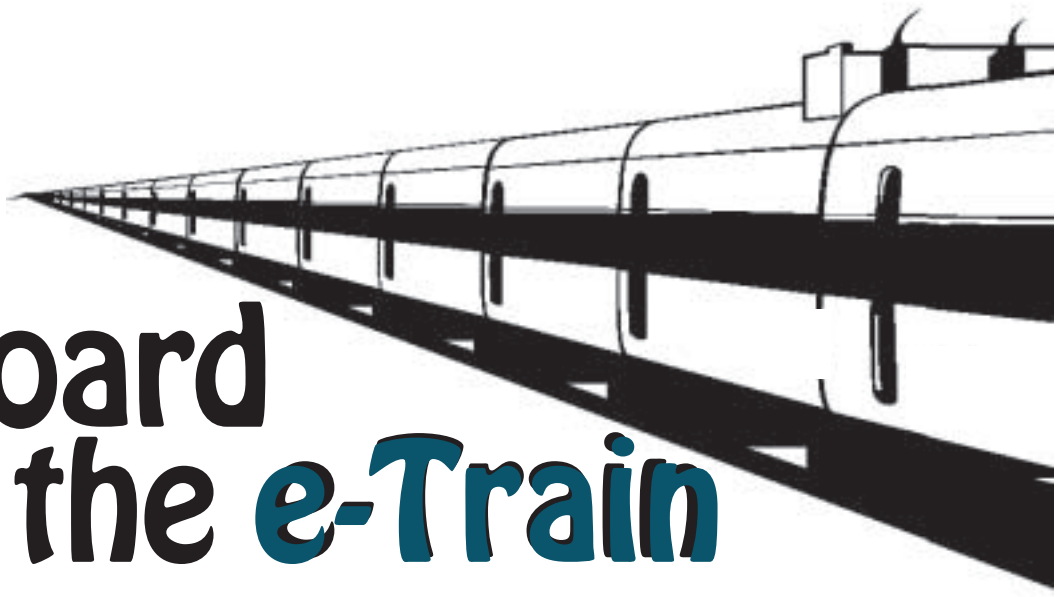
EM IT Insight

by Jill Barson Gilbert



Hop Aboard the e-Train

As we move from a product-based to a service-based economy, our assets shift from the brick-and-mortar physical infrastructure to our people and the knowledge they possess. Just as we invest in maintenance and upgrades for a physical plant, we must invest in our human capital to keep them "well-oiled" and well-educated. One effective way to educate people, keeping them current and productive, is to invest in training. It should come as no surprise that, as with most business processes, there are technology tools available to streamline the training process.

Keeping your staff current on environmental, health, and safety (EH&S) topics can be a challenge. So much to learn, and so little time! It's difficult to take a day out of a busy schedule, let alone a week or more for some of the more complex training. This month's *IT Insight* column explores how companies can use the latest technology to manage and deliver EH&S training.

E-LEARNING SOFTWARE

Today's e-learning software can simplify training development and delivery, as well as manage training compliance recordkeeping and reporting. For clarity, I have grouped e-learning (training) software tools into three distinct categories:

- Training management;
- Training development; and
- Training courses

Training Management

Training management software allows EH&S management professionals to handle vast amounts of data related to training programs, whether delivered by traditional or high-tech methods. This type of software can keep records of training courses, training curriculum, dates, and recipients, and alert managers if a staff member is due for training. Some training management software even helps track compliance with training requirements and provides training management reports. If you can imagine an industrial site with several thousand employees, many of whom must complete several training courses each year to meet Occupational Safety and Health Administration (OSHA), U.S. Environmental Protection Agency (EPA), or Department of Transportation (DOT) requirements, then you can understand the real benefit of having an automated tracking system.

Training Development

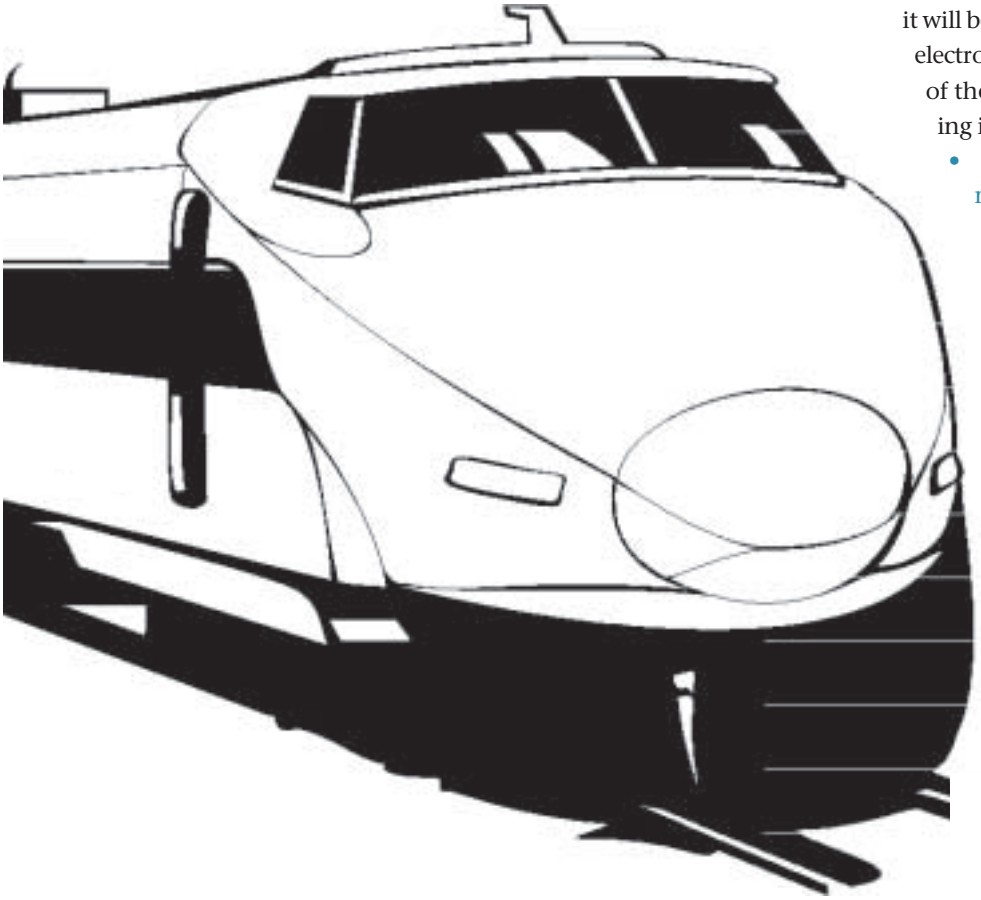
Training development software allows the user to develop a training curriculum, consisting of training modules, information modules, and tests. Software applications are available for both computer-based training (CBT) and Web-based training modules.

Training Courses

There are numerous commercially available EH&S training courses for industrial, governmental, and educational audiences. Many of these cannot be customized, while others are quite amenable to customization. Some of the newer, integrated, Web-based e-learning software tools allow the user to quickly create new content that meets the needs of the audience.

TRADITIONAL TRAINING DELIVERY METHODS

Everyone learns in different ways; some people are visual learners and some are aural learners. If you think that a single training medium and delivery method works for all trainees, think again. Even with traditional instructor-led classroom training, a multimedia approach works well (i.e., a classroom



lecture interspersed with written materials and visual aids such as charts and videos). Table 1 lists some of the key advantages and disadvantages of traditional training methods. Training methods such as instructor-led lectures, seminars, or conferences allow for customization, but preparation and delivery costs can be high. Videotape training, commonly used in industrial facilities for safety topics, is relatively inexpensive to acquire and deliver; and paper-based training, such as safety booklets, can be inexpensively disseminated to the masses. Finally, a model or simulation has the advantage of providing "hands-on" training in a simulated environment versus providing theory alone.

TRAINING DELIVERY TECHNOLOGY

As any good comedian will tell you, it's all in the delivery. In other words, once the content is developed, the training must be delivered effectively, otherwise it will be a flop. There are several ways to deliver training electronically, which are summarized in Table 2. Many of these delivery methods allow 24/7 training, resulting in less time away from the job.

- Stand-alone computer-based training (CBT) module. Training can be delivered in the form of CBT modules, delivered either stand-alone from the organization's servers or through a company intranet or commercial Web site. The CBT module may be as simple as a set of PowerPoint slides, or more sophisticated with audio and video clips and feedback. Well-designed CBT modules can cut training time and increase understanding of the material.
- Company intranet. The student uses a Web browser to access the training course and take the test. The course itself may be a CBT or Web-based training course.
- Internet/commercial Web site. The provider owns and operates the software, servers, and training data. This is becoming increasingly popular, as more training providers are becoming sophisticated with training delivery, e-commerce, and security tools.

Table 1. Advantages and disadvantages of traditional training delivery methods.

Delivery Method	Advantages	Disadvantages
Instructor/Lecture	• Allows for customization • Ability to train large numbers of people at once	• Preparation and delivery costs can be high • Requires removing student from work duties
Seminar/Conference	• Allows in-depth coverage of topics	• Ability to train only a few people at once • Preparation and delivery costs can be high • Requires removing student from work duties
Video Tape	• Commercial tapes relatively inexpensive • Ability to train large numbers of people at once	• Cannot customize commercial tapes • In-house production of custom tapes expensive • Does not provide feedback
Paper-Based Training	• Commercial booklets relatively inexpensive	• Custom booklets/materials relatively expensive • Impersonal • Does not provide feedback
Model/Simulation	• Mimics true environment • Gives students hands-on training	• Ability to train only one to a few people at once • Cost to develop model or simulation can be high • Requires removing student from normal work environment

Table 2. Advantages and disadvantages of e-training delivery technologies.

Technology	Advantages	Disadvantages
Computer-Based Training (CBT) Module	• Ability to train large numbers of people at once • Relatively inexpensive • Some CBT modules provide student feedback • Student can take class at their leisure • Attendance at normal job is high	• Impersonal • Requires access to computer and possibly Internet • Requires students to be familiar with basic computer navigation
Web-Based Training	• Ability to train large numbers of people at once • Relatively inexpensive • Can provide immediate feedback • Student can take class at their leisure • Attendance at normal job is high	• Impersonal • Requires access to computer and Internet • Requires students to be familiar with basic computer operation and Internet navigation • Classes taken after normal work hours can be an issue at union facilities
Web Conferencing	• "Anytime, anywhere" • Ability to train large numbers of people at widespread locations • Can post training materials for all to view • Electronic "chalkboard" available • Reduces/eliminates travel expense	• Requires access to computer, Internet, and telephone line • Telephone/satellite conference costs can add up

- Application Service Provider (ASP). The ASP owns and operates the software application and the servers, and "hosts" the training. The user owns the training data and "rents" the software and server on a per-use basis or a monthly/annual fee basis (or a combination of the two). This is very attractive to organizations that do not want the headache of maintaining additional information technology infrastructure, and who are willing to access their data via the Internet.
- Web-based conference. Web conferencing allows people at widespread locations to hear the same thing at once, with the advantage of reduced travel. Some Web conference hosting sites are available on a fee basis.

So, should you hop aboard the e-train? Traditional training delivery methods still have their place. However, many comprehensive and reasonably priced e-learning alternatives have sprung up in the marketplace, and bear consideration. Next time you consider conducting EH&S training, evaluate how today's e-learning technologies can make training convenient, easy-to-use, interactive, and fun.

About the Author

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