

TRAINING

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Task: Create a coherent training curriculum—a 'curriculum architecture'—that will pay off for your entire organization.
Recommended construction method: Group process.

HOW TO BUILD A TRAINING STRUCTURE THAT WON'T KEEP BURNING DOWN

By D. Douglas McKenna, Raynold A. Svenson, Karen M. and Guy Wallace

Fire fighting is a familiar routine for training departments. The company president gets wind of the latest participative-management program and wants all senior executives run through it—pronto. The vice president of marketing suddenly decides the sales staff needs an emergency dose of telemarketing training. Before you know it, the training department is racing around in circles, attempting to douse these flare-ups with its limited resources.

As a result, training efforts are not directed at problems that have the largest impact on the organization's performance. Instead, resources are allocated and rushed to the scenes of various conflagrations according to the importance of the person who spotted the fire. If the fire ranger was the CEO, those executives *will* get that program.

Your training department can escape this reactive mode by designing a "curriculum architecture" that organizes the company's various training needs into a logical sequence of courses or modules. With this coherent design in hand, you will have a blueprint to help you plan and assign priorities to developing and maintaining your training programs. You'll also have a weapon to stave off raids on your resources by well-meaning but ill-advised fire rangers.

The Group-process Method

Just as an architect designs a building so that each piece considers and contributes to the entire structure, an "architectural" approach to training aims at building a curriculum with individual parts that add up to a logical whole within the context of a given



The group-process approach can help keep you "grounded"—and employed. It tends to produce training that zeros in on what people need to know to do their jobs.

job, a department or an entire organization.

There are a variety of ways to approach this task, but the group-process method will help you achieve three key objectives:

- It will produce a performance-based curriculum that focuses specifically on what trainees *need to know* to perform effectively on the job.
- It is much faster and less expensive than other methods, so it will meet time and budget constraints.
- It is particularly effective in situations where the relationship between the training department and the rest of the organization is less than wonderful. When you involve line managers and employees in curriculum design, you begin to break down the "we-they syndrome." An additional benefit: Employees who have a sense of ownership in the final product will see the training department as responsive to their needs.

As we're using the term, "group process" means simply that you enlist the aid of subject-matter experts (people who know how to do the jobs you're training for), potential trainees and their managers in the design of the training curriculum.

STEP 1 DETERMINE THE SCOPE

Before you get these people actively involved in the process, however, you must determine the scope of the curriculum you intend to build. Will you focus on a single job? A department? The whole organization? Since your primary purpose is to provide a framework for planning course-development activities, be sure to select a scope that will represent the training needs of your major "client groups."

One approach is to follow your organization's existing structure or functions. For example, you might develop a separate curriculum for the marketing, engineering, manufacturing and management functions. Likewise, if your company is involved in a variety of different businesses (e.g., microprocessors and radios) or is highly decentralized, you can probably save yourself some time and effort in the long run by developing a curricu-

lum for each business or location. It usually will be easier to build a variety of curriculums than to try to "sell" a single version to distinctly different units or divisions.

To further define the scope of your curriculum, you must zero in on a tar-

The 'fire spotter's' position tends to determine the resources allocated to fighting the fire.

get population of trainees. For example, if you decide to focus on the needs of new and/or experienced personnel, you also might address basic, advanced or change-driven training needs. Obviously, you will want to consider the level of competence in the work force, your organization's current business plans and strategies, and existing training programs.

Two rules of thumb should guide your decision on the scope of the project. First, as employees' training needs become more diverse, a narrower scope usually will produce a more accurate and comprehensive curriculum. Second, since the curriculum must be accepted by employees before it can be implemented successfully, consider whether a group is willing to "own" the design before you decide on a target population.

STEP 2 ESTABLISH PARTICIPANT GROUPS

The next task is to identify and recruit the people who will participate in the curriculum-design effort. Typically, three groups are established.

To guarantee employees' participation in the process, recruit key middle- and upper-level managers to serve on a curriculum committee. This commit-

tee oversees the design portion of the project—it reviews, critiques and approves all recommendations. The committee also identifies subject-matter experts who help analyze performance and construct the curriculum.

Generally, the curriculum committee meets twice during the project: once to review the project plan and select the group-process participants, and again at the end of the project to critique the results and set priorities for training activities.

The subject-matter experts (SMEs) the project committee selects will provide information for performance analysis, identify job knowledge and skill requirements, critique the existing curriculum (if any), and build the new curriculum. SMEs should be expert in the work itself, able to describe that work articulately, and representative of the departments or locations that ultimately will use the training.

SMEs are critical to the group-process method: They provide the basic information on work performance and the skills necessary to support that performance. They should be prepared to commit four to six days to attending meetings; no outside work is required of group members.

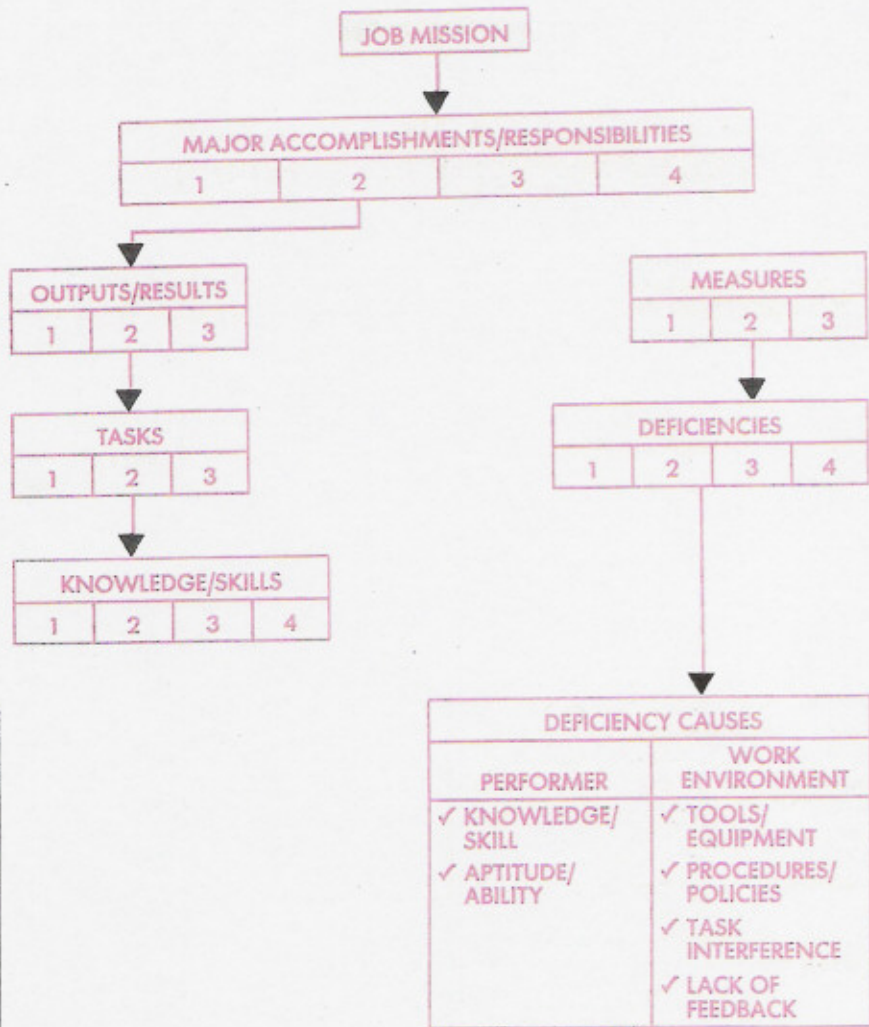
If you intend to address the training needs of new employees, you'll need a third group composed of recent hires, preferably with six to 12 months of experience. Because new employees lack experience and perspective, however, it's a good idea to ask the expert group to review the performance-analysis data they produce.

STEP 3 ANALYZE WORK PERFORMANCE

During a two-day meeting, the expert group systematically analyzes the work. The goal of this meeting is to come up with a performance analysis (see Fig. 1 on page 80) that defines these elements.

- A mission statement for the job or function.
- A list of *major* accomplishments or responsibilities for the job or function.
- A list of the major "outputs" or results produced by each accomplish-

FIGURE 1
Elements of Performance Analysis



ment or responsibility.

- A list of the major tasks that must be performed to achieve each result.
- Measures by which the results are evaluated (e.g., accuracy, timeliness, etc.).
- Typical and/or critical deficiencies in the results.
- Perceived causes of those deficiencies (e.g., lack of knowledge or feedback).

Performance analysis establishes *effective work performance* as the criterion for all training activities. It becomes the foundation for task-oriented training modules because it defines the major accomplishments, outputs and tasks of the job.

Analyzing deficiencies and their causes allows you to pinpoint performance problems for which training is a likely solution (e.g., workers lack certain skills), as opposed to non-training problems (e.g., substandard equipment, poor performance-appraisal system, etc.). This also is a terrific opportunity for teaching people that training is not a panacea for solving all performance problems.

The expert group's next task is to develop knowledge/skill matrices. A good way to start is by showing the group a list of categories into which various skills might fall. With engineering groups, for example, we have used categories such as introduction/

background information, policies/procedures, tools/resources, product technologies, process technologies, technical engineering skills, generic professional skills, management skills and theories/concepts. The categories you use are not critical, but they should stimulate the group's thinking about relevant knowledge and skills.

The specific knowledge and skills in each category are generated by tracing back through the performance analysis. Pay particular attention to deficiencies that seem to call for training solutions. When the group is satisfied that all major knowledge and skill

To guarantee
employee involve-
ment, recruit
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to serve on the
curriculum-project
committee.

needs have been captured in at least one of the categories, each item is cross-referenced to the major accomplishments or responsibilities identified in the performance analysis. The result is a knowledge/skill matrix like the one in Figure 2 (page 82).

This cross-referencing of knowledge and skills to accomplishments serves three purposes.

- It ties particular knowledge or skills directly to the work itself.
- It provides specific direction for those who ultimately will develop a training program to teach the skill. Rather than using a generic program on oral presentations, for example, the training developer, knowing from the beginning that presentation skills are needed only in certain aspects of the job, can build (or buy) a program that teaches the specific types of presentation skills the work requires.
- The knowledge/skill matrices also

FIGURE 2
Sample Portion of Design Engineering Knowledge/Skill Matrix

Knowledge/Skill	Major Accomplishments			
	Product Definition Developed	Project Plan Completed	Prototype Built and Tested	Pilot Run and Production Supported
1. Second order effects	✓		✓	✓
2. Grounding and shielding	✓		✓	✓
3. Human factors engineering	✓	✓	✓	✓
4. Modeling and simulation			✓	
5. Testing and measurement theory and practice			✓	✓

help when it comes to developing curriculum modules and a strategy for delivering the training. If some specific knowledge or skill is used in all of a job's major accomplishments, it may be appropriate to develop a single course to cover all its applications on the job. Where a skill is relevant to only one or two accomplishments, however, it might be more efficient to include it in a module built around that particular goal.

Once the expert group has developed the performance analysis and knowledge/skill matrices, the new-employee group can meet, if necessary, to review the materials and suggest additions based on their needs.

STEP 4
DESIGN THE CURRICULUM

The expert group reconvenes for a two- or three-day meeting to review the work of the new-employee group and to design the curriculum. At this point, you probably will want to add members of the training staff to the group. Their role is to contribute information on existing training programs, potential or existing delivery systems, and forecasts about when the training can be delivered.

First, the group must decide upon the general structure of the curricu-

lum architecture. One useful outline that can be adapted to a wide variety of jobs and functions begins with orientation and progresses to increasingly specific skill/knowledge modules.

The top level in this four-level structure contains training courses designed to introduce employees to the company, its divisions, product lines, procedures, policies, etc. The modules at the third level provide overviews of the major accomplishments, responsibilities and tasks identified in the performance analysis. Second-level courses teach the steps or procedures involved in completing each of the tasks. Finally, first-level modules support the entire structure by providing instruction on basic or advanced knowledge and skills. These knowledge/skill programs are linked to the task and task-overview programs according to the group's knowledge/skill matrices.

Once the general structure has been set, the group must organize all the training content into modules and identify logical sequences. Creating the modules is a demanding task that requires the group to juggle many variables simultaneously. Variables related to training delivery—considerations such as the number and location of trainees, optimal timing of the training, the existing budget and staff—are likely to be the trickiest problems.

If you are designing a curriculum architecture for a target population that is scattered across remote loca-

tions, cannot be taken away from the job for significant periods of time, and is not accustomed to on-the-job coaching, what might you do? One solution would be a curriculum architecture containing short, mentor-delivered modules. Another might be a structure that relies heavily on computer-based training.

Once the group has pounded out a modular curriculum architecture, it identifies the subgroups who will need each module, the potential impact of each module on job performance and the time necessary to complete each module. The group is now prepared to recommend priorities for module development.

Risks Vs. Benefits

Certain risks are involved in using the group-process method for developing a curriculum design. Without a leader who has a clear understanding

**An overall plan
 and a place
 to begin are
 more important
 than perfection.**

of what data must be generated, the method probably will not succeed. And even with a knowledgeable leader, group process can run into trouble if there are serious disagreements within the group that can't be resolved.

For example, if group members in a software-development function disagree on whether a particular new computer language will become the standard in their work, they may not be able to produce a curriculum that will be widely accepted. But keep in mind that this type of problem is not unique to the group-process method. If clients can't agree on the nature of the work, it will be extremely difficult to design a satisfactory curriculum regardless of the method you use.

The speed with which a curriculum can be built using the group-process method is one of its key benefits. But

even this has a drawback: If the performance analysis is—or is perceived to be—superficial, you've got a problem. When the comprehensiveness of the analysis is a key concern, more group or individual interviews are certainly an option. For a training department with no overall plan for course development, however, a timely and relatively inexpensive curriculum blueprint that identifies 80% of the target population's training needs may be worth much more than a delayed, expensive design that covers 98% of all needs. An overall plan that gives you a place to begin is more important than a perfect one that never gets off the drawing board.

Regardless of the method used to produce a curriculum architecture, the design itself provides a valuable, broad-based survey of an organization's training needs. It is a "client-driven data base" that can help estimate the resources needed to develop and deliver training. And that means you can approach senior management

with a budget request based on solid data rather than a laundry list of training needs.

One more benefit: Once potential clients have been involved in a curriculum-design project, they are liable to line up behind the training department in support of its budget requests. These are now *their* needs, and they want to see them met. T

D. Douglas McKenna is a research psychologist at Personnel Decisions Research Institute in Minneapolis, MN. **Raynold A. Svenson, Karen M. Wallace and Guy Wallace** are president and associates, respectively, at R. A. Svenson & Associates in Wheaton, IL.

FOR FURTHER READING

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