their personal avatars, to interact with a "bot," or character that has been programmed to teach negotiation. They could use a simulation to learn what's socially acceptable in different cultures. The virtual world blends gaming and social networking technologies for educational purposes, says Fouts.

Fouts emphasizes that the school hopes to learn not just how the software can be used for education, but also how virtual worlds and social networks will affect business interactions. This partnership, says Fouts, "will help us support our 21st-century curriculum and teach business leaders the tools and technologies they'll need in the future."

"Even though we're still fairly early in the course, students are beginning to visualize how to use their experience with social networking to advance their ventures," says Hoskinson. "Some are even creating Facebook profiles, using their wikis as entry points to those profiles."

One of Jindrick's teams already has one executive interested in its business. "It's easy for that executive to sign on to the wiki and serve as an advisor and advocate for the students on the team," says Jindrick. "And he hasn't even met them."

Embedding Web 2.0

Business education has long been focused on "experiential learning." When it comes to technology, an additional focus might just be "embedded learning." By embedding technological tools into assignments and projects, professors don't have to use precious classroom time to teach the technology itself. Students gain exposure to and experience with the technology as the class progresses, almost by default.

Plus, they're learning to work within a common organizational system, says Accetta. "I might organize my office one way, and you might organize your office another way. If

we were to walk into each other's offices, we wouldn't know where anything was," he says. "Wikis allow us to compile as much information as possible in a common space, where we both know where to find everything we need. It's a fascinating tool."

Technology has taken a step beyond PowerPoint, Hoskinson stresses. Web 2.0 adds another layer to the tools business schools must teach to keep students prepared for the workforce. "Once students learn how to use wikis, they'll understand the entrepreneurial process more clearly and move their ideas forward more quickly. The power of this tool is limited only by their exposure to it."

The more proficient students are in Web 2.0 technologies, the more innovative they can be in using them, say Hoskinson, Accetta, and Jindrick. Such familiarity makes it that much easier for them to launch a new venture, complete a project, or lead a team. For these Eller professors, wikis have become a way to teach entrepreneurship in a knowledge-driven economy. **Z**

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