Web-Based Training

Getting Started

by ROY STRAUSS

Web-Based Training (WBT) promises many benefits, including decreased costs of travel and materials production, easy accessibility of information, self-directed and web-based learning, and amortization of training costs. While the great potential for WBT is apparent, it's easy to become confused, if not overwhelmed by the wide array of technology options, learning strategies, and technical issues involved in implementing WBT. This article summarizes some of the major Internet technologies to use in training and performance support, including:

- On-line CBT
- On-line Reference
- Performance Support Systems
- Newsgroups/Discussion lists
- Chat Sessions
- Virtual Classrooms
- E-mail
- Streaming Video

Not only can these WBT methods be incorporated with other instructional delivery methods, such as instructor-led training, but they are not mutually exclusive, and can be combined as needed to serve your training or performance support needs.

On-line CBT

When most trainers think of WBT, they think of something akin to an interactive multimedia CBT CD-ROM program delivered over the web. Some advantages of this approach include quick and inexpensive distribution of interactive training materials; access to training anytime and anywhere, quick updating of training materials, and immediate distribution (through posting on a web server) without the need to duplicate and distribute new CD-ROMs. With a large target audience, such WBT training can also be very economical because costs are amortized over a large number of users, without the cost of duplicating additional materials.

However, interesting and enjoyable self-paced training requires graphics and interactivity, which may take awhile for users to download (depending on the size of the files and the users' network connection). In addition, if interactive items are created in an authoring system (i.e., Authorware, etc.) users need a special "plug-in" program installed in their browsers. While not difficult, installing a plug-in does require some basic technical knowledge. Interactive items created in the Java programming language don't need a plug-in, but the Java programming required to create them can be more complex. Finally, if you want training administration capabilities, such as the ability to enroll students in different courses, track their progress, and generate reports, you'll need a special back-end server program

called a Computer Managed Instruction (CMI) system. Examples of such CMI systems include Pathware by Macromedia and TopClass by WBT Systems.

If your training needs are of a generic nature, you may be able to provide training to learners through WBT courses available today, right on the web. There are several excellent providers of such off-the-shelf web-based training, including Digital Think (http://www.digitalthink.com) and UOL (http://www.uol.com). You can find courses on many common technical subjects available for your learners to use immediately.

On-line Reference

On-line Reference refers to print documents normally used for training (workbooks, procedure guides, job aides, etc.) that are converted into web pages and posted on-line. While such web pages do not really constitute "training," they can provide learners with valuable and easily-accessible resources. Existing training materials that are available as word processing documents (e.g., MS-Word files) or in a desktop publishing format (e.g., Quark Express or PageMaker files) can be easily converted into HTML (HyperText Markup Language) files so they can be viewed in a web browser. Simply copy these HTML files to an Intranet server and learners can then call them up in their web browser by the file-name and path. You can add hyperlinks to the documents for user navigation, and incorporate graphics or other multimedia elements as well. For users to find these documents without knowing the file-names, the documents need to be indexed, and a search screen created to allow searching by word or phrase. Automatic indexing and search screens may already be available through existing mechanisms on your company's Intranet server.

Performance Support Systems

While the design of web-based performance support systems varies widely, they usually provide information in some context-sensitive manner, anticipating the user's needs and proactively offering information and assistance. The design depends on the technologies available and the nature of the performance tasks being supported. One well-known example of such a

system (although not web-based) is the "Office Assistant" help feature in MS-Word. Sometimes performance support systems provide ways to simulate a task for the sake of practice, some even provide utilities to actually help users perform the task

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at hand, as seen in the now-common "wizards" found in many software programs. Such capabilities (and others), when delivered over a company Intranet, can be considered web-based performance support.

Newsgroups/Discussion Lists

Newsgroups and discussion lists (a.k.a. bulletin board systems) are "places" in cyberspace where people can leave messages for others. They are typically organized by topic, so you can see what other people have written on a subject and respond to their messages, or even e-mail directly to a person from the group. Discussion lists can be open to the public or password-protected. They are easily created in a variety of ways: you can create them in some web authoring programs (e.g., Microsoft FrontPage); they are already included in some of the CMI systems; or your webmaster can install discussion list software on your server. Discussion lists are excellent for providing direct assistance and support, and also have the advantage of letting learners help other learners. However, because anyone can post replies to messages, the quality of information is hard to control. In addition, when a learner posts a question to a discussion group, it may take awhile to receive an answer.

Chat Sessions

Chat sessions are basically two-way, multi-person, on-line conversations. When chatting, you type questions or comments to other chatters in the "room" or "channel" and get real-time responses. You see the messages others are writing, and reply to them on the spot. Other participants see

your messages and can reply also. This gives a sense of immediacy of conversation, analogous to a telephone call. You can speak with one person, or with more than one, as if on a conference call. During on-line chat sessions you always know who is "speaking" because each message author is identified on screen and more than one person can communicate simultaneously. Web-based chat groups are pre-scheduled so everyone knows when to attend, and they require more technical resources on the server end than a discussion list. In addition, to participate in a chat group users need to have a browser plug-in installed on their system.

Virtual Classrooms

Typically the goal of a Virtual Classroom is to simulate a real classroom on-line, by extending the chat session concept several steps. Instead of allowing only text messages, a Virtual Classroom often allows presentations using a wide variety of media, including graphics and animation, audio, whiteboard capabilities, interactive activities, and even digital video, all of which is orchestrated by an instructor who controls the pace and direction of the presentation. Sometimes the virtual classroom software even allows learners to "raise their hands," or "break off" to form their own conversations. Virtual classrooms require special software programs on both the server and user end, and classes are scheduled so students and instructor can be on-line simultaneously. Programs that provide these kind of virtual classroom capabilities include NetMeeting by Microsoft, Symposium by Centra, LearnLinc by ILINC and others.

E-mail

This basic Internet feature is still the most widely used on-line application and should be appreciated for its one-to-one instructional capabilities. Often performance support and instruction can be delivered very economically by setting up e-mail addresses for specific subjects. In this way, instructional and performance support needs can be quickly and inexpensively addressed. E-mail is also a very helpful ingredient in any on-line training strategy. For example, an on-line CBT course can provide e-mail addressees for learners to send their individual questions.

Streaming Video

Streaming video is a technical capability that can be used as an on-line delivery strategy, if appropriate. "Streaming video" refers to a method by which digital video can be delivered and displayed that is different from the way files on the web are normally displayed. Usually files are downloaded completely, before being displayed in the browser. For example, when you click to a web page, any text, graphic, animation or audio files are downloaded from the web onto your computer. Once a file is downloaded, it is then displayed in the browser. Video files are generally much larger than graphic files, and it may be impractical to download and store such large files to your computer before displaying them. Streaming video solves this problem by allowing a video file to start playing while it is being downloaded. Because the whole file doesn't need to be downloaded first, video of unlimited length can be played from a network.

In addition, streaming video usually adjusts its quality depending on your connection speed. For example, someone connected through a large, dedicated T1 connection with plenty of bandwidth might see video playing at 20 frames per second, while another person on a slower, dial-up connection might see the same video play at only 5 or 10 frames per second. To play back streaming video, the user needs to install a browser plug-in. The most popular streaming video technology is RealVideo by Progressive. While streaming video is an impressive multimedia technology, its use is currently limited to those situations in which video is a necessity, and the user has a fast network connection.
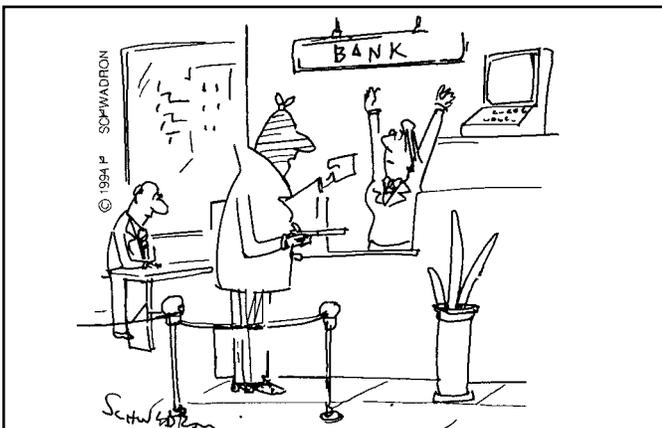
Resources

One of the best places to find information about WBT is on the web itself. Here are a few good WBT web sites for more info:

- WBT Information Center
  http://www.filename.com
- World Lecture Hall
  http://www.utexas.edu/world/lecture/
- Training Supersite
  http://www.trainingsupersite.com
- WBT Systems www.wbtsystems.com

With more and more trainers and learners alike coming on-line every day, the opportunities and possibilities for WBT are growing fast. If applied appropriately, the web can be a tremendous training delivery medium, and WBT can be integrated successfully into your overall training delivery strategy.

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