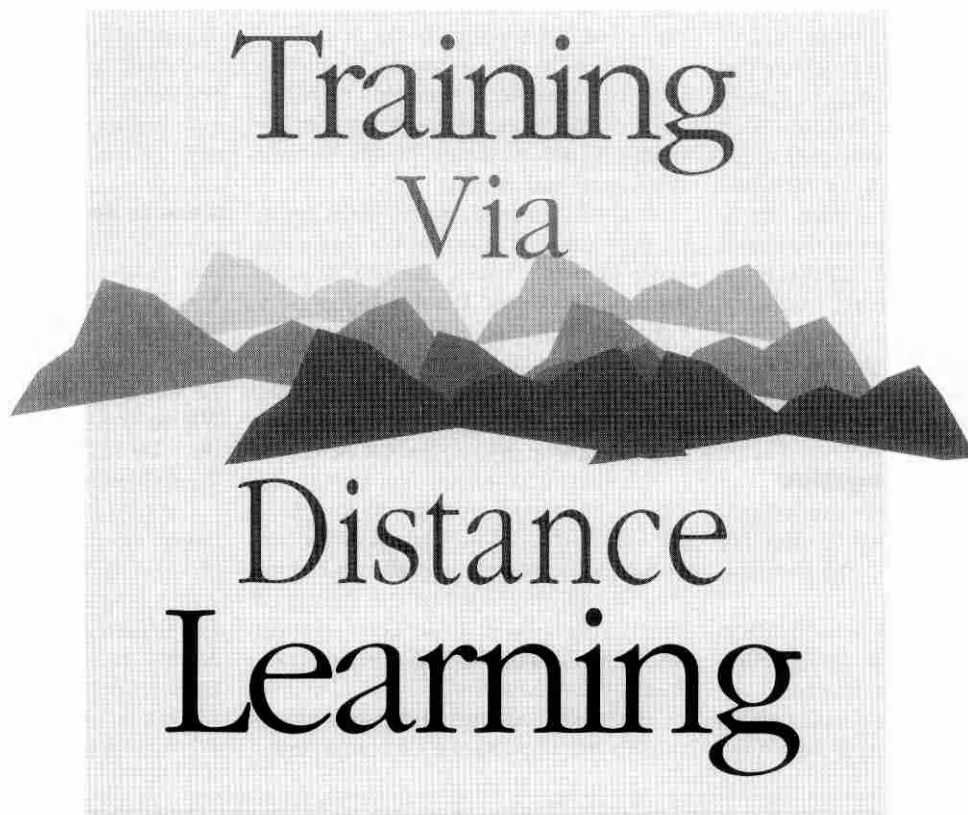


IN THIS ARTICLE

*Instructional Methods and Media Selection,
Distance Learning, Teleconferencing*



Training Via Distance Learning

BY ELIZABETH C. THACH AND KAREN L. MURPHY

The good news is that you can use traditional training approaches in high-tech distance learning. But you have to match the approach with the technology. Here's how.

Distance learning is a fast-growing area of training. It's a cost-effective way to deliver training to people in different locations and to employees who aren't available or don't have time for traditional classroom training—for example, telecommuters and temporary and contract workers. Nowadays, it's sometimes necessary to bring the learning to the workers.

But how do you ensure that you're using the most effective training technologies and approaches in distance learning? Perhaps you've heard horror stories about Company X investing millions of dollars in a satellite sys-

tem, only for participants to fall asleep during the broadcasts. The key is to match the particular approach with the appropriate technology.

First, it's important to define distance learning. In his book *Understanding Distance Education: A Framework for the Future*, D.R. Garrison offers three criteria:

- ▶ The communication between the trainer and participants is separated by a geographical distance.
- ▶ The communication is two-way and interactive.
- ▶ The technology is used to facilitate learning.

Those criteria help differentiate

among distance learning, self-study, and learning through electronic performance-support systems. People can use a self-paced, computer-based training program or EPSS to gain knowledge and skills. But unless they use such a system with another form of technology to create two-way communication between themselves and the trainer, it's not distance learning.

The question is this: Which technologies should they use?

A two-way street

Distance learning can incorporate almost any kind of technology as long as it creates two-way communication.

Trainer and participants must be able to interact with each other in a structured way.

Generally, distance-learning technologies are categorized as interactive or noninteractive. (See the box on page 46.)

Interactive technologies contain a built-in channel for two-way communication. Examples include videoconferencing, audioconferencing, two-way satellite transmission, and on-line computer conferencing through such e-mail providers as the Internet and various commercial on-line services.

Noninteractive technologies offer only one-way communication. Examples include printed materials, videotapes, one-way satellite transmission, and cable television. You can create a distance-learning environment by combining a noninteractive technology with an interactive one or with a phone or fax machine.

A common trap is falling in love with a particular technology that may not be appropriate for the specific training goals or approaches.

With any kind of training, you define the learning objectives first. Next, you select the appropriate training approaches for meeting those objectives. Then you choose the delivery methods.

Setting the goals. It's important to determine whether the learning objectives are cognitive, attitudinal, or performance-based.

- ▶ Cognitive objectives are about conveying information, concepts, and principles. They involve thinking skills.
- ▶ Attitudinal objectives have to do with people's values and beliefs.
- ▶ Performance-based objectives imply that learners have to do something, such as soldering a piece of metal, using a checklist, or demonstrating negotiation skills.

Distance learning has proved effective for meeting cognitive and attitudinal objectives, but it is not especially effective for meeting performance-based objectives. One reason is that it's difficult for a trainer to observe the performance of learners who are miles away.

Matching goals with approaches. The different types of objectives—cognitive, attitudinal, and performance-based—require different training

approaches.

Cognitive goals have to do with information, so presentation-type approaches are appropriate, including lectures, printed materials, panel discussions, case studies, and videotapes.

Attitude-related objectives are best taught through reflection and dialogue, using such approaches as group discussions, team projects, assessment instruments, and journals. Performance-based objectives require approaches that allow learners to practice skills; for example, role plays, simulations, games, and exercises.

Matching goals and approaches with technology. Once the training goals

IT'S DIFFICULT
FOR A TRAINER
TO OBSERVE
LEARNERS
WHO ARE
MILES AWAY

and approaches are determined, the next step is choosing the appropriate technology.

A rule of thumb: If the goals are cognitive and the approaches are presentation-based, a low-cost, noninteractive technology is sufficient. But if the goals are attitude- or performance-based and the approaches are interactive, the technology must be interactive.

For example, a cognitive objective (such as, "identify and describe four types of leadership styles") is achievable through such training approaches as videotape and lecture. And a videotape or lecture can be used with either noninteractive or interactive technologies. For example, you can show a videotape with printed support material. You can supplement a lecture with a one-way satellite transmission.

In any training environment, it's challenging to achieve attitude-related objectives. Learners must complete some cognitive work and then discuss and reflect on the information before

deciding whether to change their views. If the goals are attitudinal, it's best to mix such training approaches as group discussions, team projects, simulations, games, and journal keeping. The appropriate technologies are interactive.

Performance-based objectives also call for interactive technologies. The trainer or host-site facilitator should observe learners practicing the new skills. Another option is to provide facilitators at the distance sites to observe learners' performance firsthand.

As for the training itself, performance-based objectives (for example, "give constructive feedback using the three-step method") are best achieved through such approaches as role play and simulation.

Other factors

Don't forget to consider the cost of the technology. Having on-site facilitators conduct role plays at 15 distant sites while paying for high-priced satellite time doesn't make sense. But it may be cost-effective to train via two-way satellite for about two hours, with a question-and-answer period. Participants can practice their new skills during off-air time. Later, the session can resume to see how participants are using their new skills on the job.

It's also important to consider the technical requirements of the technology. The training goals and approaches may require a particular technology. But the company might insist that you use what's already installed and paid for. Still, you can achieve the desired results by adding some low-cost, noninteractive technologies or by using facilitators at the distant sites. Or you can rent the necessary equipment from such suppliers as college television stations and videoconferencing franchises.

Another important consideration is the expected number of participants and locations. For example, if you have 100 participants located around the world at 50 sites, you should consider using a technology that spans international time zones, such as computer conferencing. It wouldn't be cost-effective to place satellite dishes at all of the locations for such a relatively small number of people at each site.

Once you've chosen the appropriate technology, you should develop a

Distance-Learning Technologies

Most distance-learning technologies can be categorized as interactive or noninteractive. Here are some examples:

Interactive

audioconferencing
videoconferencing
desktop videoconferencing
computer conferencing through
e-mail providers on the Internet
and commercial on-line services
voice mail
one-way satellite transmission with
keypads
two-way satellite and microwave
transmissions
virtual reality

Noninteractive

printed materials
audiotapes
videotapes
one-way satellite and microwave
transmissions
television and radio broadcasts
computer disks, CD-ROMs,
and laser discs

training segment that orients participants to the technology being used.

That's not always necessary in face-to-face training. But in distance learning, it's crucial, especially when using technology that's new to learners. Many adult learners still aren't comfortable with computers and other electronics. If the technology is sophisticated, it might be best for a facilitator or technologist at the distance sites to help out in the first few sessions.

Don't ignore protocol. In trying to communicate via technology at multiple sites, you'll need to have a process for managing the order of speakers. The trainer can call on different sites when it's time for people to speak. Or an individual site can signal when someone there wants to speak.

In synchronous computer conferencing, all users are on-line at the same time. Users communicate by text via their computers; a moderator asks questions. When someone wants to respond, he or she types a symbol, such as an exclamation point. When the moderator gives the go-ahead, the speaker types his or her comments, which appear simultaneously on all users' computer screens. Obviously, such "discussions" require some sort of protocol.

Another factor is the talking-head syndrome, in which a trainer drones endlessly. Talking heads aren't especially effective in face-to-face settings. In distance learning, they're deadly. It's important to change approaches

at least every 10 minutes. The program can switch periodically to a graphic, videotape, demonstration, discussion, or other element.

Distance-learning sessions should be short and focused. The time limits depend in part on the technology being used, and are based on an inherent fatigue factor.

For example, one-way satellite broadcasts shouldn't take longer than two hours. After that amount of time, people become tired of looking at a television screen. More interactive videoconferences and two-way satellite broadcasts can last as long as four hours, with several breaks.

Computer conferencing can be asynchronous (participants log on when they want to) or synchronous (the whole class logs on at the same time). Asynchronous sessions are ongoing with no time limit. But synchronous sessions should be limited to two hours.

Cost factors also help set time limits. Telephone and satellite time can be expensive.

Overall, distance-learning sessions of eight hours or more should be divided into segments to fit the training objectives, approaches, time limits, and cost restraints.

The benefits

Why use distance learning if it's so challenging? Because it matches the needs of new workers.

Distance learning can be delivered anywhere in the world at any time.

It's a cost-effective solution for companies that have employees scattered across the globe. It can be an integral part of business strategies for globalizing and for developing skills in workers who speak different languages. Even small companies without formal training programs can tap into distance-learning opportunities offered by external suppliers.

Some of the most important benefits of distance learning:

- ▶ lower training costs due to fewer travel expenses and less time spent away from work
- ▶ access to learning when and where users need it
- ▶ potentially better outcomes than in traditional training, for some kinds of programs
- ▶ faster delivery of time-sensitive training
- ▶ more access to experts through on-line venues; wider, more efficient dissemination of expertise.

Another benefit is the environment of equality that computer conferencing fosters. A learner can use a coded e-mail name to participate electronically in conversations on any topic; other participants need not know about a person's gender, age, profession, nationality, or disability.

That type of environment is useful not only for discussing sensitive issues, but also for achieving cognitive and attitude-related goals. Using a computer, a modem, and the appropriate software, people can log into a class anywhere at any time to read text or share thoughts. It's an ongoing, asynchronous discussion. ■

Elizabeth C. Thach is a consultant with Amoco Corporation, Box 3092, MS 414W3, Houston, TX 77253; 713/366-7752; e-mail lizamoco@aol.com.

Karen L. Murphy is an assistant professor at Texas A&M University, College Station, TX 77843-4232. Phone her: 409/845-0987; e-mail kmurphy@acs.tamu.edu.

To purchase reprints of this article, please send your order to ASTD Customer Service, 1640 King Street, Box 1443, Alexandria, VA 22313-2043. Use priority code FNM. Single photocopies, at \$10 each, must be prepaid. Bulk orders (50 or more) of custom reprints may be billed. Phone 703/683-8100 for price information.