

Uptime: Training Rule #1: Adults Are Not Children

Written by Bob Williamson, Contributing Editor
Wednesday, 01 October 2008 00:00



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Whenever the idea of "training" comes up in most workplaces, some employees tend to think back to some horrible experience they had in school: A nasty teacher, crowded classroom, required and boring subjects, reading and studying and, most of all, TESTS and GRADES!

So, when the company announces that they are going to set up a "maintenance training program" to improve equipment effectiveness and plant performance, some employees will embrace the idea— others will run the other way!

Training and learning, however, is an absolute MUST in today's mechanized, automated, technology-dependent, equipment-driven businesses. Unfortunately, experience and anecdotal information from thousands of contacts in the U.S. have shown that nearly 80% of maintenance personnel in mid- to small-plants and facilities have not formally been trained to perform the work they are asked to do each day. Both maintenance and operations employees must possess the skills and knowledge to perform meaningful tasks right the first time— every time. Without that level of job performance, accidents happen, equipment frequently is down for extended periods and operating costs increase, all while throughput and revenues decline. Makes sense, doesn't it?

Overcoming the roadblocks to workplace training for all levels of employees is essential for effective workplace learning. Such roadblocks all but disappear when we understand and apply "Training Rule #1: Adults Are Not Children."

Early memories

Most of us have childhood and young-adult education memories that form our reaction to training in today's workplace. I disliked math in high school—a dislike that followed me to

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college. In my college freshman trigonometry class, I remember wondering what possible use I would ever have out in the real world for this subject (and I was not alone)! In fact, I darn near failed the course because that question was never answered. In order for me to graduate, though, my course of study required a passing grade in freshman trig.

As I discovered later, formal education is "SUBJECT CENTERED." From an educator's perspective, "trig is a required subject in the tooling and machine design curriculum, so hit the books!" Conversely, while the practical use of trigonometry really was not important to the math department, the passing grade was. Thus, I focused on passing the tests. Somehow, somewhere, the tooling and machine design program developers knew the importance of trigonometry (only to be figured out by the students years later).

Fast forward to my first year of teaching, when— wouldn't you know it—I was asked to instruct a college class in descriptive geometry that was based heavily on the principles of trigonometry. Aaarrgghh!

You know what they say about teaching: You stay one step ahead of the students and you will learn more about the subject than you ever thought possible. That's exactly what happened. I learned a lot. I survived. The students had fun learning, and many went on to do well in their academic programs. Whew! Saved by the principles of adult education and my "Training Rule #1: Adults Are Not Children." I discovered that adults—young adults included—learn differently than children in school.

The adult learner

In between the two personal experiences cited here, I learned much about adult education while pursuing my teaching degree and developing hundreds of workplace training programs. Dr. Malcolm Knowles also helped set the stage in his book *The Adult Learner: A Neglected Species*, as did other authors. Furthermore, I learned much about the numerous practical applications of many of the academic "subjects" that I was subjected to in school. I share some of these insights here in an attempt to help you make your own workplace training more meaningful and effective. It all begins with the following principles of adult learning and "Training Rule #1."

1. Adults want to know why they should learn what is being offered in the workplace training sessions. In other words, WIIFM? ("What's in it for me?"). Adults want to know the benefits of learning something new and/or different versus the risks of not learning it.
2. Adult learners in the workplace want to take responsibility for learning much in the same

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way they take responsibility for everything else in their lives. Since they are "self-directed" in most aspects of their lives, they must be empowered to learn and to take responsibility for their own learning. Unfortunately, in many workplace training situations, early public education memories often are triggered within an adult learner, setting expectations for how the training will take place and how successful (or unsuccessful) he/she will be.

3. Adult learners have formed a dominant learning style over the years and they know how they learn best. Three major learning styles include visual (seeing), auditory (hearing) and kinesthetic (doing). Early studies showed that learning retention rate increases with trainee participation and hands-on application. For example, lecture alone results in 5% retention; reading and audio-visuals 10-20%; demonstration 30%; group discussion 50%; and practice by doing, immediate use on the job and teaching others results in 75-80% or higher retention. The more we use what we learn, the more we retain it.

4. Adults bring life experience to the learning environment. This can be both a positive and a negative: Some experiences are just old habits, while others are rich and meaningful. Adults also tend to define themselves by their experiences. Effective workplace training must respect and account for these experiences, as well as build on them.

5. Adults are ready to learn when the need arises. The need for workplace training tends to include skills and knowledge for a new procedure, a new machine or piece of equipment, a new tool or technology, a job promotion, etc. Sorry to say, when those needs are not apparent, employer-provided training is perceived (and structured as) as "employer-required training" and it, too, shall pass.

6. While adults may be "ready to learn," they may NOT have the "ability to learn" certain higher-level skills and knowledge. Basics like reading, writing, math, mechanical aptitude and having the ability required to learn most maintenance tasks are one thing; acquiring the working knowledge of electricity, electronic circuits, microprocessors and ladder logic diagrams required to learn maintenance of programmable logic controllers (PLCs) is quite another. These are examples of "prerequisite" skills and knowledge.

7. Adults are task-oriented. Effective workplace training must be organized around actual tasks in the workplace for the specific job role rather than the "subject." The more relevant the training is to immediate needs in his/her job role, the more the adult learner will participate and learn. Mastering the task at hand and getting immediate and regular feedback during the learning process through peer coaching and support are essential.

12,000 maintenance tasks and counting

On what should maintenance training in the workplace focus? What classes, programs and materials should we buy? These are typical questions encountered in the early stages of considering maintenance training. However, they should NOT be the first questions asked. Start by identifying the job-performance requirements for a very narrow scope of work or the broader job classification. These tasks define what maintenance employees need to know to perform on the job. Remember that adults are "task oriented" in their learning processes.

In the 1980s, I was responsible for developing training programs and materials for literally

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thousands of employees in many different manufacturing plants and industrial construction projects. In 1985, I began accumulating a unique data base of maintenance-job-performance requirements in the form of action-oriented and measurable "duties and tasks." This database grew every time I performed or led a job-task analysis to develop maintenance training programs and materials in dozens of industries—and more so when the training programs turned into on-job performance qualification, employee assessments and pay-for-applied-skills program design. More recently, with a 36-plant maintenance training needs analysis and work with a precision equipment component manufacturer thrown into the mix, my database has become much larger—significantly.

What continues to amaze me about maintenance job-task analysis is the huge breadth and depth of skills and knowledge the typical maintenance employees must have to properly maintain, repair, operate, plan and lead others for numerous facilities, processes and equipment. In excess of 12,000 individual tasks that describe the skills and knowledge requirements in nearly 40 maintenance-related job roles have been identified and documented. These job-performance tasks identify the skills and knowledge for the basics, the core craft and specialized craft requirements. Beyond that are the thousands of equipment-specific tasks reflecting what these maintenance employees must know and be able to do in every plant—and in facility-specific applications.

The bottom line to workplace learning is **TASK MASTERY ON THE JOB**. It's not about seat time in a class or passing tests. It's not about studying materials online, in the break room or on the job. Task mastery means that an employee can satisfactorily perform the task, with the proper skills and knowledge, on the job—whenever needed. How he/she gets to that point is the "training process."

The bottom line

A "training needs analysis" is where the workplace training process truly starts. That means identifying the specific areas of the business where training will likely eliminate problems and/or improve human performance (focused improvement). Then, determine what the employees must know and be able to do on the job to address these improvement needs (specific duties and tasks).

Given the training needs and the specific job duties and tasks that address these foregoing needs, 1) the employees' skills and knowledge can be assessed; 2) training programs can be designed, developed, purchased and/or scheduled; 3) training and learning can take place; and 4) the maintenance employees can successfully demonstrate the duties and tasks on the job. Later, in the spirit of continuous improvement, 5) an evaluation can be conducted to identify the

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efficiency and effectiveness of the whole training process.

The bottom line here is that maintenance training and qualification is a HUGE overlooked opportunity for improving business performance (see "The Perfect Storm Intensifies," Uptime column installment, pgs. 6-8, Maintenance Technology, August 2008). Because proven principles of adult learning typically have focused on specific and measurable job duties and tasks, they often have been overlooked or thought of as roadblocks. As a result, many traditional maintenance training efforts have been based on classes, workshops, vendor presentations and studying materials. While there are benefits associated with this type of maintenance training, the most beneficial—and most successful—training tends to be of a FORMAL, on-the-job, task-specific nature with peer coaching. Sure, there always will be someone in management who asks, "What if we train them and they leave?" A more important question to ponder is "What if we don't train them and they stay!?" Your operations, like countless others, probably can't afford to gamble on such a scenario—at least not for very long. Now is the time to put your workplace training processes in place; to recognize the needs of the adult learner and to focus training on very task-specific skills and knowledge linked to improvements. The payback will be substantial. **MT**

Critical Success Factors In Developing & Implementing Workplace Training

- Answer "WIIFM" from the learner's perspective. What are the benefits and risks associated with the training?

- Avoid classroom-style, lecture and graded classes as much as possible.
- Put adults personally in charge of their own learning for the job and on-the job.
- Appeal to a variety of dominant adult learning styles (i.e., seeing, hearing, doing).
- Build on the experiences that adults bring into the training sessions.
- Make the training immediately useful in job performance.
- Train for task mastery through performance demonstration on-the-job rather than via scored tests and quizzes.
- Use peer coaching and training as much as possible.