

HERE'S A SYSTEM DESIGNED TO ENABLE YOU TO CONSTRUCT
A PROGRAM THAT WILL MEET THE NEEDS OF YOUR EMPLOYEES. . . .

SKILLS TRAINING — A PRACTICAL APPROACH

BY LARRY L.
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Frequently one of the first steps in designing a training program is writing objectives. Normally, following this procedure is advisable, but to write objectives requires that one have some basic knowledge about the overall concepts to be taught. Frequently in skills training, the program is designed for the operators of complicated manufacturing equipment that the training department knows little about. Now what? To attempt to write behavioral objectives at this point would be frustrating at best, since you must have some understanding of the equipment used in the manufacturing process and the procedures followed. My purpose here is to outline a procedure to bring your level of knowledge up to a point where you will be able to communicate with the people in the plant and to design a meaningful program for them.

In skills training, one factor that provides the trainer a distinct advantage is that knowledge, skills and abilities are often more ob-

servable than types of training. This observability forms the key to this method of course design. When you have completed the process, you will have performed a needs survey based on a job analysis and will have a photographic record on which to base the training program.

To start the process, ask an operator to describe the basic process. See if the equipment could be broken in smaller sections. Then, ask if that section can be broken into subsections. Possible subsections include: cooling systems, lubricating systems, drive systems for specific sections, instrument panels, etc. Photograph all part of the system starting with each subsection, and ask several people the name and function of each part. Ask the same questions of people on all shifts. You may find discrepancies in the name and functions of parts between people on different shifts and even between people on the same shift. Of course, discovering these discrepancies provides topics of discussion later in the training program. Keep a record of all photographs taken for

future reference.

The next step after having the slides developed is to sort them out according to your records. Place all the slides from a section together and in as logical a sequence as possible. Ask an operator to help arrange the slides and to describe how each section works, what each part does and what his or her duties are with respect to that section. Add the operator's comments regarding the slides to your records. Try to develop a paragraph about each slide.

As you analyze each slide determine if it shows a duty of all operators (a valve that must be adjusted, a pressure gauge that must be checked, etc.) or if it only provides information about the system. Highlight on your record any slide that shows a duty. Be sure to ask if anything of importance has been omitted. Finally, analyze each slide with an operator to determine if any show an abnormal condition. If so, emphasize the fact in the record or better yet, take another photograph that shows a normal condition. While slides showing abnormal conditions can be used to

advantage in a trouble-shooting program, they should not be used in a program designed to show correct operation of equipment.

By this time, you undoubtedly have taken dozens of pictures, thrown out dozens, reshot dozens more and asked thousands of questions. You should also have, however, a series of photographs clearly showing each section of the equipment, arranged in logical sequence, and a written paragraph or more of each slide with each one identified that shows a duty of the operator. And, you probably know a lot more about the equipment than you did before.

Designing the Program

You have now completed your training and can begin designing a program by writing instructional objectives for each section of the equipment. As in any instructional objective, you should specify what is to be learned and how that learning is to be measured. To begin, compile a list of duties previously identified and apply a stan-

dard of performance. The performance of the duties can then be part of the objectives of the program. Other objectives can be written regarding informational parts of the program, that is, parts that tell why a particular duty is to be performed or how a device operates. Ask the operators and supervisors for their input regarding other objectives and duties.

As an adjunct to the job analysis, a *Behaviorally Anchored Rating System* (BARS)¹ can be developed. This system basically identifies and allows job incumbents and their supervisors to agree upon specific job behaviors. These behavior statements are ranked in five to seven steps from excellent to poor and allow for a more objective performance evaluation to be made on individuals. After these behaviors are identified, they can be used to determine individual training needs.

If the program you are designing is only for new employees, this step can be omitted. Programs for all employees, old and new, will be

more successful if the groups are separated and individual employees trained according to their needs. If the Behaviorally Anchored Rating System is used, the highly developed skills of the older employees can be identified and they can then be used as resource people in the program for new employees.

From Record to Script

Now that you have identified needs and written objectives, the actual design can be started. The record you have been keeping of each slide, with a little refinement, can be used as a script for the slides. Rewrite the record into a script to make each slide flow into the next. Then analyze the script. Are there terms used but not defined? Have you used a long word when a simpler one would do? In the case of undefined terms, try to define it in the script if possible; if the term requires a long description, place it in a glossary of terms. After the script is completed, a glossary of terms should be writ-

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"All of the questions must be answerable from the script. Obviously, not all the objectives will include things measurable by a pencil-and-paper test, but will provide an excellent basis for this type of test."

ten to provide the student a quick reference.

The next step is to critically analyze the photos and the script together to see if they fit well together. You may find that more pictures or different pictures are needed. The old adage that a picture is worth a thousand words is true, but to be effective the picture must communicate the *correct* message.

At this point, you have a set of photos with a script, a list of objectives, a list of operator duties, and a glossary of terms. The script, objectives, duties and glossary should be combined into a study guide to give to each participant.

Other things that can be included in the study guide are: safety information, diagrams, procedure lists (start-up, shutdown, adjustments, etc.) and any other pertinent information.

In addition, the objectives can be used to develop study questions to be used as an end of program exam or interspersed throughout the script as a check on student progress. Since the objective list shows what is to be learned, writing questions from the objectives provides a check in the script. All of the questions must be answerable from the script. Obviously, not all the objectives will include things measurable by a

pencil-and-paper test, but will provide an excellent basis for this type of test.

Options for Use

Now that the program has been designed, you have several options as to how it can be used. The script can be recorded on a slide/sound system, thus providing a program that one person or a group of people can view. The program used this way can provide core material for a more extensive OJT program. The slides can also be used as the basis of a lecture or group discussion.

Employees identified as knowledgeable in various areas can be used as lecturers or group discussion leaders. Regardless of how knowledgeable you have become, the people working in the area will generally have more credibility in the eyes of the participants. Since you have involved the employees in the design, they already feel a part of the program and probably will be less reluctant to "be the instructor."

Following this system is without doubt a lot of work, but should enable your training department to design a program that will meet the needs of the employees to be trained.

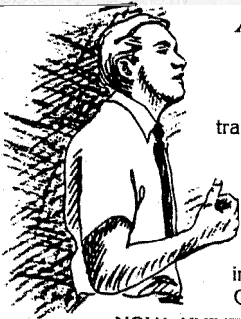
REFERENCE

1. For a more detailed description of "BARS" see *Personnel Administration: An Experimental Skill Building Approach*, Richard W. Beatty and Craig Eric Schneider, Addison-Wesley.

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