

# Technical COMMUNICATION

## Distance Learning Is An Opportunity

Thomas Pison

Who would argue now whether or not learning in the digital age will be more fun and more precise than conventional approaches based on the teacher-textbook-student paradigm? When all the electronics and human components are in place, superb quality training will be widely available on practically any topic. Because of the highly-advanced digital and telecommunications technologies required for the implementation of videoconferencing and distance learning, they have been just on the horizon for a long time.

Throughout his career as a technical trainer and manager, Tom Pison has embraced change with enthusiasm, keeping up with the advances in electronics technology and their implications on training methods. Dr. Pison graduated with B.A., M.A., and Ph.D. degrees from the University of Pittsburgh, Yale University, and SUNY at Buffalo, respectively. He has over two decades of experience developing broad-based training programs for government civil service and military organizations as well as specialized management training programs for many large corporations. He is an accomplished public speaker and, presently, he is also a technical editor for American Society for Training and Development's *Lamp-lighter* and teaches graduate-level courses at Mercy College in Dobbs Ferry, NY. He can be reached at [pcht@infohouse.com](mailto:pcht@infohouse.com).

Tom has extensive multimedia experience on many platforms and, like many forward thinking trainers and consultants, is gearing up for an active role in the development of training programs for distance learning. As DVD hits the mass marketplace this spring, this month's column is especially timely. —HAS

The Chinese curse, "May you live in interesting times," emphasizes that change can be calamitous. Recently, Peggy Kelleher and Tom Phelan of the Manhattan-based NYNEX Learning Center demonstrated first-hand the promises and perils of video-conferencing for distance learning. Interacting with a group in Boston, the group in New York was for the most part enthusiastic and found the demonstration interesting. Everyone learned something about the limits and possibilities for distance learning. The calamity

seemed to be in denying what the technology portends.

### WHAT IS DISTANCE LEARNING?

"Distance Learning" is the acquisition of skills and knowledge through electronic communications which allow the student and instructor to be separate in either time or space, or both time and space. The related term "asynchronous learning" can be defined loosely as "learning at a different time."

Distance learning is a highly flexible method of training because the sender and

receiver don't need to be synchronized in space or time. Some organizations already use distance learning. NYNEX claims that 20% of its training is by distance learning. The company apparently recognizes the market potential of distance learning as well, since it provides demonstrations of two-way, real-time video-conferencing—the most dramatic type of distance learning.

Seeing that the other group was from Boston was proof that the excellent quality of the video did not originate from the room next door. Oddly enough, the sound quality at times was scratchy, suggesting that the ear is less forgiving than the eye.

The occasional production glitch served as a reminder that video-conferencing is still in its formative stage. Unfortunately, muddy pictures and scratchy sounds destroy the immediacy and virtual presence of the communication, which is the main allure of this technology.

As with other digital technology, distance-learning software and hardware should eventually become cheap and easy-to-use. Even now, the flexibility of distance learning can offset expenses. Many travel-weary trainers have seen too many hotel rooms, in too many cities, and every destination looks like part of one grand mall bounded by the same chains of stores and restaurants. These trainers see distance-learning technology as a boon of inestimable value. They ask, "Why should I travel to Atlanta, Chicago, and Detroit

Harry A. Schmitz, Editor

(perhaps in the same week) to deliver a briefing on a new retirement plan when I can stay in one place and do the presentation just once?"

## IMPLEMENTATION

For providing distance-learning services, NYNEX and other Baby Bells presently enjoy several advantages compared to other technology companies, such as the Internet service providers, but the competitors are closing in fast.

The NYNEX strategy must account for many alternatives to plain old telephone service. It must account for cable modems, satellites, and wireless cell transmission as well as the Internet, which turns up customers who are demanding distance learning and videoconferencing. Wide-bandwidth conduits—the information superhighways compared with the “footpaths” of plain old telephone service—are aggressively sought after by sophisticated users who are impatient waiting for fiber optics or ISDN installations.

## TALKING HEADS

Distance learning will have much of the “Lights! Camera! Action!” of television broadcasting. Videoconferencing is “show and tell.” It presents an absorbing image. It creates a virtual presence—provided everything is executed just right. But distance learning and videoconferencing must be more than just talking heads; their strength is the interactive sharing of data and images. Distance learning goes beyond face-to-face communication and instant document sharing. A video camera can be directed at the equipment, the detailed processes, and student reactions.

Over the next year, videoconferencing is expected to improve significantly because of the introduction of video capture cards, more efficient storage and retrieval media and connections (such as digital video disks (DVDs) and Firewire), more PC processing power, and cable modems with faster bit transfer rates.

One of the NYNEX sessions showed employees at a construction site being taught to follow proper procedures. Although the video was simply a point-and-shoot, show-and-tell production, it is clear that workers comprehended the procedures more readily than by reading a manual.

Even though this application could be considered “low-end,” the advantage of the interactive component was obvious. The trainer, perhaps thousands of miles away, was easily satisfied that the workers achieved the training objective. The “Ah ha!” of the employee-student is not rigorously scientific, perhaps, but it is certainly intuitively convincing.

About half of distance learning is based on videotapes or other storage media recorded for use-on-demand. Today’s storage devices and data compression techniques allow for two hours of video on one DVD without the degeneration that is characteristic of videocassettes. The other half of distance learning is based on multimedia broadcasts that require a PC or workstation. A computer now performs like the control room in a conventional television broadcasting studio.

## EFFICACY

At the NYNEX demonstration, one attendee asked, “How do you assess the efficacy of distance training?” This seems like a reasonable question and, in fact, some nonproprietary studies have been done, but market forces will prevail regardless of its efficacy or superiority over traditional approaches.

An organization must determine the scale at which it can venture into distant learning. Simple forms are already useful. A trainer can post a Lotus Notes or e-mail lesson on the net (Internet or Intranet) at any time, and the trainee can choose to read it and to reply to the trainer at a different time. An important advantage of distance learning is that it can take place anywhere and anytime.

Most people have had some experience with distance learning. Have you ever watched, via television monitor, a professor at the opposite end of the campus lecturing to hundreds or perhaps even thousands of students? If so, you have experienced distance learning. Have you ever taken a correspondence course to learn a new skill? That was distance learning.

Members of a group that uses asynchronous communication can read the lesson, as well as classmate remarks, at their convenience. They can work from an office, from home, or, with the use of a notebook com-

puter and modem, even while traveling on other business requiring a face-to-face.

A sociology professor at California State University at Northridge conducted an experiment to test the efficacy of on-line learning. He randomly divided his statistics class in half and taught one half by lecture and the other half by Web assignments, on-line discussion groups, and e-mail. The students banned from the physical classroom scored an average of 20% higher than those who attended in-person. (See <http://www.csun.edu/sociology/vir-exp.htm>. Also reported in the *Chronicle of Higher Education*, Feb. 21, 1997.)

Another study, “An Experiment In Group Learning Technology: Evaluating Critical Thinking In Face-To-Face And Computer-Supported Seminars,” conducted by D.R. Newman, Chris Johnson, Clive Cochrane, and Brian Webb in 1996, may be found at <http://www.helsinki.fi/science/optek/1996/n1/newman.txt>. The authors suggest that on-line conferencing encourages greater participation from group members who may wish to reflect carefully before replying. This medium allows reflection without necessarily stifling the spontaneity of the more labial. Ask yourself, based on experiences with meetings, “How often is the floor held by more talkative members and not necessarily by those who could contribute the most?”

## DESKTOP BROADCASTING

Digital technology created desktop publishing and now the prospect of desktop broadcasting and receiving is very real. Presently, however, the platforms for producing distance-learning materials are very expensive, much like the early desktop publishing platforms. Training people to use the medium effectively can be expensive, too.

Although many major organizations already have facilities rivaling those of commercial television broadcasting, most organizations eschew the high cost of studios, cameras, staff, and signal transmission.

How soon distance learning becomes adopted as standard practice is a simple matter of budget restraints and digital technology. Savings in time, board, and travel should be used to calculate the re-

turn on the investment for distance-learning initiatives.

For someone who gives the same briefing over and over to similar groups, so much so that the briefing crops up in exhausted dreams, distance learning could make the difference between burn-out and refreshed enthusiasm for both sender and receiver.

### FLEXIBLE LEARNING

"Distance learning," "asynchronous communications," and "flex learning" all refer to the same development from different points of view. Flexibility requires controls and guidelines that are analogous to the changes in work routines due to flextime. There are similarities between flexible working and flexible learning but, in the case of the learning at a distance, it is necessary to ascertain that the required work has been completed in a satisfactory manner.

By and by, distance learning will change our lives, both professionally and personally, because for the first time, training will be accessible for new skills that would otherwise not be transferable. For example, if you are a working adult in need of further training but cannot find the time, the flexibility inherent in distance learning will allow you more options to minimize the logistics demand. If the training is not offered in your geographical area, distance learning will bring it to you. If commuting time or commuting costs make training not worth the investment, distance learning can eventually provide an economical alternative for more and more people.

### NEW OPPORTUNITIES

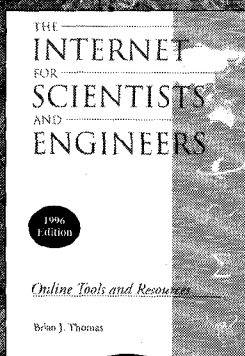
In closing, the Chinese again offer useful insight. The ideogram for "crisis" consists

of two ideograms: one for "opportunity," the other for "danger." The technology transforming business training might very well be regarded as dangerous, but surely it is also an opportunity. While changes are inevitable, we ignore them at our own peril.

Taking advantage of new opportunities requires learning the skill-set that will be needed for the rest of our careers. Distance learning entails a major commitment in time and money for organizations, trainers, and administrators. Planning to estimate the most appropriate time to go on-line must be done now. Sooner or later, distance learning will affect us all. Opportunities for technical communicators lie in becoming proficient in the platform skills and strategies for instructional design, so this potential "danger" can be turned into the opportunity it truly is.

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