# *Wake Up to*
# New Learning

By Shari Caudron

LEARNING TECHNOLOGIES ARE CHANGING FASTER THAN

YOU CAN SAY "ELECTRONIC LITERACY." HERE ARE

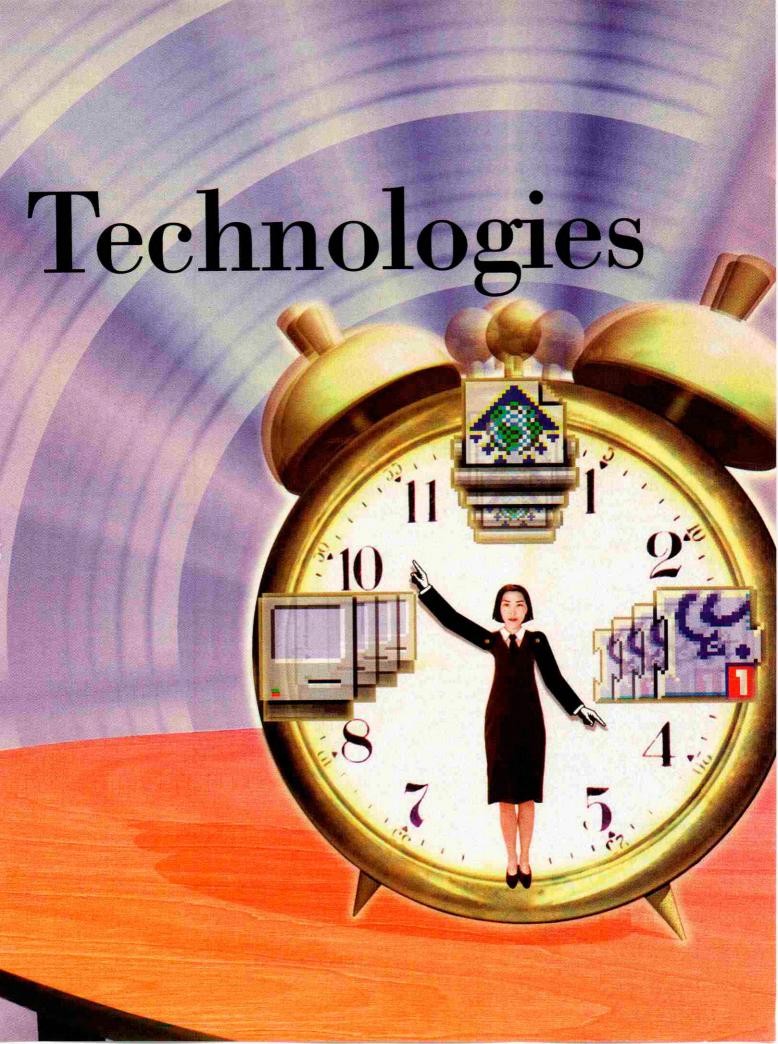SOME COMPANIES USING TOOLS THAT GO

FAR BEYOND CBT AND VIDEODISCS.

AND A WAKE-UP CALL FOR

TECHNOPHOBES (YOU

KNOW WHO

YOU ARE).

You've gotten comfortable with the idea that computer-based training is here to stay. You're starting to think videodiscs might work for some courses, and that OK, maybe there is something to teletraining. Like scores of other training professionals, you're reconciled to the fact that technology has entered your domain and you better get used to it. Well brace yourself, because you ain't seen nothin' yet.

# Technologies

Engineers have given birth to a new generation of learning technologies that as they mature will significantly change the role of trainers in corporate America. Be it interactive multimedia, electronic performance support, or the Internet, these technologies signal a new era in employee development in which trainers will not only have to become technologically literate, they will have to rethink how they do their jobs. Not to scare you, but frankly, the survival of the profession depends on it.

Sound farfetched? Then consider the case of Apple Computer which is a leader in the use of learning technologies. In just three years, 85 percent of Apple's classroom training has been replaced by just-in-time, multimedia learning platforms. As a result, the company has laid off 60 percent of its training staff. Sure, Apple has suffered layoffs everywhere else, too. But don't be misled. Although the training staff has been significantly downsized, the amount of employee learning actually has increased.

What's driving these changes? The main driver is the availability of technology itself— in particular, faster, cheaper, user-driven learning technology.

People have been saying for a long time that classroom training is dead in the water. It's expensive, it's ineffective, it takes people away from their jobs— you know the arguments. But until very recently, we didn't have anything to replace classroom training. Computer-based training has helped somewhat, but for the most part, CBT simply replicates a traditional training approach. Instead of a lecturer in front of a classroom, you have a computer disk in front of an employee. It's still passive and trainer-driven.

## What you need, when you need it

The new learning technologies, however, give employees the information they need, when they need it. They allow learners to decide what is most important for them to learn. The technologies are interactive, dynamic and—here's the rub—they are designed to boost performance, not necessarily provide training. It's a subtle

distinction, but an important one.

At the same time these new technologies are becoming available, the realities of today's workplace make it imperative we take advantage of them. To begin with, employee learning requirements are at an all-time high. The amount of information is doubling every five to seven years. New technology elsewhere in the workplace requires constant skills upgrading. The global marketplace means companies have to keep track of competitors and customers around the globe.

Unfortunately, while learning requirements have increased, the time available for training is disappearing as product life cycles get shorter and shorter. In 1995, for example, 60 percent of Hewlett Packard's revenues came from products introduced within the previous two years. What all of this means is that the only real competition companies have any more is time—

> ■ *The technologies are designed to boost performance, not necessarily to provide training* ■

and that the time required for training is a luxury few companies can afford.

"Anytime you move employees away from the workplace for training, you take them away from the time needed to develop products and service customers," explains Claudia Davis, director of education at Hewlett Packard in Palo Alto, California. "In this environment, we can't run to a class every time we need new information. We need to learn what's necessary to do the job *now*."

Because companies don't have the time—or money, for that matter—to be continually training an entire workforce, it's imperative that trainers begin to understand and take advantage of the new learning technology. Just to be perfectly clear, we're not talking about changing the way employees learn. "People have learned

the same way for thousands of years," says Gloria Gery, an interactive learning consultant. We're talking about using technology to enable learning.

So what are these new learning technologies and how are companies using them to boost employee performance? Here's a primer.

## Interactive multi-media training

Andersen Consulting in Chicago, Illinois, was spending more than $200 million, including payroll and travel, on training for 30,000 employees, about half of whom required education in basic business practices. Working with the Institute for Learning Sciences at Northwestern University, the company produced a series of CD-ROM-based multimedia courses. Instead of taking a six-week training course before their first consulting project, employees now use the CD-ROM to get just-in-time training before they begin a new assignment. The system, known as the Business Practice Course, is a self-paced, interactive replacement for the traditional instructor-led training.

The course modules allow employees to control the order and pace of learning. Subtitles are available for employees whose native language is other than English. The program is interactive in that it asks users to gather information and put together hypothetical client recommendations. Furthermore, because employees tend to learn best from the experiences of other employees, the system includes videotaped "war stories" from Andersen's senior consultants. Employees about to embark on an assignment in unfamiliar territory—such as in a manufacturing company—can access information related to manufacturing assignments and learn from their colleagues what to expect in the field.

The Business Practice Course cuts training time from 65 to 40 hours and saves the company more than $10 million annually in training and payroll costs. But it's not just about saving money. "This is a new approach for educating professionals," says Lawrence Silvey, managing director for Andersen Consulting Education. "When employees learn by doing, they learn faster and retain more, and we're able to develop more advanced profes-

sional skills in our people. But perhaps what's most compelling about this system is that it lets people learn from the computer the same way we learn from each other: by listening to stories."

Interactive multimedia training like that developed by Andersen Consulting is an effective, cost-efficient way to deliver learning and information to the employees' desktops. In a nutshell, interactive multimedia is computer-based training with two important features added: event-driven programming that allows learners to retrieve the information they want, when they want it, and in the manner that makes the most sense to them; and audio and full-motion video, which significantly enhance the learning experience.

When combined, these two features replace much of what is ineffective about more traditional CBT: the low-level of interactivity and the lack of appealing visual and audio aids. Interactive multimedia also offers portability. Because audio and video files take a lot of memory, most multimedia programs are placed on CD-ROMS which can easily be mailed to employees at off-site locations or given to employees who travel and need knowledge resources while on the road.

With the ability to store large amounts of data, these CDs also are great for employees who need convenient access to information about products, competitors, or their own company. AT&T, for example, has replaced a three-day company orientation with a CD-ROM package that explains to new employees how the company is organized, what each department does, how the departments relate to each other, and what their missions are.

CD-ROMS do have a downside, however, and that is that they are not particularly effective in giving employees information that has to be updated. This is because the CDs must be developed, pressed, and distributed before employees can take advantage of them. To enable learning in environments where information is always changing, there are performance support systems.

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## Electronic performance support

It used to be that when a customer called AT&T to inquire about the options and prices available for new phone service, the customer service representatives would have to take down the customer's information—hoping they remembered to ask the right questions, search through product and pricing manuals to determine the system that best met customer needs, and then get back to the customer.

But with the advent of electronic performance support, these employees now have all the product and pricing information available at their computers. The system not only coaches employees in the right questions to ask, it

makes product recommendations based on the customer's answers.

According to Marc Rosenberg, district manager for learning strategy, AT&T's electronic performance support system is absolutely necessary for customer service representatives to do their jobs. "We have hundreds of products and prices change all the time," he says. "There's no way to teach employees all of that information, so instead, we teach them how to use this highly intelligent performance support system that gives them the information they need based on the diagnostics they do with the customer. We still train employees on how to be customer-service oriented, but we trust the system to configure products, services, and pricing accurately and fairly for the customer."

The biggest leaps in employee performance today are coming from electronic performance support systems like the one used by AT&T. What are electronic performance support systems, you ask? "It's a souped-up electronic job aid that can function as a reference librarian, an expert advisor, a patient tutor, and an administrative assistant," explains Eric Parks, president of ASK International in Long Beach, California. "A well-designed performance support system provides just the right support at just the right time."

Electronic performance support systems are especially ideal for knowledge workers who make routine but complex decisions on the job while using computer applications. Because performance support is built directly into the application, employees have all the assistance, coaching, and information they need *while doing their jobs*. In fact, the best systems can actually detect when employees make a mistake and give them immediate feedback. "This way, there is no dividing line between work and learning and that is the ultimate goal," Rosenberg says. "Work is learning. Learning is work."

Most of the performance support systems in use today are built into a company's proprietary software. At an insurance company, for example, agents may be required to follow

## A Detractor Speaks

The consultants advocating the use of learning technology are so passionate about their cause, so fervent about the performance improvements technology makes possible, that often, the weak voices of detractors get drowned out.

But there are those who think this headlong rush into technology may not necessarily solve all our problems. That, in fact, an over-reliance on technology may even create a few new ones.

Where do these voices come from? "I see some of the greatest resistance to this whole performance support concept coming from within the training organization itself," says Marc Rosenberg, district manager for learning strategy at AT&T in Somerset, New Jersey. Why are trainers so resistant? Because they are afraid of losing their jobs, of change, and of technology that they don't understand.

"Trainers who buy into learning technology, however, find out that over the long run, they're delivering higher levels of organizational performance for less money," Rosenberg says. This increases demand for performance support, the trainers' jobs get expanded, and, ultimately, there is more work for them to do, not less. For many trainers, in other words, supporting the new technology is only a matter of education and experience.

But even some training professionals with a thorough understanding of the technologies are, if not necessarily afraid, then at least concerned about where they may take us.

Jim Botkin, president of InterClass, the nonprofit International Corporate Learning Association based in Cambridge, Massachusetts, says: "When you look at the overall future of the field of learning in business, technology plays an important but minor role in my opinion." Why? "Because the single most important element in a 21st century networked organization is trust, and I have not yet seen technologies that promote trust."

Although he believes performance support technology is very beneficial, he advocates balancing our reliance on technology with good old-fashioned human interaction. "In a world that has become so technology-dependent, there is increasing room for face-to-face meetings, rituals, and storytelling," he says. "All the interactions on the Internet, for example, are great. But if you haven't met the people in person before, it is unlikely you will develop a level of trust needed to develop the relationships."

Technology, by itself, can help companies perform, he adds, but that doesn't guarantee they'll be number-one in the marketplace. "American Airlines has the best training-by-technology system going, yet Southwest Airlines is doing much better. Why? Because American Airlines has overlooked the human dimension that is so important in business success."

How would Botkin caution companies that are implementing learning technologies. "I'm not cautioning them. Let them go ahead. There's nothing wrong with technology on its own. It just needs to be balanced with real-life human needs."

> ■ *Technology needs to be balanced with real-life human needs* ■

perience and Presentation Library—gives more than 30,000 Apple employees and resellers around the world immediate on-line access to the company's entire base of sales, marketing and technical information, and training resources.

"These aren't just spec sheets," explains Lucy Carter who developed ARPLE and is currently the vice president of Eagle River Business Communications in Palo Alto. "With ARPLE, employees can learn anything about Apple's products and technologies. They can view quick-time movies, read white papers, or conduct self-paced training. It is completely user-driven."

A similar network at Hewlett Packard has practically eliminated the training required for sales reps. Now, when preparing for a sales call, the reps type in the name of the products their customers are interested in and the system responds with potential questions, answers, product descriptions, and system configurations. "The sales rep does not have to learn all this stuff ahead of time," says Davis. "They only learn about the products they need based on what the customer tells them." If the rep gets an objection, the system can be queried to see if the objection has ever been addressed before and what responses other reps have given.

On-line performance systems are practically a necessity in industries where information can change by the hour. Commercial airlines, for example, use performance systems to help reservation agents determine flight times and prices to meet customer needs. Package delivery companies use them to track weather and delivery schedules in different cities.

But even in those few industries where information does not change as frequently, electronic performance support is making traditional training

different rules and regulations in different states. Instead of memorizing the rules or looking them up manually, the agent inputs information on a customer application using a performance support system in which boxes of information pop up on the screen to coach the agent in filling out the form.

The really breakthrough performance systems, however, use networking technology. Why? Because networks allow one person to immediately update the information for everybody who is connected to the network. Apple Computer, using a system called ARPLE—for Apple Reference Performance Learning Ex-

less critical. Instead of sitting in a classroom, learning, and then going off to do the job, employees now can do their jobs and learn along the way.

## The Internet

In February, Hewlett Packard hosted a conference to educate its training professionals around the world about new learning technologies. The conference was not held in a company conference room, at a hotel, or in a teleconferencing center. Instead, it was held on the Internet, inside the company's "firewalls" on the World Wide Web.

Workshops were repeated at different times to accommodate employees in different time zones. Employees who couldn't attend a particular session could download transcripts of that session. And regardless of whether they attended the scheduled workshop or not, participants could ask questions of the instructors using e-mail. Furthermore, during the conference, on-line "chat rooms" were established to allow employees with similar interests to talk with each other.

While the conference had all the benefits of a traditional conference, the costs were minimal: only the cost of Internet access and a local phone call.

By linking up to the Internet, companies like HP are finding they can use the computers and applications they already have to distribute information and learning tools to employees all around the world. Why? Because the Internet is a dynamic, ephemeral place that works as a data base, network, and global communications device all rolled into one. It is ideally suited to low-cost computer-based training, electronic performance support, and knowledge exchange.

"The Internet is an effective way to train anywhere from 10 to 10 million people... you don't have to worry about what kind of computer each of your trainees is using, how much RAM they have installed, whether or not they have a CD-ROM drive, or what version of operating system they are using," says Pardner Wynn, president of Stanford Testing Systems, Inc. The only limitation with the Internet is that band-width is currently too small to accommodate real-time video and audio. But in less than two years,

even this restriction will probably be eliminated.

Ivy Millman, president of WHIZDOM in Menlo Park, California, an organization that develops software to help companies take advantage of the Internet, adds that with industry-standard browsers—which are the applications that provide Internet access—there's minimal end-user support required. "It's very easy for the organizations to distribute information and resources because they don't have to distribute CD-ROMS or train employees to use new applications," she says. "Furthermore, there's not much resistance to using the Internet because employees don't really think about using 'The Internet.' They just know that suddenly they have access to information they didn't have before."

> **■ *Technology is not gonna take over the world because there are some things humans will always do better ■***

Because the Internet allows people to network and instantaneously share vast amounts of information with people around the globe, learning and working in cyberspace is virtually inevitable. As Eric Parks says: "I'm certain cybertechnology will replace all the other learning technologies that exist today."

## Impact on trainers

So what impact will these learning technologies have on trainers? How will it change their role?

"I think there is tremendous opportunity for the training community, although I'm not sure the training community always sees it that way," says Carolyn Ladd, vice president of Comware Inc., a Cincinnati-based developer of performance support systems. Ladd believes that for the first time in many years— perhaps forever— businesses are saying perfor-

mance is what's critical to the success of the company.

"Training people have been conditioned to worry about performance but they were locked in a box in terms of what that meant," she says. "Now, the aperture has been widened tremendously. Performance is no longer a training problem, it's a business problem."

For trainers to survive this shift in thinking, they need to find ways to correct performance problems within the business using a wider array of interventions than they have in the past, including those that use technology. They can no longer limit themselves with the still-pervasive assumption that training is the prime vehicle for improving performance in an organization.

So how do you, as a trainer, go about making this shift in thinking? First and foremost you need to think of yourself as an *enabler* of learning versus someone who actually *delivers* learning. Second, you need to embrace the technology revolution, not be an impediment to it. Third, you must gain a more thorough understanding of the various technologies and how they can be used to enhance employee learning. Fourth, if you expect to maintain your role as a *performance enhancer*, you need to learn how to develop electronic performance support and computer courseware by acquiring skills in authoring tools.

Finally, you mustn't be afraid of the inevitable change because traditional trainers will still be necessary. Technology is not gonna take over the world and solve all our ills because there are some things humans always will do better than computers—motivating a sales force, for example. But in company after company it's being proven that much of what traditional trainers used to offer can now be done more effectively with technology.

In the end, the real issue is not whether the technology revolution is beneficial—that's already a given—but whether trainers will lead the revolution or be left behind. It's up to you to decide. ■

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