

Take the ID Road to Success

By Gary W. James

The growing use of technology in training and instructional design is having an overwhelming influence on how you present and deliver information to learners. Software vendors and technology-based businesses are flexing their muscles in hopes of cashing in on the success of this movement. In fact, the growing number of tech conferences, training expositions, and trade shows strongly indicates that using technology in training is here to stay.

I attended many tech conferences and trade shows in 2000, and I was amazed at how many vendors and businesses were present. Each probably spent an exuberant amount of money for advertising and booth space. Walking the trade show floors, I noticed that there were more training and technology solutions than problems. The fact that so many companies offered so many solutions didn't bother me; what concerned me was the emphasis placed on using technology in training and the subsequent de-emphasis of instructional design principles and practices.

Sometimes we focus so much of our attention on the new and innovative "techno-techniques" we plan to use in our technology-based training courses that we forget that instructional design should drive what technologies we use in our courses, not the other way around. The key to designing and developing effective technology-based learning is first building a solid, principle-based ID foundation.

Instructional design operates on a set of basic fundamental principles. These principles influence a lot of the decisions we make during the ID process. In short, instructional design principles are the basis for structuring and leveraging any technology-based learning course. They aren't ideas "in vogue"; they're unchanging laws that govern the fundamental assumptions of instructional systems development. Inevitably, designers, educators, and training professionals must ask themselves, "What ISD principles govern the way I design and develop technology-based learning?"

Following are 10 principles for your

consideration. Test these against your own experience to evaluate their usefulness.

1. Conditions during training should increasingly approximate conditions on the job. Some ISD theorists call this the "functional context approach." The bottom line is to prepare learners to perform a job, task, or skill in the workplace. Therefore, select instructional strategies that test whether learners can perform the actual job, skill, or task.

2. Use multimedia to enhance, not distract from, the learning process. In other words, course content should drive what multimedia or technologies you use in your training courses, not the other way around.

3. Learning is better when you distribute practice over time. Research shows that adult learning dramatically drops off about every 30 minutes. Learners can absorb and integrate only a limited amount of new information at one time. Therefore, I recommend that you teach no more than two major topics in a 15-minute period. Design shorter lesson segments, and distribute them in time (that is, break up lessons with periods of other activities) to dramatically enhance the learning process.

4. Select a test item that gives learners the best opportunity to demonstrate the skill or action specified in the objective. Testing a learner's progress during instruction should measure performance as it will be measured in the real-world setting.

5. Have learners practice as much as possible under conditions that reflect their real-world performance situations. Everyone loses trained skills and knowledge during extended periods without specific exercise or practice. Research conducted by Gary Kroehnert, author of *102 Extra Training Games*, indicates that without some form of practice, learners will forget one-quarter of what they learned within six hours, one-third within 24 hours, and about 90 percent within six weeks.

6. The *Law of Recency* is that things learned last are remembered best. That's why it's important that you summarize key points frequently and emphasize those points at the end of each

lesson. You should also plan periodic review sessions during your course.

7. People learn the most when you present information in their preferred learning styles. Alter the way you use multimedia and technology accordingly. For example, use audio narration when displaying text to accommodate textual and aural learners.

8. People relate learning to previous knowledge, skills, and attitudes. David P. Ausubel, well-known learning theorist and author of *The Acquisition and Retention of Knowledge: A Cognitive View*, believes strongly in this principle: Base learning on real-world experiences and scenarios rather than on general topics. Learners are similar to scientists, as one noted cognitive psychologist declared, in that they have in their heads some notions of what the world is all about. Learners bring those notions with them when they come to a course, and they test them against the course content.

9. The *Law of Primacy* states that things learned first are usually learned best. For that reason, it's good practice to include key points at the beginning of a course. A learner's perception during the first part of any training experience can positively or negatively affect the overall success.

10. Apply instructional strategies that enhance the transfer of new material. Instruction is more effective when you use strategies that enhance the learning experience in such a way that learners are inspired to study more advanced topics on the job.

Incorporating solid ID principles should govern what technologies you decide to use in your course. Ultimately, objectives drive course content, course content drives course structure, course structure drives instructional strategies, and instructional strategies drive how you use technology. Then and only then are you prepared to design, develop, and deliver more effective technology-based training programs.

Gary W. James is an instructional designer and conducts research in EPSS and wireless technologies for Brandon Hall; gjames@micron.net.