



IMPROVING SAFETY INSTRUCTION & RESULTS

Five Principles of Sound Training

By SHAWN J. ADAMS

Recent surveys of practicing safety professionals—both CSPs (Ferguson 31) and ASSE chapter presidents (Adams 90)—have found that training is among the top skills used by safety professionals. Saccaro noted that, “Safety training is effective only when all the other elements of an occupational safety program are in place, so that all parts can work together to protect the workers from harm” (3). Similarly, other elements of a safety program reach maximum effectiveness only when training is at its best.

Despite these findings, most academic safety programs do not require a specific class in training techniques, nor is such a course required by the Accreditation Board for Engineering and Technology. This raises a key question: How do safety professionals who are responsible for training know how to train?

Consider this scenario (one to which most safety trainers can probably relate). A training class is being conducted in a plant. Trainees arrive and sit down. The instructor begins to teach and people’s attention quickly wanes. Soon eyes start closing and heads start bobbing. Not much learning will occur in this setting.

ADDRESSING THE PROBLEM

How can those who have responsibility for training—many who have never

received proper instruction—plan effective training and ensure a positive learning experience? What general principles can be applied to a specific situation to ensure that the training provided is effective? To develop and implement effective training techniques, perhaps safety professionals should look to other fields that specialize in these issues.

On May 2, 1998, the American Society for Training and Development (ASTD), the leading professional society for human resources professionals who are involved in corporate training and personnel development, reported the death of Malcolm Knowles on its website. In its announcement, ASTD stated, “Long before there were ever such terms as the learning organization, there was Malcolm Knowles. Widely regarded as the father of adult education, Knowles epitomized the concept of learning.” The notice also reported that Knowles had published 18 books and more than 230 articles during his career in higher education and as a consultant.

This recognition, combined with the sheer volume of his publications, denotes an expert whose ideas are worthy of investigation. Can Knowles’s ideas/philosophies help improve safety training? The following discussion focuses on five key principles—what Knowles termed the “foundation stones of modern adult learning theory” (Knowles (1950) 39).

ADULT TRAINING SHOULD BE ACTIVE, NOT PASSIVE

Many people fear speaking in front of others. Safety professionals are no different. As a result, many provide training in a passive manner, much like they were taught. Remember that early school rule, “Be quiet and listen to the teacher”? Such passiveness was necessary in a classroom of 20 five-year-olds. This practice often continues through higher education, where passiveness is considered a sign of respect for the professor.

Approximately 82 percent of firms use lecture in their training (Anthony, et al 350). Unfortunately, lecture is generally ineffective as a teaching tool for adults, since adults remember approximately 10 percent of what they hear. However, when information is seen *and* heard, retention level jumps to about 50 percent. When adults are able to discuss their learning with others, their retention rate increases to approximately 70 percent. Finally, when trainees participate in the learning process through demonstration (both physical and verbal), retention increases to 90 percent (Lack and Kahler 574). Clearly, these findings call into question the use of traditional classroom instruction (the lecture method).

The passiveness of a classroom lecture—a common approach to safety training—is the exact opposite of the active approach espoused by Knowles. He asserted that adult and child learning dif-

fers radically. According to Knowles, as a person matures, his/her self-concept changes from that of a dependent person-ality toward that of a self-directed organ-ism. Consequently, adult training must be active (e.g., hands-on exercises, discus-sion) in order to be effective (Knowles (1980)(1984)(1990)).

THE ADULT LEARNER MUST RELATE TO TRAINING

The adult learner is a mature person (in some cases older than the trainer) and has accumulated a substantial reservoir of experience. As a result, s/he has a broader foundation on which to build and is a richer resource for learning than when s/he was younger. Therefore, the adult learner must relate to the training—and the training to the learner (Knowles (1980)(1984)(1990)).

Examples, scenarios and problems often perplex children because they have no experience from which to draw upon, while rote memorization and lecture will bore adults and inhibit their learning. The trainer must ensure that examples, scenarios and problems relate to the adult learner's frame of reference (e.g., construction-related examples in a construction safety workshop). If this is not done, the training will likely fail.

TRAINING MUST MEET AN IMMEDIATE NEED OF THE LEARNER

A mature person approaches learning with a time perspective different than that of a child. An adult seeks to immediately apply what is learned; a youngster postpones application of most of his/her learning (Knowles (1980)(1984)(1990)).

Furthermore, while the young learner will accept instruction from an adult, the adult learner wants to understand *why* s/he is taking time from a busy schedule to obtain the training. To address this need, training not only must have a purpose, but it must be communicated clearly to the trainee. Why provide training if its purpose is unclear? Following Knowles's argument to its logical conclusion, helping the adult learner understand the value of training increases its value to that learner and enhances the overall learning experience.

THE ADULT LEARNER SHOULD BE INVOLVED WITH SETTING LEARNING GOALS

On the subject of safety and environ-mental training, Baldwin says:

The purpose of communication is to effect change. But who determines what those results should be? Who sets the goals to be achieved through safety and environ-mental training? Ideally, every person at your company is involved in the goal set-ting process. . . .

By opening the lines of communica-tion at the company and assessing needs expressed by personnel at all levels, goals

can be established that give focus and purpose to training program activities. Goals stimulate interest in the training program by personalizing it and by providing a means for judging its effective-ness" (21).

According to this principle, the learner should have input into the learning goals (Knowles (1980)(1984)(1990)). Knowles believed adult learning should be heavily self-directed because it "puts a heavy responsibility on the learner" (14-15).

He also advocated the use of learning contracts. Although such contracts might be impractical in safety training—which focuses largely on regulatory (e.g., OSHA, EPA, DOT) requirements—work-ers could provide valuable insight concern-ing training needs as well as training effectiveness. One can see a direct (although unintended) link between this approach and Deming's theories regard-ing participative management. Too often, training is provided solely to meet legal requirements and its effectiveness is not measured quantitatively or qualitatively (e.g., via trainee feedback).

TRAINING SHOULD INVOLVE WORKERS TO THE POINT OF USING THEIR EXPERTISE

In his many articles and books, Knowles provided examples of his theo-ries in action. In *Andragogy in Action*, he cites situations in which adults were active learners with different needs while the "teacher" served more as a facilitator. Success stories included major companies such as Westinghouse Corp. (191); higher education (101); external undergraduate degree programs; and medical, legal and religious training (131); as well as non-traditional areas such as faculty development (141) and foreign areas (163-174). Knowles shared these examples to show that using the instructor as a learning facilitator works in many environments.

According to Lack and Kahler, a learner remembers 90 percent of what is taught if given the opportunity to participate through demonstration (both physical and verbal). The only way for retention to be higher, they add, is to allow the student to teach what s/he has learned; when this occurs, retention increases to 95 percent (574). Involvement of the adult's expertise maximizes the learning process and can enhance other training objectives.

CONCLUSION

This article has provided a brief overview of Knowles's "foundation stones of modern adult learning theory." Put into practice, these general principles can help improve current safety and health training programs. ■

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