

Chapter 2

BARRIERS TO TRANSFER OF TRAINING

Training can only elaborate on that which already exists; it cannot create new behavior for an environment that will not support it.

— Alex Mironoff, "Teaching Johnny to Manage"

KEY THEMES FOR THIS CHAPTER:

- Perceptions of executives and trainers
- Timing of barriers
- Responsibility for barriers
- Lewin's change model and force field analysis

DEFINING THE TRANSFER PROBLEM

Assume that you, as manager of HRD for your organization, have decided to address a performance problem that has training implications. This problem has become obvious as a result of a recent study evaluating the results of training efforts. You wish to find out why the training you oversee—both in-house and off site, on-the-job and off-the-job, managerial and job skill, short term and long term—does not pay off consistently in measurable results.

The implications of your analysis are clear: a problem exists somewhere in the overall training process. Unless it can be identified and resolved, organizational support (both philosophical and financial) for future centrally managed human resource development efforts will be dramatically reduced. The HRD function in your organization is a profit center (for example, you receive revenues from the line units for the estimated overall costs of training each employee they send to you). However, your department's profits will fall below acceptable levels unless line managers can be convinced that there is a substantial payoff from training for their departments.

You begin by developing a tentative definition of the apparent problem to guide your thoughts: "The organizational investment in training does not currently pay off in behavioral change and organizationally useful results." You then convert the problem statement into two questions for exploration: "Why *doesn't* training transfer to the workplace? What are the barriers that keep trainees from fully applying newly learned behaviors to their jobs?" One fruitful place to begin the search for an answer to this question is a review of what is currently known about actual and potential transfer barriers in other organizations. This chapter will do that for you.

BARRIERS TO TRANSFER

Very little empirical research on transfer barriers has been conducted and reported. Two relevant studies, both dealing with perceptions, will be summarized here. Each provides some important clues for further in-house exploration.

PERCEPTIONS OF EXECUTIVES

A survey of top executives by John Kotter (1988) reported four major factors that frequently inhibited the success of training and development efforts to improve the performance of managers. The most powerful of these inhibiting forces was a lack of involvement by top management in the behavior change process (reported by 71% of the respondents). A second factor was the recognition by 51% of the respondents that new efforts to improve were too centralized in the top echelons of the organization, resulting in little acceptance by lower-level participants. Third, new efforts to improve employee behavior were believed by 21% of the executives to be too staff centered, with insufficient participation by the direct users. Finally, 17% of the executives believed that expectations from the training programs were often unrealistic: too much was expected too soon. In addition, a broad range of programs and practices affecting employee development were assessed by 57–93% of respondents as being less than adequate to support the need for spotting high-potential supervisory personnel, identifying their developmental needs, and then meeting those needs.

Kotter's findings suggest that barriers to transfer of all types of training may occur relatively often in organizations (especially at higher levels) and that those barriers represent substantial impediments to change. Kotter concluded that "*many* firms have *many* practices that are less than adequate to

Table 2.1 TRAINERS' PERCEPTIONS OF BARRIERS TO TRANSFER

<i>Rank Order</i>	<i>Barrier</i>
1	Lack of reinforcement on the job
2	Interference from immediate (work) environment
3	Nonsupportive organizational culture
4	Trainees' perception of impractical training programs
5	Trainees' perception of irrelevant training content
6	Trainees' discomfort with change and associated effort
7	Separation from inspiration or support of the trainer
8	Trainees' perception of poorly designed/delivered training
9	Pressure from peers to resist changes

Key: 1 = greatest barrier; 9 = lowest barrier

support the need to attract, retain, develop, and motivate a sufficient leadership capacity in management" (1988, 113).

PERCEPTIONS OF TRAINERS

In another investigation, Newstrom studied transfer barriers in two stages (1986). First, a group of 24 trainers identified the major impediments to the successful transfer of training in their organizations. Their responses were classified into nine distinct categories. From this a second questionnaire was constructed and administered to a set of 31 trainers from a diverse range of organizations. They were instructed to rank order the nine categories of barriers according to their perception of the relative influence against transfer (1 = greatest barrier; 9 = lowest barrier). Their responses were tabulated, averaged, and used to create an overall rank-ordered list of the most potent impediments to transfer of training. Table 2.1 presents the results of that study.

The most significant barrier, in the eyes of trainers, is the *lack of reinforcement on the job* to support trainees in applying training to their jobs. In effect the trainers were saying, "Trainees don't expend the energy to do something new because no one around them seems to care." This dramatic perception, of course, sharply contradicts what is widely known about how people best learn and retain information, as well as how they can be motivated on their jobs.

The second most powerful impediment to transfer reported by Newstrom is interference by the immediate environment (work and time pressures, insufficient authority, ineffective work processes, inadequate equipment or facilities) with transfer of knowledge and skills to the workplace. This implies that even if trainees are willing to change, they still cannot use their new skills because of obstacles (real or imagined) placed in their way—a powerful barrier.

The third most important barrier is lack of active support by the organizational climate (culture) for the transfer of the program's content or skills to the workplace. This is consistent with the lack of specific reinforcement for behavior change, but on a much broader scale. The trainers polled believed that the typical organization simply doesn't provide strong philosophical support for the goals of training and development programs.

Several other impediments received relatively high rankings: trainees' belief that training programs are impractical or irrelevant to their needs and that proposed changes would cause them undue discomfort or extra effort. Lower-ranked barriers include the loss of motivation when trainees are separated from the inspirational presence of the trainer, perceptions that training programs were poorly designed or delivered, and pressure on trainees by their peers not to transfer training to the workplace (e.g., "Don't rock the boat for the rest of us"). Unsolicited responses provided additional speculative reasons for poor transfer, including trainee fear of failure, deeply ingrained resistance to any change, mandated attendance (many trainees do not feel a need for the training), lack of authority to implement desired changes, long elapsed time before opportunities arose to try applying learned skills, and incompatibility of material with trainees' values and beliefs.

BARRIERS TO TRANSFER

Problems can usually be solved more easily if they are well defined and classified for easy identification. The same is true of barriers to transfer. We have examined the major impediments to transfer of training and classified them along two dimensions that we believe are important and useful to trainers. First, when do the impediments usually arise? Second, which source or role is primarily responsible for the impediment?

TIMING

Table 2.2 shows the results of our first analysis. We classified each of the nine major barriers to transfer into the most likely (indicated by 1), and the second most likely (indicated by 2) *time* period in which that barrier would arise:

Table 2.2 TIMING OF BARRIERS TO TRANSFER

<i>Dominant Timing</i>			<i>Barrier</i>
<i>Before</i>	<i>During</i>	<i>After</i>	
		1	Lack of reinforcement on the job
	2	1	Interference from immediate (work) environment
1	2	2	Nonsupportive organizational culture
	1		Trainees' perception of impractical training programs
	1		Trainees' perception of irrelevant training content
2	2	1	Trainees' discomfort with change and associated effort
		1	Separation from inspiration or support of the trainer
	1		Trainees' perception of poorly designed/delivered training
2		1	Pressure from peers to resist changes

Key: 1 = primary time of impact; 2 = secondary time of impact

before, during, or after training occurs. This reveals several interesting phenomena and results in several conclusions.

First, the barriers are, to some degree, a problem *throughout* the three major time periods affecting the training process. Nevertheless, the majority of 1's appear in the "After" column, indicating the distinctive presence of negative threats to transfer during that time period.

Second, barriers are a more frequent problem during the training program and after the training program than before training. On the positive side, these high-barrier periods are fruitful times for improving the transfer-of-training process.

Third, the barriers are most dominant after the program is formally over (five factors have primary impact, and one has secondary impact). This is consistent with the widespread and erroneous perception that transfer of training needs attention only after training has been completed. The number of barriers with primary and secondary impact before and during training shows that attention must be given in these time frames as well.

Fourth, four barriers appear in *two or more* time periods. Therefore, if these barriers could be diminished or removed, the overall transfer process would be improved during more than one time period.

A simple but powerful conclusion emerging from our analysis of the timing of barriers is that an *organization cannot wait until after a training program is over to address the transfer-of-training problem*. Barriers to transfer of

Table 2.3 SOURCE OF BARRIERS TO TRANSFER

<i>Dominant Sources</i>				<i>Barrier</i>
<i>Trainee</i>	<i>Trainer</i>	<i>Manager</i>	<i>Organization</i>	
2		1	2	Lack of reinforcement on the job
		2	1	Interference from immediate (work) environment
			1	Nonsupportive organizational culture
2	1	2		Trainees' perception of impractical training programs
2	1	2		Trainees' perception of irrelevant training content
1	2			Trainee discomfort with change and associated effort
2	2	1		Separation from the inspiration or support of the trainer
2	1	2	2	Trainees' perception of poorly designed/delivered training
		2	1	Pressure from peers to resist changes

Key: 1 = primary responsibility; 2 = secondary responsibility

training should be eliminated or reduced before, during, and after training. In Table 2.2 we indicate when various barriers will most likely affect transfer, thus allowing trainers and managers to focus their analytical and problem-solving efforts.

SOURCES

A similar analysis of the primary *responsibility* (e.g., source of control, or cause) for impediments to transfer is shown in Table 2.3. Here we have identified the four primary sources of responsibility: the trainees themselves, the trainer, the direct manager of the trainee, and the organization in general (such as top management, the trainee's peer group, and physical factors in the work environment). Again, our assessment of both primary and secondary responsibility for the impediments is shown. Some interesting conclusions emerge.

First, managers hold the most significant keys to resolving the problem of transfer of training. Not only are they a secondary source for five of the nine factors, but they hold the primary responsibility for the number one overall

impediment: *absence of reinforcement on the job for the newly acquired skills and abilities*. At least in the eyes of organizational trainers, uninvolved managers who fail to support and encourage the application of learning on the job represent the major barrier to transfer, and hence they are a primary target for change. (Managers also need to address and compensate for the lessened motivation for transfer that may result when trainees become separated from inspirational trainers following a training program.)

Second, trainers hold primary responsibility for any problems concerning training that is impractical, irrelevant, or poorly designed or delivered. Although trainers can't totally *control* trainee perceptions of these factors, trainers' decisions can clearly affect them. As we pointed out in our discussion of managerial responsibilities, these trainee perceptions are likely the result of trainers who are not in touch with managers and trainees on felt needs, priorities, organizational directions, operating problems, and so on.

Certainly if the trainee's perceptions (for example, that the training is impractical) are valid, then the trainers must assume primary responsibility. Although this shared responsibility (between reality and trainee perceptions) in no way absolves trainers from taking greater control over transfer of training, it does indicate that the basic problem may be complex. Trainers also have secondary responsibility, with trainees and/or managers, for trainee discomfort with change and for the loss of motivation associated with separation from the trainer following training. Again, trainers can influence managers to support this continued contact.

Finally, the sources of several major barriers are partially within the trainees themselves. At least three may be *perceptual* (but nevertheless very real): trainee beliefs that the training is impractical, irrelevant, or poorly designed or delivered. Trainees also are a primary barrier source due to their own attitudes regarding the personal costs (discomfort, increased effort) associated with change. In addition, trainees may be a secondary barrier source if they are "seduced" into unquestioning acceptance of training content while in the presence of a skillful, expert, or inspirational trainer, only to discover that the "spell" wears off upon returning to work. We suggest that trainees need to share some of the responsibility for differentiating between useful new knowledge and skills and the motivational impact of the trainer's presence.

Other barriers throughout the organization also result in the limited impact of contemporary training programs. These include the absence of a strong organizational culture specifically supporting training and its applications, physical obstacles to transfer, and peer group pressures that tell recently trained employees not to change their practices. The organization in

general has primary responsibility for these barriers, which can also interfere with transfer of the best-intended training.

UNDERSTANDING BARRIERS

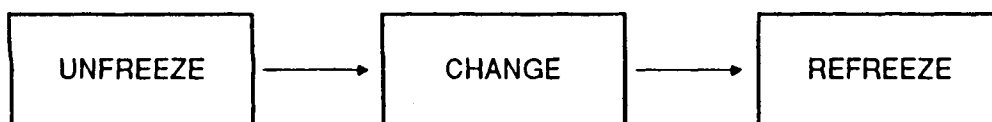
In this section we review the change process as it affects common barriers to effective transfer of training. Here we present some of the potential problems inherent in gathering data on stakeholders' perceptions of transfer problems. We believe you will benefit greatly from examining the wider context of individual and organizational behavior provided here. It will help you to become more sophisticated at identifying and fine-tuning the most appropriate actions to support transfer in your organization.

A CHANGE MODEL

Kurt Lewin, a pioneering social psychologist, believed that complex problems should be viewed in elementary ways (1951). He contended that sophisticated and complex models may obstruct our thinking. By contrast, a rich potential, and even an inherent elegance, exists in simpler views of reality. This "simpler model" approach helps to sort out the most important elements in a situation and to aid in discovering the fundamental relationships among them. Further, Lewin suggested that it was useful to borrow and apply relevant conceptual models from other fields to stimulate new thinking and shed light on current problems.

Lewin believed that a change in any existing social system (or set of behaviors) could best be viewed and managed as a three-step process: *unfreezing*, *change*, and *refreezing* (see Figure 2.1). Lewin's change model has been widely applied since he introduced it more than 40 years ago; it is frequently used in organizational development programs as a fundamental framework or paradigm. We will explain it briefly and illustrate the potential application of Lewin's concepts and recommendations to the design and implementation of a transfer program.

Figure 2.1 LEWIN'S CHANGE MODEL



Unfreezing

The first step in Lewin's change process is unfreezing. First, he suggested, trainers should direct their energies toward the prerequisites to change. The trainer as change agent must recognize that the path must be cleared to make it possible even to consider—much less to embrace—change. People have acquired many attitudes, values, and habits over time; these will likely interfere with the acquisition of new learning unless dealt with first. Consequently, Lewin recommended that trainers and other change agents support the process of unfreezing an old behavior from someone's repertoire before considering how to instill a new one.

Unless the unfreezing step is consciously considered, the training task will be like trying to force liquid into a bottle that is already full. The same problem occurs in an intellectual sense with training: pouring new knowledge into an already filled (or closed) mind is not likely to be productive, nor will it produce lasting effects. Minds are usually not like clean slates (unlike the myth of *tabula rasa*) but contain much information and many experiences. (For example, simply telling people the health risks associated with smoking has not always been highly effective in changing their behavior.)

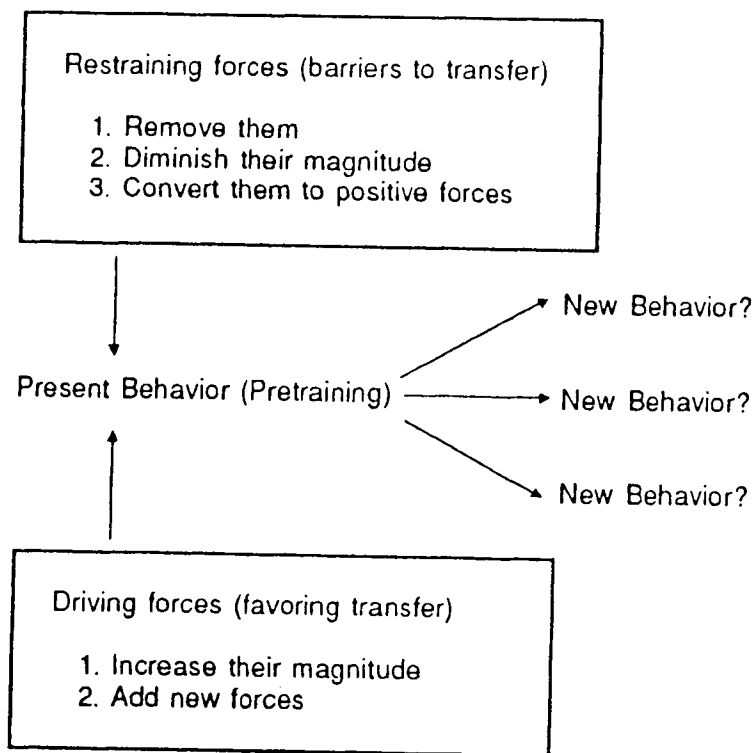
Fortunately, several ideas exist for facilitating the unfreezing/unlearning process. For example, trainees can be encouraged to let go of old habits and practices through a variety of unlearning tactics (Newstrom, 1983). They can be induced to make public announcements of their intentions to change, and they can identify intrinsic and extrinsic rewards to be gained for doing so. Peer pressure and social rewards from others for dropping old habits can be invoked, and overpowering feedback can be provided.

Other unlearning tactics include the simple passage of time to aid forgetting, total immersion in a new activity to capitalize on the distraction effect, invoking the fear of failure from continued pursuit of old behaviors, or even erecting direct physical barriers to prevent the recurrence of previous practices.

Change

Lewin next turned his attention to the change process itself. He suggested that the relative ease of inducing a new behavior is the product of the interplay between two opposing sets of forces. In effect, every system (or person) can be viewed as either being in equilibrium or seeking it. Equilibrium is a steady-state balance between the opposing forces that drive toward behavioral change and those that restrain it. Because change represents a disruption of equilibrium, it requires an upset in the existing "field" of forces to bring it

Figure 2.2 FORCE FIELD ANALYSIS



about. This process of analyzing the factors working for (driving forces) and against (restraining forces) change is called *force field analysis* (see Figure 2.2).

For example, a brusque and insensitive customer service representative can be considered to be in equilibrium between forces driving toward change (e.g., desire for approval from one's supervisor; awareness of customer preferences for high-quality treatment) and forces restraining change (e.g., deeply ingrained habits; social approval from peers). For change to occur (long-term continuous improvements in service quality), the balance of these factors must favor the driving forces.

Driving forces. Trainers should consider one or both of the following approaches to adjusting the driving forces that encourage trainees to change:

- (1) Identify the existing set of driving forces for change, and try to increase the *magnitude* of one or more of those for an overall net gain in the desired direction.
- (2) Add new positive incentives to those already being used.

Restraining forces. It is also possible to induce behavioral change by reducing or eliminating the set of forces that currently act to restrain change.

This is the primary focus of this chapter; elimination of barriers has, in our experience, a quick and often dramatic effect on increasing transfer of training. Three alternatives exist: (1) Trainers and managers can examine a restraining force that inhibits change and try to *remove* it; (2) they can attempt to *diminish* the impact of any one restraining force; or (3) they can unleash their own creativity by actually trying to *convert* restraining forces into driving forces.

The five tactics for bringing about change—by adjusting driving forces and/or reducing or eliminating restraining forces—are illustrated in Figure 2.2.

Refreezing

The third phase in the overall change process is called *refreezing*. Lewin recognized that there is a fundamental and dramatic difference between knowing what to do differently (as a result of training, for example), and actually doing it on the job. For effectiveness, newly acquired skills must be converted into habits that become used almost unconsciously. New habits are best solidified through regular practice opportunities and extensive reinforcement of the acquired skills.

RELATING FORCE FIELD ANALYSIS TO BARRIERS TO TRANSFER

We have isolated three different phases in the training process and targeted different strategies for each one. We can also view a trainee as a system of forces in a temporary state of equilibrium (within larger organizational systems, of course). Planned change can be consciously induced by upsetting that equilibrium through *ethical* manipulation of the restraining and driving forces.

In this spirit, we view manipulation as the examination and control of key variables surrounding the employee so as to induce and maintain desirable behaviors. The goals are legitimate within the organization, and both cues and reward systems can be made known to the employee. Therefore, “manipulation” is not an attempt to convert employees into something they don’t want to be or will not personally gain from. It is done only with the best interests of both parties in mind.

Our experience with transfer-of-training problems in organizations leads us to believe that restraining forces should be examined first. Elimination or reduction of these forces is often easier and faster than trying to develop and install competing driving forces. So, following Lewin’s lead, we generally

recommend looking at the specific factors that serve as barriers to transfer of training within organizations.

SUMMARY

Barriers to transfer of training exist in all organizations to varying degrees. Returning to the example at the beginning of this chapter, we suggest that you, as manager of HRD, search for the major in-house barriers unique to your situation. The data and conclusions presented here should provide strong clues about where to look, but other barriers may be found as well. A fruitful data-gathering process would entail a survey of key stakeholders to elicit their perceptions of actual transfer barriers. The information obtained would provide a strong foundation for preparing an action plan to overcome such barriers.

When we suggest strategies for preventing and overcoming barriers to transfer of training in Chapters 5, 6, 7, and 8, we will continue to focus on the three periods of the training cycle: before, during, and after training. We will also focus on the three major areas of responsibility for barriers to transfer: the trainer, the trainee, and the manager/organization. These two broad factors—timing and responsibility—provide the best approach for most trainers to analyze barriers in the organizations they serve.

We also applied Kurt Lewin's widely accepted change model to the barriers to transfer that exist in organizations today. We believe that the probability of transfer in any organization can be dramatically increased if the forces *for* change are increased and if the forces *against* change are diminished or removed.

References

- Kotter, John P. *The Leadership Factor*. New York: Free Press, 1988.
- Lewin, Kurt. *Field Theory in Social Science*. New York: Harper and Row, 1951.
- Mironoff, Alex. "Teaching Johnny to Manage." *Training* (March 1988): 53.

Newstrom, John W. "The Management of Unlearning: Exploding the 'Clean Slate' Fallacy." *Training and Development Journal* (August 1983): 36-39.

———. "Leveraging Management Development through the Management of Transfer." *Journal of Management Development* 5, no. 5 (1986): 33-45.

Chapter 3

MANAGING TRANSFER OF TRAINING

A clearly defined system should be initiated which unites the trainer, trainee, and the manager, where possible, in the transfer process.

— Melissa Leifer and John Newstrom, "Solving the Transfer of Training Problems"

KEY THEMES FOR THIS CHAPTER:

- The HRD function linked to the organization's strategic direction
 - Shared decision making by managers and trainers
 - Seven key decisions on performance improvement
- The trainer's recognized expertise
 - State-of-the-art knowledge and skills in HRD
 - Consultant skills
- The trainer's primary role as manager of transfer of training

Ensuring effective transfer of training so that the organization's HRD investment pays off is not a simple matter. There are many specific small-scale strategies for managers, trainers, and trainees; these are presented in Chapter 5–8. Their full and continuing effectiveness depends on two HRD roles for the trainer: being seen as a strategic organizational resource, and being recognized as an HRD expert and skilled consultant. With these supporting roles in place, the trainer can move into the primary role of *manager of transfer* for the organization. This chapter addresses these important roles and the expertise they require.

LINKING THE HRD FUNCTION TO THE ORGANIZATION'S STRATEGIC DIRECTION

Strategic planning is an essential process in today's organizations. The HRD function has an important role as a *strategic resource* in that process.

Strategic planning is a formal organizational process that develops a shared set of beliefs about the organization's desired future and goals and identifies the functions, priorities, and resources that are necessary to reach those goals.

As Neal Chalofsky and Carlene Reinhart (1988) emphasize, linkage of all HRD activities to the organization's strategic direction is essential. Trainers must be part of the strategic planning process and give expert advice on workforce development implications. They must be fluent in the organization's jargon—needs, goals, priorities, plans, operations, people, and culture—as well as the industry of which it is a part, to be accepted as a full partner with top decision makers.

To align HRD efforts with the organization's strategic goals, trainers must share decision making with management, particularly in making key decisions on performance improvement.

DECISION-MAKING MODELS

In Chapter 1 we proposed a Transfer Partnership among managers, trainers, and trainees to ensure that training investments pay off through full transfer of training to the job. Because managers and trainers have the earliest and most important roles in key decisions about training, we will look first at their involvement in making those decisions. The trainee's role becomes more important at later stages in the performance improvement process.

In contemporary organizations, decisions about performance improvement in general—and training in particular—are made in many ways. We have simplified these into three basic models, graphically shown in Figure 3.1:

- (A) decisions primarily by managers (or other organizational leaders),
- (B) decisions primarily by trainers, and
- (C) decisions shared by managers (or other organizational leaders) and trainers.

As we discuss the models, we encourage you to determine the level of involvement of managers and trainers in key decisions in the organizations you serve. That level of involvement may lie at any point on the continuum shown in Figure 3.1.

DECISIONS PRIMARILY BY MANAGERS

In the 1920s and '30s, before training became a recognized field, major decisions about training were made almost exclusively by managers or other

organizational leaders who claimed no training expertise (A in Figure 3.1). Generally there was a full supply of workers, and job tasks were not complex; organizations could usually hire people with the skills they needed rather than train their employees.

After World War II, many organizations developed internal training staffs. These were often "subject-matter experts" in knowledge or skills important to the organization. Training still was not widely recognized as a specialty, and managers continued to make most training-related decisions.

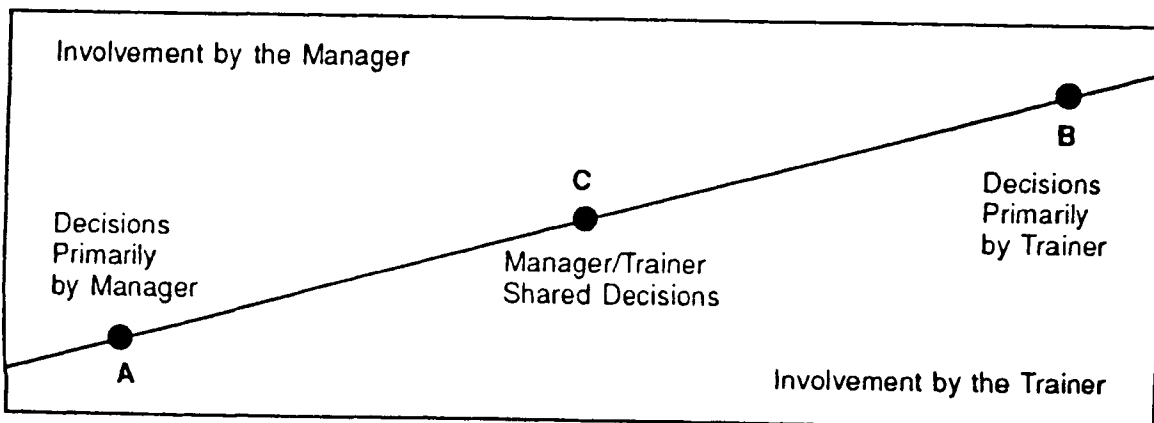
In spite of the growing expertise of many trainers, this model of training decisions primarily by managers (or other organizational leaders) is still common in many organizations. These managers identify training needs and support training activities. The trainer responds to management's requests, administers the training function, and may deliver training as well.

DECISIONS PRIMARILY BY TRAINERS

In the 1940s and '50s, a body of knowledge began to develop concerning the complex factors affecting human behavior and the systems and procedures that are necessary to produce constructive and long-lasting behavioral change. Leonard and Zeace Nadler (1989) identified the *laboratory method*, *human relations training*, and *programmed instruction* as significant early trends. The American Society for Training and Development (ASTD) was formed in 1942. University graduate programs began to appear in adult education and, later, in human resource development.

As training expertise became recognized, some organizations gave responsibility for training decisions to the training staff. This model of training decisions primarily by trainers (B in Figure 3.1) is common in many organiza-

Figure 3.1 LEVELS OF INVOLVEMENT IN TRAINING-RELATED DECISIONS BY MANAGER AND TRAINER



tions today. These trainers identify and provide training they think the organization needs without much interaction with managers.

COMMON ASSUMPTIONS IN BOTH MODELS

Both models—decisions primarily by managers or primarily by trainers—remain common patterns of responsibility for training in many organizations. Unfortunately, both models have failed to produce fully effective transfer of training to the job because both are based on similar false assumptions:

- Most performance problems can be solved by training.
- The training function in an organization is primarily administrative, not a strategically important resource for the organization.
- Managers and trainers can operate without substantive interaction.

As a result, the organization's training is vulnerable to all barriers to transfer which we presented in Chapter 2. Let's look at what often happens.

IMPACT OF MANAGERS' OR TRAINERS' DECISIONS ON BARRIERS TO TRANSFER OF TRAINING

To illustrate these models, here are two hypothetical examples; they are typical alternative scenarios involving training for customer service representatives at the Ace Products Corporation. Ace customer service "reps" handle all contacts with customers primarily by phone. These include price and product inquiries, sales, shipping arrangements, and complaints.

Scenario A (decisions primarily by managers): Top Ace Products managers decide that the reps need a refresher course on customer service skills. They reached this conclusion by noting that sales figures had leveled off compared with regular increases in previous years. The managers ask the Ace Corp. trainer to arrange customer service training for the reps.

Scenario B (decisions primarily by trainers): The Ace trainer receives a brochure in the mail from XYZ Associates announcing a two-day course entitled "New Trends in Customer Service." The trainer decides it is time for more customer service training, as a number of new employees have come into that job since the last in-house training.

Both scenarios: The Ace trainer contacts XYZ Associates. Their price is right and they have good references, so the Ace trainer arranges to have XYZ deliver the training a month later. Trainees rate the course highly, Ace managers and the trainer hope that sales will improve, and all go back to business as usual.

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Unfortunately, sales figures do not improve significantly. Many reps do not use the new skills. The Ace managers and trainer conclude that XYZ Associates' training was ineffective.

Let's review the major barriers to transfer of training (see Chapter 2, Table 2.1) as we look at training for Ace customer service reps. Decisions to present training were made solely by Ace *managers* (Scenario A) or by the Ace *trainer* (Scenario B) without thorough needs analyses. Important information about barriers was not discovered, basic organizational problems—for which training is *not* the solution—were not resolved, barriers to transfer of skills learned in training remain, and the training investment is wasted.

- (1) *Absence of reinforcement on the job*: The immediate supervisors of the reps were not consulted by top managers (Scenario A) or the trainer (Scenario B). The supervisors think training is unnecessary because reps are already providing good customer service. Therefore, the supervisors do not reinforce the training on the job.
- (2) *Interference from the immediate environment*: The reps have not received a promised on-line data base on each customer's previous orders, which would support improved customer service. They also have no time (as phones ring off the hook) to try newly learned skills.
- (3) *Nonsupportive organizational climate*: New customer service techniques presented by XYZ trainers involve taking time to establish and build rapport with customers; this clashes with the Ace high-pressure climate to get to the next call as soon as possible.
- (4) *Impractical training (as seen by trainees)*: Although the Ace trainees enjoyed the training, they are convinced that they don't have time to apply it properly on their jobs.
- (5) *Irrelevant training (as seen by trainees)*: The reps do not believe they need training in customer service skills. They are sure that the on-line data base will help improve sales by making their jobs easier. They also believe the real sales problem results from rising customer complaints about durability of a major Ace product.
- (6) *Trainees' discomfort with change*: Ace trainees are apprehensive about their ability to use new communication styles in the high-pressure work situation.
- (7) *Separation from the trainer*: The trainees were able to learn and demonstrate new communication styles in the protected training environ-

ment, with support from the charismatic XYZ trainers. However, back on the job, they can't apply the new skills in the high-pressure work setting without additional support from those trainers.

- (8) *Poor training design and/or delivery*: Practice sessions during training were limited, so trainees are not sure how to apply new skills on the job. The Ace trainer did not review the training design and materials in advance to ensure that the training followed sound principles of adult learning and instructional design.
- (9) *Negative peer pressure*: Experienced Ace reps don't like the new techniques and pressure their newer co-workers to stick to the previous, less time-consuming procedures.

Any of these barriers may prevent Ace's customer service reps from applying new skills to their jobs. Although the training may be the "latest thing" in customer service techniques, it has little impact. This is too often the case when managers or trainers do not share in performance-related decisions.

DECISIONS SHARED BY MANAGERS AND TRAINERS

Today, in increasing numbers of organizations, managers and trainers share information and expertise to make informed decisions about performance improvement. This is the shared decision-making model (C) shown in Figure 3.1. Several related factors have led to this collaboration.

- Many organizations now realize that previous training investments have not paid off in transfer of skills and improved job performance.
- These organizations recognize that a skilled, flexible workforce is essential for success in today's highly competitive global economy.
- These organizations see the HRD function's direct impact on improving productivity and competitiveness and have linked it directly with formation and implementation of their strategic plans.

Examples are the organizations that have received ASTD's Corporate Awards for excellence in recent years for their strategic investments in HRD: IBM, Motorola, Dayton-Hudson, Ford, Aetna, and Xerox.

As ASTD (1988) pointed out,

Competitive companies invest in their human capital and develop it strategically. They build competitiveness out of knowledge, skills, and effort. With

training and development, they link performance and commitment to a common vision of what the company intends to be.

How does investment in corporate learning pay off in the ability to make a profit, serve customers, and change to keep ahead? By linking the performance of the workforce to these competitive capabilities:

- developing a global perspective
- transforming the organization through leadership
- fostering innovation
- collaborating in nontraditional alliances
- serving the customer with quality
- producing more with less
- integrating technology and human resources
- training and developing employees continually (p. 7)

INVOLVEMENT OF EMPLOYEES IN SHARED DECISION MAKING: AN EMERGING TREND

Although managers and trainers still play the major roles, trainees have begun to bring their experience and insights to the Transfer Partnership. Employees are involved in many decisions that previously were management's alone; as Tom Peters says, "Involve all personnel at all levels in all functions in virtually everything" (1988, 284). Trainees usually become partners in the Transfer Partnership *after* initial decisions have been made, as the focus shifts to supporting full transfer of training to the job.

In organizations in which employee involvement groups are fully established, the co-workers of trainees may also participate in decisions and activities supporting performance improvement. They might be union representatives on joint labor-management committees or team members in Total Quality Management efforts. They may be experienced workers who belong to the various cultures in the increasingly diverse workforce who help managers and other workers understand those cultures and adapt work procedures accordingly. Co-workers provide information to managers, trainers, and trainees and may share in decisions by managers and trainers as well. However, we see co-workers primarily as providing support, and not as a separate partner in the Transfer Partnership.

Shared responsibility and cooperation of managers, trainers, and trainees (supported by co-workers), are essential to make effective decisions on performance improvement. Together their expertise and commitment link the HRD function to the organization's strategic direction, support greater transfer of training to the job, and make investments in training pay off. In the next section we look at the key decisions on performance improvement that managers and trainers should share.

KEY DECISIONS ON PERFORMANCE IMPROVEMENT

Over the last two decades HRD professionals have become increasingly sophisticated at identifying important decisions that must be made to achieve improved performance. These decisions are made primarily by managers and trainers as partners, with increasing input from trainees and co-workers.

We focus on seven key decisions that lead to and follow from the decision to train. Contributors to our list include Thomas Gilbert, Joe Harless, Roger Kaufman, Robert Mager and Peter Pipe, Leonard and Zeace Nadler, Geary Rummler, and others. We add a strong emphasis on transfer of training, which most HRD experts have treated lightly or overlooked completely.

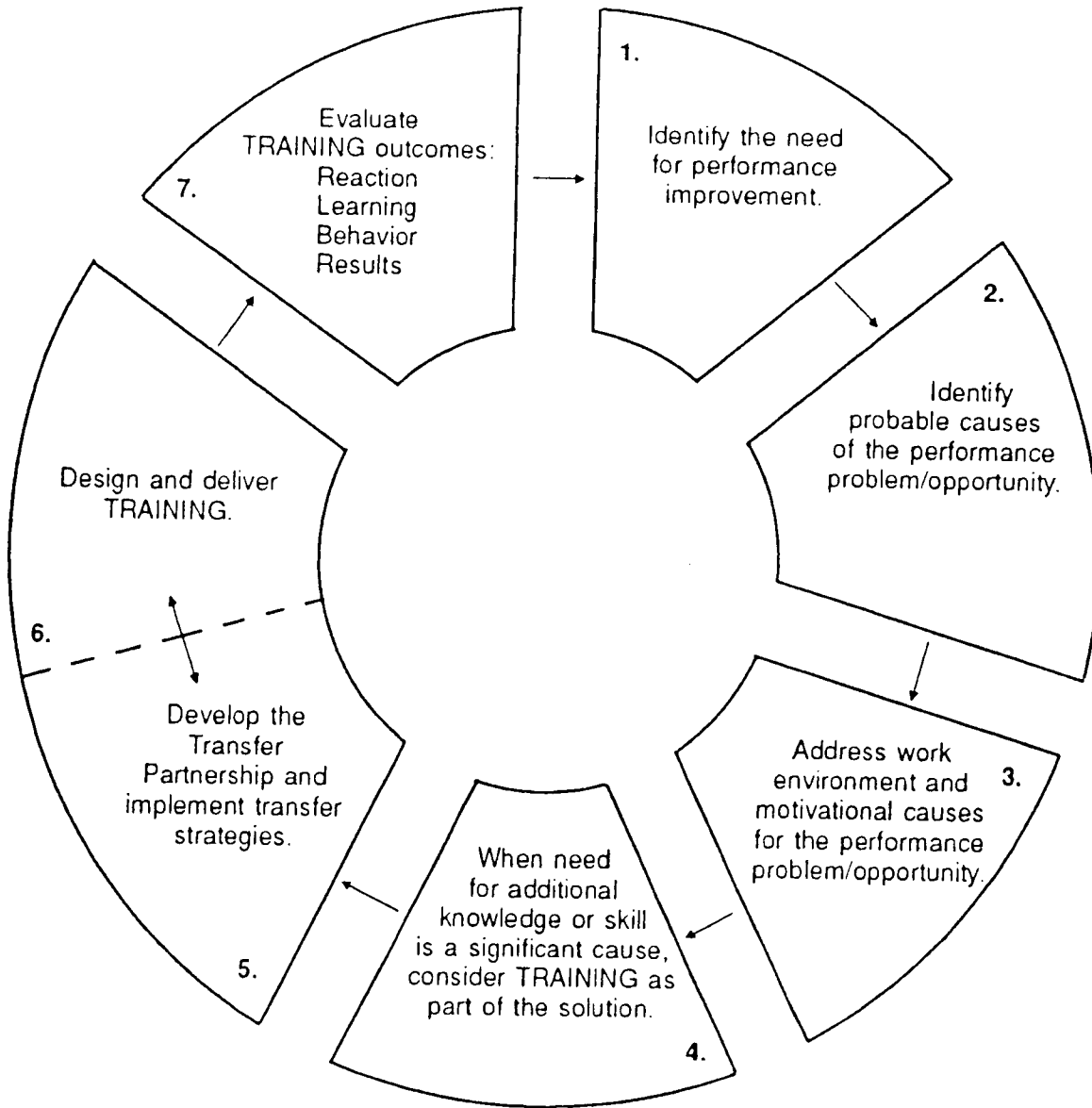
Each key decision represents many subsidiary decisions. We have not listed every step necessary for improving employee performance. (For example, Kaufman shows 10 steps in "needs analysis." We have included the entire process—and others—in our first key decision, identifying the need for performance improvement.) All will not agree fully with our list of key decisions. However, because our focus is on one essential part of the performance improvement process—managing transfer of training—we believe that this list is sufficient for examining the roles of managers and trainers in key decisions.

Key performance improvement decisions leading to and following from the decision to train should be seen as a never-ending cycle to maintain continuous improvement. The seven key decisions are shown graphically in Figure 3.2. (Note that decisions 5 and 6 are separated only by a dotted line; this indicates that these decisions should be worked on simultaneously.)

The key decisions, and some important considerations for each, are as follows:

- (1) *Identify the need for performance improvement.* What are performance requirements? Is there a performance problem, and do we need to solve it? Is there an opportunity to improve quality of services/products?
- (2) *Identify the probable causes of the performance problem/opportunity.* What are characteristics of performers and managers? Is there interference from the work environment, or lack of motivation or incentive? Do employees need additional knowledge or skill, because of changed customer expectations or development of new technologies, processes, products, and/or services? Does a changing, culturally diverse workforce need support in understanding, accepting, or adapting new work procedures?

Figure 3.2 KEY PERFORMANCE-RELATED DECISIONS LEADING TO, AND FOLLOWING FROM, THE DECISION TO TRAIN



(3) *Address work environment and motivational causes for the performance problem/opportunity.* Do information flow, work procedures, equipment, reward systems, workplace learning systems, and so on, support the desired performance? Are there cultural blocks or negative consequences for the desired performance? Are there positive consequences for avoiding the desired performance?

(4) *When need for additional knowledge or skill is a significant cause of the performance problem/opportunity, consider training as part of the solu-*

tion. Could a job aid replace some or all of the training? Can training be embedded in the job? How and where should training be presented? Will relapse prevention be an important part of the training? (See Chapter 8.)

- (5) *Develop the Transfer Partnership and implement transfer strategies* (in conjunction with Decision 6). What barriers interfere with transfer of training to the job? What strategies by managers, trainers, and trainees will eliminate or reduce these barriers? How will these strategies be implemented and managed?
- (6) *Design and deliver training* (in conjunction with Decision 5). What are the performance objectives? What criterion tests determine if objectives are reached? What are content and prerequisites? Are all aspects of the training in line with the organization's and the workforce's cultures? Who are the participants? What resources will be allocated?
- (7) *Evaluate training outcomes.* How do participants and trainers rate the training? To what extent do participants achieve the performance objectives? Do follow-up evaluations show that training was successfully transferred to the job? Have organizational products and/or services improved as a result of the training? Should the training be revised?

Evaluation results (from the seventh decision) give information on levels of performance after training. Continuing or new performance problems and/or opportunities lead again to the first decision, and so the cycle continues.

These key decisions, in order, address several major barriers to transfer. Later in this chapter we will show how shared decision making by managers and the trainer at Ace Products Corporation diminishes or eliminates these barriers.

THE TRAINER'S EXPERTISE

We have described the trainer's important supporting role as a strategic resource for management in the strategic planning process and in shared decisions on performance improvement. The trainer must also be accepted by the organization in another supporting role, as an expert HRD resource. The trainer must be recognized as an expert with state-of-the-art HRD knowledge and skills to develop cost-effective programs supporting strategic goals, and with strong consultant skills to support constructive organizational change.

STATE-OF-THE-ART EXPERTISE IN HRD

There is yet no consensus among HRD professionals on the necessary skills, knowledge, and abilities that constitute HRD expertise. Several significant recent efforts contribute toward identifying the components of that expertise. In 1986 the National Society for Performance and Instruction (NSPI) published volume 1 of the *Introduction to Performance Technology*, which focused on problem solving, analysis, nontraining solutions, and managing change. The next volume in the series will deal with instructional technology.

In 1986 the International Board of Standards for Training, Performance, and Instruction began publication of a series on competencies in HRD roles: *Instructional Development Competencies: The Standards* (1986), *Instructor Competencies: The Standards* (1988), and *Training Manager Competencies: The Standards* (1989). Future volumes will cover performance technologist and evaluator competencies.

In 1989 ASTD published *Models for HRD Practice*, with analyses of future forces affecting the HRD profession, critical HRD outputs (products or services) and quality requirements, essential competencies, and the key roles for HRD professionals.

Eventually, as the HRD profession matures, these views of the field will begin to merge. For now trainers should explore these and other models of HRD expertise and select the one most compatible with their needs and interests.

We consider it essential for every trainer/HRD professional to be in a constant learning mode, to continually enhance critical HRD competencies in our highly dynamic field. We must keep up with research and "best practices" in areas such as adult learning, needs analysis, performance analysis, instructional design, training delivery systems, motivation and reward systems, management of HRD, and evaluation. Constantly upgraded HRD expertise is necessary to earn our place as an organizational expert resource.

EXPERTISE IN CONSULTING SKILLS

Well-honed consulting skills are essential for the trainer to be effective as an HRD resource and a partner with management. As an expert consultant, the trainer supports the organization's members at all levels in working toward constructive organizational change. This may mean assisting groups in becoming effective teams, helping an executive work through a difficult reorganization decision, or supporting employee involvement groups in identifying and recommending solutions to work process problems.

Whether internal or external to the organization, the trainer must be skillful in all major phases of the consulting process. As defined by Peter Block, these phases are entry and contracting; data collection and diagnosis; feedback and the decision to act; implementation; and extension, recycle, or termination (1981). Skills in all phases are necessary to help the HRD function become recognized as a strategic resource to the organization, and to build the trainer's personal credibility as a resource for planned change.

As trainers move into the primary role of manager of transfer for the organization, they need constant updating in both supporting roles, as a strategic resource and an expert HRD resource. A personal development plan—and commitment to update and follow it constantly—are essential to develop and maintain our HRD and consulting expertise. (An example of the development process is given in Chapter 10.)

THE TRAINER AS MANAGER OF TRANSFER FOR THE ORGANIZATION

THE TRAINER'S PRIMARY ROLE

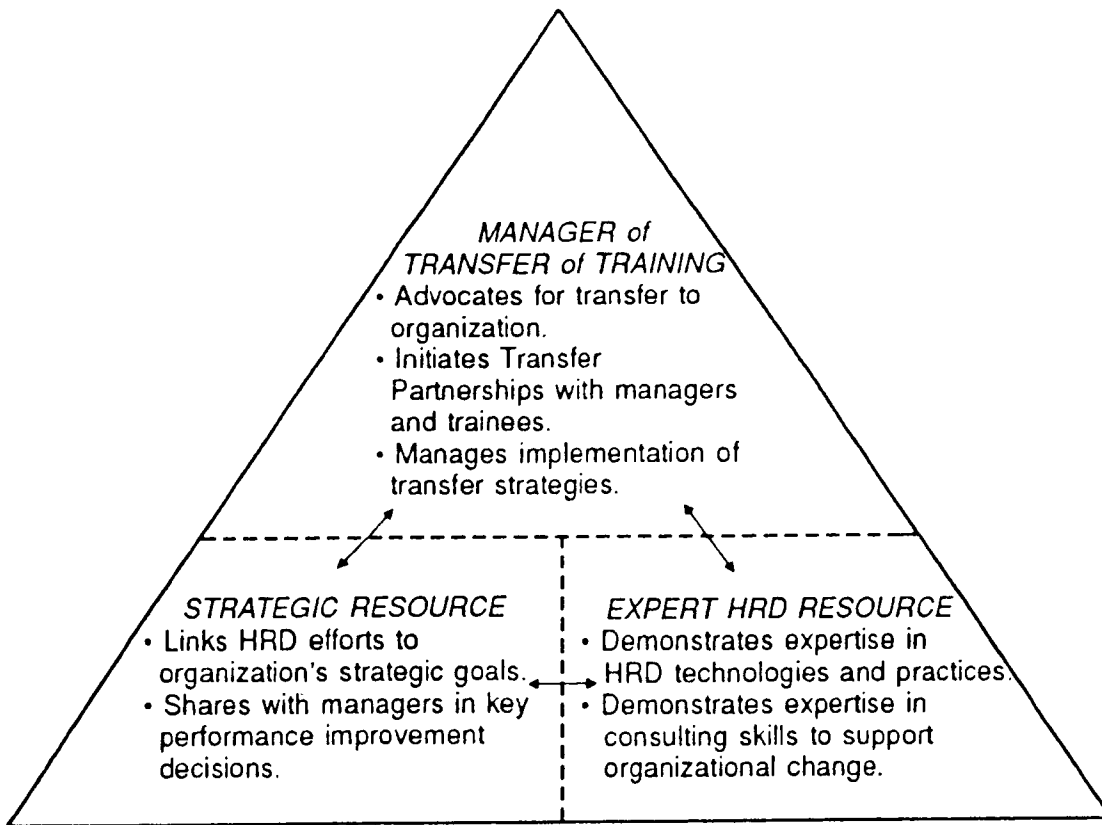
We have described two important supporting roles for the trainer. First, as a strategic resource, trainers link the HRD function with the organization's strategic goals by sharing in key performance improvement decisions. Second, as an expert HRD resource, trainers are recognized by the organization as experts in HRD technologies and best practices and in consulting skills to support organizational change.

In this section we describe the primary role that is based on these roles and is the focus of this book: *manager of transfer of training* for the organization. In this role the trainer serves as the expert and advocate to the organization for support for full transfer of training. This primary role, and its supporting roles, are shown in Figure 3.3.

It is not necessary for the trainer to achieve full success in either of the supporting roles before moving into the primary role of manager of transfer. In Figure 3.3 the dotted lines and double-pointed arrows between roles indicate that the roles interact. Developing expertise and recognition in any of the roles helps to increase expertise and recognition in the others. (This is discussed further in Chapter 10.)

As manager of transfer, the trainer works with managers at all levels (top executives, managers, supervisors, team leaders, and so on) to advocate an organization-wide focus on transfer. For each major HRD program, the

Figure 3.3 THE TRAINER'S PRIMARY ROLE AS MANAGER OF TRANSFER OF TRAINING AND SUPPORTING ROLES AS STRATEGIC AND EXPERT RESOURCE



trainer initiates the Transfer Partnership with managers and trainees and manages the implementation of transfer strategies.

MANAGING TRANSFER AT ACE PRODUCTS CORPORATION

Let's take another look at the hypothetical example of the Ace Products Corporation to see how the trainer and managers might interact from the start as partners in working through the seven key decisions on performance improvement (Figure 3.2). In this example the trainer operates in all three roles, sharing decision making with managers, providing HRD and consulting expertise, and acting as manager and advocate for transfer.

When Ace Corp. managers discover that sales figures have not increased, they ask the trainer (and perhaps other human resource analysts) to help solve the problem. Together, they proceed through the key decisions.

(1) *Identify the need for performance improvement.* Managers and trainer look for possible causes for sales leveling off in the past year. They discover

many recent customer complaints about durability of a major product, increasing complaints from the Ace Shipping Department about shipping errors by customer service reps, and a high turnover rate among the reps. Managers and trainer agree that complaints of errors by reps suggest a need for performance improvement; they will pursue this together. Separately, managers will look into complaints about product durability, and the trainer will explore the high rep turnover rate.

(2) *Identify probable causes for the performance problem/opportunity.* The managers and trainer first interview the reps' supervisors. They find that 13 of the 30 reps joined Ace in the last three months and have never received formal training. They have had only brief coaching by rather harried supervisors, who say there has been no time for more training because the high turnover has kept them shorthanded. There has been no increase in customer service staff in the last four years, although sales volume steadily climbed during the first three of those years. The supervisors feel that significant sales opportunities are being lost because the reps don't have time to develop rapport with customers and probe for additional needs that Ace products could meet.

The trainer interviews five experienced reps who have been in their jobs more than two years. They confirm a significant workload increase and express bitterness at higher-level managers who had not kept a promise to provide a new computerized system to access information on previous customer orders. They feel the system would make their jobs easier and help to generate more sales through greater knowledge of customer needs. The reps have stayed in their jobs primarily because their supervisors are very supportive in spite of difficult work conditions. They had often reported increasing customer complaints about durability of a major Ace product but feel the reports were never read or acted upon by top managers.

The trainer tracks down seven reps who left Ace in the last few months. Two had left for non-work-related reasons. The other five all report that they left the job because of the high-pressure work situation. They also say that the number of reps had not increased for several years, though sales had been increasing until recently. Each rep had faced a significantly heavier workload without the computerized system that had been promised but never delivered.

Ace managers and trainer agree that the probable causes for the performance problems—sales and shipping errors—are:

- Lack of knowledge/skill: inadequate knowledge among new reps of Ace products and sales/shipping procedures

- Interference from the work environment: the increased workload for all reps that pressures them into choosing speed over accuracy
- Interference from the work environment, lack of motivation/incentive: lack of commitment to accuracy by the reps who feel that management had not followed through on a promise to provide the new computerized system which would make their jobs more manageable.

The managers and trainer also agree that there is an opportunity to increase sales by using the promised computerized system and by training reps (as the supervisors suggested) in more interactive but time-consuming techniques to build greater rapport with customers. This adds to the work environment problem of heavy workloads unless additional staff is added.

The managers and trainer decide that the product durability problem is not directly related to the performance problem. However, a change in materials for one component earlier in the year appears to be the cause of the durability problem; this will be pursued and solved by the managers.

(3) *Address work environment and motivational causes for the performance problem/opportunity.* The promised computer hardware is actually in the warehouse, but the Information Systems Department has not yet made a choice between two software options. The trainer also receives an analysis by the supervisors that adding four customer service rep positions would handle increased workload as well as more time-consuming interactive work processes.

The managers agree to insist—at high management levels—on an immediate decision on software. The managers and trainer agree to develop a “crash” proposal to top management to highlight the sales crisis and urge quick action. The proposal will recommend immediate purchase of the selected software and hiring of four additional customer service reps. The proposal will also show how a change to more rapport-building interactive techniques by all reps can increase sales. (The proposal includes important recommendations on training; see Decision 4.)

The managers and trainer get approval from Ace top management to expedite selection and purchase of the necessary software. They also get approval to hire four more reps and switch to new customer service techniques, with the understanding that sales will have to go up significantly by the end of the next quarter or the staff will be gradually reduced to current levels.

(4) *Where need for additional skill/knowledge is a significant cause of the performance problem/opportunity, select training as part of the solution.* The Ace trainer gains the cooperation of the Engineering and Marketing departments

in developing training recommendations. The recommendations and budget are approved by Ace top management. They are:

- The Ace trainer and Engineering/Marketing staff will present in-house training for new reps immediately on Ace products and procedures.
- The Ace trainer will identify an outside resource to train all reps (new and experienced) in rapport-building customer service techniques, linked to the new computerized system.
- The trainer will work with Engineering and Marketing to develop and train reps to use a new products and procedures handbook linked to the new computerized system and to the new customer service techniques.
- The trainer will review the training component of the new system to ensure that it is instructionally effective and adapted to reps' needs.

(5) *Develop the Transfer Partnership and implement transfer strategies* (in conjunction with Decision 6). The trainer briefs managers on Transfer Partnership concepts: barriers to transfer; key roles and times for supporting transfer; and a comprehensive list of strategies by managers, trainees, and trainers to support full transfer of training to the job. Together they select specific support strategies for managers to use. (All concepts—barriers, roles, times, and strategies—are fully explored in Chapters 4 through 8.)

Managers and the trainer identify all managers (supervisors, midlevel managers, and top executives) to participate in the Transfer Partnership. They brief these managers on the four training-related initiatives and enlist their help in selecting and participating in strategies to support transfer of training—before, during, and after training.

The reps' supervisors brief all reps on top management's support for prompt installation of the new computer system, hiring additional reps, changing to new rapport-building techniques, and developing the new products and procedures handbook. The trainer briefs the reps on the Transfer Partnership to develop support from all partners to help the reps fully transfer all new skills to the job. The reps also help to select the strategies they can use themselves to support transfer of their new skills.

The trainer schedules a series of meetings with all partners—supervisors, other managers, trainees, and the outside training consultants—before, during, and after training to ensure that all understand their roles and get the support they need to carry out all transfer strategies.

(6) *Design and deliver training* (in conjunction with Decision 5). The trainer briefs the managers on selection of XYZ Associates to deliver their highly rated program, "New Trends in Customer Service." XYZ will adapt

the program to link with the new computer system and with the planned Ace products workshops and handbook, and will provide a follow-up session one month after training to review successes and resolve problems. XYZ also recommends another consultant who has worked with them before on developing procedures handbooks tailored to the client's needs.

The trainer reports to the managers on arrangements with the Engineering and Marketing staffs to design workshop sessions on Ace products. The trainer also has reviewed the training provided by the computer system's vendor. Additional practice sessions have been included at the end of that training to be sure that trainees are comfortable with their new skills before using them on the job. Finally, the trainer shows how all components can be funded within the established budget.

The managers support the trainer's plans and arrangements. They review the transfer strategies they will take to support the various training components and proceed to carry them out with support and guidance from the trainer. XYZ Associates trainers and reps also implement their planned transfer strategies.

(7) *Evaluate training outcomes: reaction, learning, behavior, results.* The trainer briefs the managers on Donald Kirkpatrick's (1987) four levels of evaluation and describes the evaluation plans that have been prepared for each training component. The evaluations include trainee reactions, assessment of trainee learning at the end of training, supervisors' evaluations of trainees' behavior back on the job, and results—impact on sales figures, considering other factors that also affect sales. The trainer will also evaluate how effectively transfer strategies were carried out by each member of the Transfer Partnership.

The managers agree to support and participate in the evaluation process. They review the evaluation results for each level with the trainer and assess the effectiveness of the transfer strategies that were used. Overall, managers, trainer, and trainees are pleased with the high level of transfer of skills to the job. At the end of the next fiscal quarter, sales figures have increased significantly. Top management agrees to maintain the increased staffing level for customer service reps. The managers who worked with the trainer in the Transfer Partnership agree to meet regularly to monitor sales and look for other ways to provide continued support for the reps.

SUMMARY

This chapter completes the foundation and context within which we explore transfer of training in detail in the remaining chapters. We presented three important roles for the trainer. In one supporting role, as a *strategic resource*,

the trainer links HRD efforts to the organization's strategic goals and shares in key decisions on performance improvement. In the other supporting role, as an *expert HRD resource*, the trainer has recognized expertise in HRD knowledge and skills, to develop effective HRD programs, and in consulting skills, to support organizational change. Finally, we explored the trainer's primary new role as *manager of transfer of training* for the organization: advocating transfer and developing and managing the Transfer Partnership.

In the next five chapters we will zero in on transfer strategies. Chapter 4 presents a simple matrix for considering *key roles and times* for supporting transfer. In Part II we explore *strategies* for managers, trainers, and trainees *before, during, and after* training. Chapter 8 describes *relapse prevention*, a special action-planning strategy for trainees returning to work environments with particularly difficult and intransigent barriers.

We encourage readers to approach these chapters from the mindset of the *manager of transfer* for the organization. In this role the trainer is highly sensitive to the issues, concerns, and pitfalls that have made problems of transfer so important for organizations today. The trainer is also the bearer of good news to the organization: many strategies have been successful in all types of organizations to eliminate barriers and support the full transfer of training to the job. We hope readers will experience many "A-ha's" in discovering transfer strategies that hold the promise of significant boosts in transfer of training for the organizations they serve.

References

- American Society for Training and Development. *Gaining the Competitive Edge*. Alexandria, Va.: ASTD, 1988.
- Block, Peter. *Flawless Consulting: A Guide to Getting Your Expertise Used*. Austin, Tx.: Learning Concepts, 1981.
- Chalofsky, Neal E., and Carlene Reinhart. *Effective Human Resource Development: How to Build a Strong and Responsible HRD Function*. San Francisco: Jossey-Bass, 1988.
- Gilbert, Thomas F. "A Question of Performance: Applying the PROBE Model (Parts I and II)." *Training and Development Journal* (September 1982): 20-30, (October 1982): 85-89.
- Harless, Joe E. "Wasted Behavior: A Confession." *Training* (May 1989): 35-38.

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- International Board of Standards for Training, Performance, and Instruction. *Instructional Development Competencies: The Standards*. Evergreen, Colo.: Author, 1986.
- . *Instructor Competencies: The Standards*. Evergreen, Colo.: Author, 1988.
- . *Training Manager Competencies: The Standards*. Evergreen, Colo.: Author, 1989.
- Kaufman, Roger. "Assessing Needs." Chapter 3 in *Introduction to Performance Technology*. Washington, D.C.: National Society for Performance and Instruction, 1986.
- Kirkpatrick, Donald L. "Evaluation." In *Training and Development Handbook*. 3d ed., edited by Robert L. Craig. Sponsored by the American Society for Training and Development. New York: McGraw-Hill, 1987.
- Leifer, Melissa S., and John W. Newstrom. "Solving the Transfer of Training Problems." *Training and Development Journal* (August 1980): 42-46.
- Mager, Robert F. *Making Instruction Work, or Skillbloomers*. Belmont, Calif.: Lake Publishers, 1988.
- Mager, Robert F., and Peter Pipe. *Analyzing Performance Problems, or "You Really Oughta Wanna."* Belmont, Calif.: Fearon Publishers, 1970.
- McLagan, Patricia A. *Models for HRD Practice*. Washington, D.C.: American Society for Training and Development, 1989.
- Nadler, Leonard, and Zeace Nadler. *Developing Human Resources* (3d ed.). San Francisco: Jossey-Bass, 1989.
- National Society for Performance and Instruction. *Introduction to Performance Technology*, Vol. 1. Washington, D.C.: Author, 1986.
- Peters, Tom. *Thriving on Chaos: A Handbook for a Management Revolution*. New York: Alfred A. Knopf, 1988.
- Rummler, Geary A., and Alan P. Brache. *Improving Performance: How to Manage the White Space on the Organization Chart*. San Francisco: Jossey-Bass, 1990.