Developing Training Step-by-Step

With morale productivity, and safety in the balance, carefully planned program development is your wisest approach.

By JOHN E. KELLO

"Follow Bob around, and he'll show you what you need to know." An effective training "program?" Perhaps it is under rather special circumstances. (The tasks are few, simple and nonhazardous. Bob is competent, patient, with time on his hands.) But much job-skills training is still unsystematic, piecemeal, and hit-or-miss. It shouldn't be.

Relying only on informal apprenticeships leaves serious gaps in employee training. Commonly, employees learn a few specific moves without understanding the rationale for what they are doing, or how their task fits into the "big picture" (i.e., how the work flows to them, what contribution they make, where it goes next, and for what purpose). Employees frequently complain to the inquisitive consultant, that they would feel better about their job, and probably perform better as well, if they knew more about what they were doing and why. Their supervisors frequently complain that so many of their employees seems to lack "common sense." They go through their job motions more or less by rote, without a real feel for what they are doing. When the tasks to be performed are complex or hazardous, such attitudes have effects on health and productivity. These and other related problems stem from the lack of a coherent technical training approach—one based on principles of effective training and adult learning. Such a systematic training program can help employees learn complex jobs faster and more fully, so that they are more productive and feel better about their work than they do if left on their own to wander around behind Bob—if they can find him.

Recently I helped design and implement a comprehensive technical training program for complex and potentially hazardous jobs in the nuclear industry. In doing so I outlined a series of critical steps for trainers that can make this sort of training effective. While such a systematic approach may be especially useful in initiating training for complex or high-risk job functions, the steps also should apply to initiating technical training for any jobs that demand quickly attained competence with few errors. For internal or external consultants starting up a new technical training effort, here is a general roadmap. Furthermore, the steps outlined here may be useful for modifying and revising technical training programs.

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■ *As a guiding principle throughout the project, work hand-in-hand with management and unions.* It is critical to the overall effectiveness of the training program that management knows throughout what the consultant intends to do, and how he or she intends to proceed. Management should be involved actively in every phase of the project. By this you'll encourage a strong sense of ownership and support of the training program. A program's ultimate effectiveness (or lack of it) turns on upper management's perceived level of active support and reinforcement. Thus, if the training program is to survive and provide an acceptable return for the time, money, and other resources invested in it, this management commitment must be generated and sustained.

1. Establish specific goals. This first principle of training is so obviously true that it shouldn't need repeating. Nonetheless, one of the most common causes of ineffective training is a lack of clearly defined goals.

What problem is the training supposed to address? This question should be answered as clearly and specifically as possible before anything else is done. Otherwise, how can one possibly determine whether and to what extent the training is working? Some standard tools for answering this question include surveys (attitude surveys, "needs assessments"), interviews, existing data on productivity, absenteeism, turnover, grievances, and quality, as well as direct observation of the operation (discussed below). Deciding on goals also helps to deal with the question of the evaluation of program. Determining goals now, helps specify methods for program evaluation.

2. Observe the operation. Observe the work, even if you already feel well-acquainted with it. Ideally this will include a look at the organization as a whole, with progressively sharper focus on the jobs covered by the intended training program. In addition to direct observation of the work, gather information informally from the workers (a group mixed in terms of amount of job experience, shift, and other relevant parameters), in order to understand better the job's requirements and the workers' job perceptions.

This second step not only builds a data base from which the next steps follow, but also allows further refinement of the goal of the training program determined in step 1.

3. Work intensively with technical experts. With the background preparation provided by the first two steps, step 3 will go much more smoothly. Its general goals are to develop the training materials (content) and to decide how they should be organized and presented (process) in order to accomplish the objectives. The technical experts, obviously, should have ample experience at doing the work covered by the training program. Where possible, such technical experts should be used directly as the trainers. The trainers will have credibility with participants, especially with those experienced employees whose skills you are updating. If the experts are going to be the trainers, they will

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become more involved in the program's development. Moreover, trainers won't have the dual problem of trying to learn the technical aspects of the jobs while they learn training skills. Technical expertise, however, does not qualify one automatically as a trainer.

Working with such technical experts calls for a facilitating, questioning-and-listening role. The goal is to draw from the technical experts, by careful questioning, the key steps in the jobs to be trained. Once the step-by-step analysis of the jobs is completed, the consultant must help the technical experts answer a series of important process questions: Which parts should be covered in classroom lecture and discussion? How much time should be allocated to each part? Will it be helpful, even feasible, to have some audiovisual or other supports to aid in clear presentation? How should such aids be integrated into the overall training program? How much detail can the trainer go into without overloading the participants? When and how should simulator training (if relevant) and/or on-the-job training be integrated with the classroom training for maximum effectiveness?

Obviously, the consultant's greater experience with the training process will give him or her some preliminary answers to these questions, but it is critical that the technical experts' suggestions and ideas be drawn out, developed and used to the extent possible, in order to give them maximum ownership of the training product they create.

Most of the consultant's work occurs at this step; facilitating the creation of the training program. The task, however, is not complete.

4. Observe skilled workers doing the job(s) step by step. As a check to ensure that key steps have not been omitted, it is helpful to observe directly (while checking your materials) experienced employees performing their jobs. Obviously, in the interest of good employee relations, the workers should be told what the observer is doing and why. Give them the opportunity to meet the observer beforehand, and the freedom not to participate without negative consequences. Getting the workers' perspective on what they do and why is important in case the performance of the job varies from the way your experts outlined it. Discuss and resolve such difference with the technical experts. Modifications in the training materials may be necessary as well.

5. Evaluation should be planned. At this point, it is helpful to consider the question of program evaluation at three levels. How will I measure the trainees' performance during the training course? How and when will I assess participant reaction to the training program? Most critically, what objective performance indicators can I use to evaluate the overall affect of the training program in relation to its content objectives?

If program evaluation is to be optimum, these performance measures should be identified and tracked well in advance of the training program, to provide a measure against which you can assess any improvements brought about by the training program. The greatest information can be derived if you have both experimental and control groups. You compare the objective performance measures of both groups. Obviously, real training needs in organizations often preclude this slower, but ultimately more effective, procedure of experimental analysis.

6. Train the trainers. Once a training program is developed, you must prepare the trainers. While both content and format are important to training's overall effectiveness, few, if any, training programs are so good that they are effective even when presented poorly. Experience shows that the most crucial, yet often neglected component of most training programs is the trainer.

Too often, training programs, like the dinosaurs, eventually die of their inability to adapt

The assumption that technical ability and experience are sufficient to make one an effective technical trainer is widespread and false. Effective training comprises a distinct set of specific communication and group-process skills that do not arise automatically when one has technical expertise in a given area. Moreover interest in being a trainer does not equal ability. The intended trainers must be willing, have adequate potential, and arrange their other responsibilities so they can spend a substantial amount of time developing their training skills. Structure train-the-trainer programs for five or fewer participants. Include classroom lecture/discussion on training skills, prepared video models of some key do's and don'ts of stand-up training and OJT, and most critically, opportunities to practice thorough role play and systematic, constructive feedback. Depending on the experience and skill level of the trainers, this step may be a brief refresher session or a structured five-day workshop.

Trainer training is no substitute for good trainer selection. Without the right potential matching aptitude/interest/ability and job requirements), there is a severe limit to what shaping and polishing can do. The ideal combination is interested and able trainers who are prepared thoroughly. Potential trainers must be screened prior to selection; such positions shouldn't go automatically to the senior technical person.

Despite the common myth that training is just "talking about what you know" and doesn't take much preparation time, management should structure the in-house trainer job so that there is adequate time and release from other responsibilities. Furthermore, management should make the training position attractive, so that the trainers readily can see "what's in for them." Training should not be just an added set of responsibilities, tacked onto their existing jobs.

7. Pilot the training program. Once you've developed the training materials and prepared the trainers, start the training on a limited basis. The small-scale, pilot approach enables the trainers to fine tune the program and to identify any unforseen "bugs." Obviously, if the program is to be effective, any requisite changes will have to be made promptly. Researchers would (should) never commit resources to a research project without piloting it first. The same applies to the development of training programs.

8. Monitor, evaluate, and remain flexible. There is a tendency for training programs, once developed, to fossilize. Instead, training materials should evolve to reflect changes in procedures, equipment, government regulations, feedback from participants, and objective indicators of the program's effectiveness. Too often, training programs that were initially relevant and effective fail to keep their relevance and, like the dinosaurs, eventually die of their inability to adapt.

Trainers, too, may become stale in their approach to particular material. Help reduce that possibility by offering refresher, train-the-trainer sessions; having trainers work jointly on a session to get feedback as well as new training tech-

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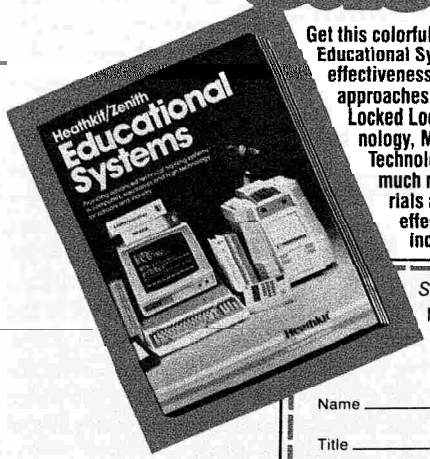

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niques from each other; videotaping parts of the training session for self- and/or other-generated feedback.

Long-term monitoring and adjusting the program and its elements depend critically on repeated, specific and accurate assessment of the impact of the training.

There are some benefits of this process that apply broadly to both technical and nontechnical skills development, which are important enough to bear separate mention. First, a detailed examination of the procedures and work methods in a given area of the organization uncovers important problems.

There may be, for example, a wide gap between what is specified in procedures and what workers actually do, because of inaccurate, even impossible procedures, or failure to update procedures in line with equipment changes. Such problems typically require closer coordination, and may result in the development of better procedures and improved communication across departments. More relevant, realistic procedures may foster more respect for operating procedures among the employees in general. Similarly, safety hazards, and even serious safety violations, may be discovered (or rediscovered).

Such a process, if done well, commonly accomplishes some de facto teambuilding along the way. Throughout program development and implementation, trainers are encourged to look at their reasons for wanting to train and to openly give and receive feedback on their training effectiveness. Relationships with superiors are emphasized as trainers address with management staff, needs and concerns that if met, lead to effectiveness, support and reinforcement. In addition to high-performance employees, a strong sense of teamwork and high morale can develop. Both are benefits that careful planning, through a systematic approach to training, bring about.