



## Information Technology and the Future of Education: An Interview with Diana Oblinger

by **James L. Morrison** and **Diana G. Oblinger**

Through her 10 years of experience at IBM, her previous position as vice president for information resources for the 16-campus University of North Carolina system, and her current role as an independent consultant, Diana Oblinger is familiar with the interaction between higher education and information



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technology (IT) from both a business and an educational standpoint. We took advantage of a break in the recent **EDUCAUSE** conference in Indianapolis to discuss where U.S. institutions were in the use of IT tools in higher education and what the future holds.

**James Morrison [JM]: Where are we in using IT tools to enhance the educational process?**

**Diana Oblinger [DO]:** Although we've come a long way in using IT tools to enhance education, at present we're hampered by our fragmented approach to incorporating them. In almost every institution you can find islands of innovation, but we have yet to integrate the pieces into a seamless enterprise. For example, some institutions excel in online student services by offering a 24/7 operation to students with great customer service, access, convenience, and a fast response time. Yet the same institutions might still rely on a traditional classroom model when it comes to teaching and learning. Such internal variations parallel those existing between institutions; for example, other institutions might be wildly successful in such areas as distributed learning, distance learning, and partnerships with e-learning companies. Administrative systems vary as well. We see some institutions with fully implemented ERP (Enterprise Resource Planning) solutions, while others are still processing financial aid by hand.

Despite the fragmentation, institutions continue to find ways of using IT to help them better manage the "business" of higher education. Institutions, particularly those in state systems, are facing a greater demand for accountability. In response to this expectation, a new generation of university presidents is looking to IT tools for help in operating from a data-driven basis.

So there are pockets of innovation and a lot of wonderful things happening, but at this point, very few institutions have been able to integrate those pieces into a seamless educational enterprise.

**JM: What are the forces driving the use of IT tools in education?**

**DO:** There are a number of significant drivers. One is technology itself. Technology challenges people's assumptions about what it means to be educated. Technology and globalization have changed the way we do business; as a result, we have seen the emergence of a lifelong learning culture, one in which education allows us to keep pace with change. Moreover, it goes beyond extending our notion of education from four years to a lifetime. In fulfilling the expectation for lifelong learning that it created, technology changes both the ways in which we learn and the ways in which we conceive of the learning process. IT tools provide just-in-time learning, knowledge management, simulation, and visualization. Through the use of these tools, we have grown increasingly aware that learning facts is not enough. Knowledge management in particular is leading us to question our focus on explicit knowledge, gained from textbooks, and our relative neglect of tacit knowledge, gained from experience. Tacit knowledge consists of knowing how to get things done, wisdom acquired through years of practice. Most of our existing IT tools are oriented toward explicit knowledge; emerging ones such as knowledge management are directed toward capturing tacit knowledge.

I think that people are a second significant driver. Twenty-five years ago, educators dealt primarily with traditional students in terms of age and residential status. Now, the bulk of students are commuters. The "traditional" college student no longer exists. We have many more first generation college students; we have older students; and we have students attending college without a degree as their ultimate goal. As a result of the diversity of students, institutions face increasingly divergent student expectations and are using IT to customize services in order to meet those expectations.

Still, there is a common theme: everyone wants their needs met quickly. Younger students have never known life without technology, yet older students are also accustomed to the speed and responsiveness we see in IT-enabled services.

**JM: How will we be using information technology tools to conduct the business of education in the future?**

**DO:** In the next three to five years, I think we will see a great deal of effort put into integration and the creation of a seamless educational enterprise. A lot of information is still being transferred manually from department to department or office to office; we need to move to a point where all the systems talk to each other. Fifteen years ago, institutions invested substantially in creating networks. Each department had a separate e-mail system; however, the separate systems could not exchange information. So, in spite of the technology, we were isolated from each other. A similar problem exists today. Colleges and universities have lots of Web sites and portals, but one portal does not necessarily interface with another. Instead, you have to log on with a different ID and password at each portal. When performed under the rubric of a single institution, this inconveniences users and erodes institutional coherence. By updating systems and integrating IT tools, we can make management more efficient, facilitate navigation and information retrieval, and convey a unified institutional image.

Another area that IT tools will continue to influence involves learning. Already, our focus has shifted from teaching to learning, and our next step is to redefine the IT-enriched learning environment. Much of what we have done in the past has been constrained by the prevailing conception of the classroom, but the lecture and the lab are only two ways to learn. Now we are getting into visualization, simulation, and electronic

performance support systems. The next step may be the integration of knowledge management and e-learning systems to augment current practices. This represents a more radical revision of the classroom since knowledge currently being developed within an institution could serve as the material for its classes, which would break down barriers between research and learning.

**JM: Can you elaborate on ways in which advances with IT systems can enhance the educational enterprise?**

**DO:** Well, let's return to the issue of knowledge management. IT systems can help us both archive information and make it instantly available to those who need it. Think about remediation or a situation where someone needs a refresher. If I haven't taken chemistry for 20 years and need to use some of it in a basic physiology class, I can pull up a reminder of how to titrate an acid. We often learn things that we never apply, so they're hard to remember. A refresher can be very useful in teaching and learning environments, as well as in staff support situations. The use of IT in such situations may change the way we conceive of learning. People learn best when they need information. IT systems deliver information when it is needed, so that it can be put to use immediately and learned more effectively.

Also, there is a growing enthusiasm for learning communities. We can put together online learning communities that complement face-to-face environments. You start by creating bonds and establishing connections between individuals within the face-to-face environment, but a tremendous amount of learning—sharing information, challenging ideas, and constructing new paradigms—can take place in an online setting.

In addition to knowledge management and learning communities, we are also seeing significant change in what businesses often refer to as customer relationship management. The notion is that you manage the relationship between institution and learner across the multiple ways that you contact people or connect with them. Think about our admissions process: we have face-to-face recruitment activities, we have phone contact with students, and we have Web contact with students. We are just beginning to develop integrated systems that will allow us to bring records of those student contacts together. Customer relationship management offers a way of thinking holistically about an institution's relationship with a learner. It will provide a huge improvement because colleges and universities really are all about relationships; we've simply lacked the tools to integrate the various touch points with our students and strengthen our relationships.

Finally, we are going to become much more data-driven. We are putting IT systems in place to collect data that will generate insights. If we step back and look at this information, we may discover things that help us capitalize on student learning and improve student retention.

**JM: What should educators be doing now?**

**DO:** First, be prepared. Before incorporating IT tools, it is critical to ask, "What is distinctive about my institution?" and "What do I want to deliver to my students?" Then institutions can apply IT tools to enhance that distinctiveness. There is always a strong temptation to take a plunge and pursue the latest, greatest thing that another institution is doing, but that achievement may not be appropriate for your institution.

Second, be supportive. IT tools can improve job satisfaction as well as job quality. As we better automate and integrate the information flow, employees have more time to do the very human kinds of things that they excel at and that probably drew them to the college environment in the first place. Rather than pushing paper, staff can interact with students, for example. Perhaps more importantly, IT makes it possible to better inform educators about their students, which is critical in areas such as advising.

Lastly, be forward thinking. Educators need to rethink how they value IT. In business, we initially said that IT was not improving productivity at all. But we were measuring from the old industrial mode; we were looking at the wrong things. At present, institutions face a similar situation. We are being asked to determine the value of IT, but in order to do that effectively we must redefine the means by which value is attributed. We have to step out of the box if we want to find the real value of IT; I suspect that its ultimate value will be located in the ways that it helps us strengthen lifelong relationships rather than in the way that it automates student records.

**JM: What do you see as obstacles to these goals?**

**DO:** Time and money are at the top. There is not enough time to do all the wonderful things that are possible, and funding is a challenge. In dealing with budgets that have changed incrementally over the years, it is difficult to shift resources to IT that have traditionally been allocated to other institutional needs. In many respects, IT is the new kid on the block. In the past, new kids have had to find their own funding before enjoying institutional support, but today's economic environment makes that approach difficult as well.

Another obstacle lies in changing our definitions of who we serve, what level of responsibility we assume, and how we define success. We are trying to enable a holistic experience for students—getting connected to the institution, learning, and starting a career. But our internal institutional definitions of what we are trying to do—admit, enroll, matriculate—conflict with this enterprise. While students relate events to the broader context of their entire experience, institutional offices most often view their operations as discrete transactions. How can we get these two viewpoints to coalesce? How do we move from "that's not my job" to "what can I do to help"? In part, the answer is attitude, but technology also applies. We lack a technology layer that will recognize Jane Doe as maintaining a changing yet steady relationship with the institution throughout such roles as student, employee, or alumnus. In addition to recognizing the various relationships that people have with them over time, institutions also need to recognize the many constituencies that they serve: students, faculty, staff, alumni, and local communities. As institutions increasingly imagine relationships in terms of customer satisfaction, they face the challenge of figuring out how to satisfy which customer and when. Who comes first? Second? These are all drivers of a very complex puzzle for higher education right now.

We face change on a variety of fronts: integrating technology, adapting to technology, increasing enrollment, and dealing with rising costs. In many respects, the need and potential for change outstrip our ability to change. For instance, there is more technology than we can capitalize on, but our inability to integrate it impedes progress. Change affects human resources as well. People are being forced to redefine their skills in the IT



environment. Is their value to the organization the same as it was before this environment emerged? We have to continue to move organizations forward, but we cannot change so quickly that we damage the very things that have made the institution valuable. We are trying to find a good balance between where we might move with the technology and where we need to move with our human resources. The two actually go hand-in-hand. Time is a key factor here; we are driven by the tension between needing to change and needing time to absorb change.

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Ultimately, the information revolution is not about technology; it is about what happens to people as a result. We have to remember that education is a very human endeavor and that students are terribly important people. Although technology plays a central role, people still come first.

**JM: Many thanks, Diana, for taking time out from the conference to share your ideas about information technology in education.**

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