

5. TRAINING FOR TEAM EFFECTIVENESS

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AN INFORMATIVE NATIONAL survey of managers identified training as a key factor in the success of work teams, and inadequate training the greatest hindrance to effective team performance.¹ Training is especially important as organizations make the transition from a traditional, hierarchical style of management to one based on empowered teams. It is risky to assume current employees will have the necessary knowledge and skills; it is prudent to provide training designed to support effective work teams.

Many successful, team-based organizations dedicate substantial resources to team training. For example, Motorola delivered more than one hundred thousand training hours and budgeted \$120 million for education in one year. At the Corning company, team members spend 5 percent of their work time in training, at a cost of 3 percent of the payroll.² In 1990 alone, by one estimate, industrial corporations spent as much as \$40 billion on all training programs.³ Managers may wonder whether their training dollars are spent wisely. Unfortunately, team training is all too often treated as a fad, designed without properly assessing how and where it is needed, and inadequately evaluated.

This chapter describes how training can be properly designed, delivered, and evaluated to support work teams. We have four purposes:

1. To present a case example of an organization that successfully used training in making the transition to a team-based structure

2. To describe the training process as applied to team-based organizations, including needs assessment, design and delivery, and evaluation of training

3. To outline the unique training needs of different types of teams

4. To summarize the current best practices for training in teambased organizations

The chapter has four sections, one for each of these purposes.

CASE EXAMPLE: PHELPS DODGE COPPER REFINERY AND ROD MILL, EL PASO

The Phelps Dodge Corporation is among the world's largest and most productive manufacturers of copper and copper-related products. It employs more than fifteen thousand people around the world and operates mines and manufacturing facilities in twenty-seven countries. In 1996, the corporation had one of its most successful years ever, despite a drop in world copper prices of 25-30 percent during the year. Dividends were up 11 percent, stock value reached an all-time high, copper production grew by more than 50 percent relative to the previous three years (without a commensurate increase in capital expenditures), and its rate of recordable accidents was about one-fifth that of the industry norm. Although corporate performance in the metals industry is clearly a function of numerous economic and financial variables, in a January 1997 company newsletter, the vice president and general manager of mining operations described the role of teamwork this way: "Teamwork is the key to making our organizations more efficient. By working together in teams, we brainstorm, solve problems, and implement good ideas that help us make copper more safely, more easily, more efficiently, and less expensively." This vice president closed by stating that "Teamwork is the best way to tap all the mental power available to us to take full advantage of our people resources." Although the gains of the parent company are certainly impressive, we limit our discussion here to the experience of just one of its operations, a large copper refinery and rod mill in El Paso, Texas, with approximately 750 employees.

The Phelps Dodge copper refinery in El Paso began operation in 1929, while the rod mill was built adjacent to it in 1969. Over the years, the refinery has experienced the long and traditionally adversarial history of unionization typical of the industry. In 1985, however, a decertification election successfully removed the union from the refinery's operations

and opened the way for a more cooperative relationship between management and employees.-' In November 1991, the plant manager began a new generation of improvements in participative management with the formation of work teams across all the 500 hourly and 250 exempt employees at the refinery. The change was motivated primarily by the plant manager's personal conviction that cooperative involvement of all employees would be the key to spurring the El Paso refinery to greater levels of safety,' production, quality, and profitability through cost containment.

The objective was to take naturally existing work units and organize them into cohesive teams that would eventually assume responsibility for improving operations in their areas of the refinery. Initially, the teams would continue to report to an assigned supervisor or member of management, referred to as the "coach." The coach was to operate in the role of facilitator for the team and was also to assume overall accountability for team performance, but eventually the teams were expected to move toward self-management. In making the transition to the new teams, training was the only viable support system available as an option to management. Relying on the staffing function was not possible since the workforce was very stable (average company tenure was 16.1 years) and turnover was rare except for occasional retirements. Changes in the reward system were not seen as feasible at the time. Retaining the current structure was preferred, given technology, workflows, and current levels of capitalization. Opportunities for systematic work redesign were limited. That left training.

Though much of the intensive groundwork was done early on, the entire process of implementing the teams across the plant, including both line and office support staff, spanned just over four years. When the last team officially graduated from the forty-hour in-house training program, the refinery operation was completely organized into fifty-eight teams with three to seventeen members each.

Team Implementation

When **the team concept** was introduced, its implementation called for five specific steps (described next). Because plant management did not include anyone with an adequate level of expertise needed to guide the process, they wisely turned to outside expertise for help.

STEP ONE: STRATEGIC PLANNING. An initial strategy session involved the top managers and key middle managers. As the concept of managing via empowered teams was introduced, core values and beliefs were ex

plored, questions were addressed, and unanimity of support was sought and obtained. This strategic planning process reviewed the Overall implications and demands of making such a profound change in how the plant manages its people and systems, makes decisions, allocates work duties and assignments, and so on. A steering committee was appointed from this top team and charged with developing an operational plan for introducing the program and its concept to the entire plant. Eventually, it was decided that the introduction should be made by the plant's top managers in a series of short, consecutive meetings staggered to reach all the refinery employees working the various shifts of the 'round-the-clock operation. This would be followed by bulletin board announcements and a letter mailed to the residence of each employee.

STEP TWO: STEERING TEAM OVERSIGHT. The next step involved setting up a permanent steering team charged with oversight and coordination of the implementation process. Managers were appointed from key functional areas of the plant: production, finance, engineering, quality, human resources, and administrative support. They met periodically to set specific goals, identify required activities, and develop realistic completion dates. An onsite facilitator from the external consulting firm was also appointed at this time to identify (via needs analysis) and eventually oversee delivery of the training that would be required.

STEP THREE: MANAGER AND SUPERVISOR TRAINING. The third step, began almost immediately: training all plant management and supervisory personnel in the team concept. One of the crucial challenges in a transition to a team-based organization involves reshaping the roles of managers and supervisors. They must learn to function without relying on the trappings or "perks" of formal authority, and instead lead through empowerment. During the early stages of implementation, the teams reported to supervisors or managers who were supposed to be operating as team coaches or facilitators. In this sense, the teams were not truly self-directed but would have a degree Of traditional managerial oversight. The supervisory training was designed to get managers to move away from a directive style of management toward a facilitative one. Training included such topics as introduction to the philosophy of participative management, what it means to be an empowering leader, and coaching for commitment rather than compliance. Benefits of this new role for managers were emphasized. Training consisted of twenty hours of classroom instruction conducted in five one-half-day sessions.

STEP FOUR: IDENTIFICATION OF PILOT ACTION TEAMS. The fourth step consisted of identifying and organizing a select number of pilot "action teams" from among the refinery's hourly and nonexempt employees to set the pace for the rest of the plant. Pilot teams consisted of naturally occurring work units and were initially selected based upon the criteria of (1) consistent, adequate demand for the team's product or service, (2) natural workflow among team members, (3) easily measured output or results, and (4) naturally positive relationships among team members. After some spirited discussion, two teams were eventually identified to begin the extensive training and preparation that would be required.

STEP FIVE: PHASED TRAINING FOR TEAMS. The next step involved further communication with all employees in the plant. Pilot teams were identified in announcements on bulletin boards and the plant newsletter, and a kickoff event was held. Pilot teams were the first to receive the forty hours of classroom training; other teams followed in staggered phases through the plant.

On the basis of a training needs assessment, the knowledge, skills, and abilities (or KSAs) needed by team members were identified. From this, training topics were selected:

- ✍ Introduction to the team concept
- ✍ Managing group dynamics
- ✍ Conducting effective team meetings
- ✍ Total quality training
- ✍ Goal setting for teams
- ✍ Team problem solving
- ✍ Managing individual team members' differences (that is, personality profiling)
- ✍ Team building
- ✍ Interpersonal communication skills
- ✍ Constructive conflict resolution
- ✍ Collaborative decision making
- ✍ Diversity

The first two pilot teams graduated from the training program in January 1992, followed by seventeen more teams that year and an addi-

tional seventeen teams in 1993. Eleven teams completed the training in 1994, four finished in 1995, and the remaining seven teams graduated by the fall of 1996. In all, it took nearly four years before the last of the refinery's fifty-eight teams completed the required training. Although the company had originally turned to outside experts for help with implementing the transition to teams, it quickly became apparent that the magnitude and expense of the operation was so significant that they eventually hired the external consultant as a full-time employee to serve as director of the plant's own in-house training and development department. In addition, three refinery supervisors entered the training department as full-time trainers for the teams.

The Next Generation of Teams

After the training was complete, Phelps Dodge-El Paso started making plans to move to fully self-managed teams. Up to that point, all fifty-eight teams reported to a supervisor or member of management. However, some of the more effective teams evolved quite naturally to the point of requiring little supervision. Instead of letting this evolution continue informally, the plant's management team explicitly adopted the objective of moving to fully self-managed teams. A new vision statement articulated the commitment to provide training and other required resources, and to make the policy changes necessary to expand the concept to the remaining two hundred rod mill employees by the end of the decade.

A steering committee was appointed under the direction of the plant's department heads and instructed to develop a set of criteria for formally certifying a team as being self-managed. Eventually, criteria were selected that focused on whether or not the teams demonstrated the maturity or ability to adequately set and meet team goals consistent with company policy and procedure, cooperate with other teams and functional areas within the plant, excel in meeting performance targets (in the areas of safety, quality, production, cost control, and environmental compliance), and demonstrate stability as a team. The steering committee eventually expressed these criteria as a more specific set of guidelines within which the self-managed action teams would be free to operate (see Table 5.1). The forty hours of team training were the basis for ensuring that teams could meet the performance expectations in Table 5.1. Training therefore played an integral part in developing fully self-managed teams.

**Table 5.1. Guidelines for Conduct and Regulation of Self-Managed Teams
at the Phelps Dodge–El Paso Copper Refinery and Rod Mill.**

Teams may	Teams may not	Teams need approval to
Make or change work schedules	Do anything illegal or unethical	Make outside purchases with company funds
Schedule vacations	Violate company policies or rules	Change pay rates
Cover emergency overtime	Discipline employees	Change standard operating procedures
Make job assignments		Change production requirements
Write work orders		
Train and qualify employees		
Review employee performance		
Counsel employees		
Meet and make agreements with other teams		
Stop production in its work area when necessary		
Control overtime		
Achieve team goals in safety, quality, production, and cost		

Source: Phelps Dodge training material; used with permission.

THE TRAINING PROCESS

The Phelps Dodge--El Paso example provides an excellent illustration of how one company went about leveraging its training and development function to support movement to teams. The case shows the three integrated stages of a well-developed training function: (1) training needs assessment, (2) training program design and implementation, and (3) training evaluation. The next three sections of this chapter discuss these three stages and explore in detail how the training and development function can be effectively aligned to assist organizations in making a successful transition to teams.

Training Needs Assessment

When conducting a training needs assessment, managers must recognize that ideally this is a process designed to systematically uncover training needs based on a thorough analysis of (1) the task requirements, (2) the individual employee, and (3) the organization. Ultimately, the training objectives, the design of the program itself, and the criteria for evaluating the training program's success all stem from the findings of the needs assessment. Properly done, the needs assessment uncovers the essential job-related KSAs or other attributes that an individual needs to be an effective contributor in the team environment (either as a working member of the teams or as a member of management overseeing the teams). More often than not, a needs-assessment for team training is less than systematic and may be based on simple gut impressions of managers or outside experts as to the required training. However, systematic analysis greatly increases the likelihood that the eventual design and content of the team training program is neither deficient (does not fail to include important training) nor contaminated (does not include unnecessary or unwanted training) in any important aspects and thus is more likely to achieve its intended objectives as efficiently and effectively as possible.

Although much of the specific detail uncovered in a team training needs assessment is unique to a given work situation in a given organization, a few guidelines are useful in a variety of settings. As a helpful way of structuring this discussion on needs assessment, we review training needs as they relate first to assessing task requirements (which includes assessment of taskwork, teamwork, managerial, and intact team training needs), second to assessing the individual employee's training needs, and finally to the organization and its context for the training system.

ASSESSMENT OF TASK REQUIREMENTS. In a traditional nonteam environment, assessment of task requirements for training typically involves systematic review of only the technical performance requirements of the position (sometimes called "taskwork"). In a team environment, however, assessment of task requirements for training invariably looks at more than just the taskwork demands of the position. To be sure, evaluation of taskwork is an essential component in assessing the training needs for teams, but with teams we typically go beyond just the position's technical or operational taskwork demands and examine such components as teamwork-related training needs, managerial and supervisory training needs, and intact team training needs. Each of these elements is discussed in turn next.

Task-related training needs

In production and service work, team members may be expected to gain proficiency at multiple tasks, and to rotate among the jobs done by their teams. Job rotation often requires cross-training and can yield well-established benefits to employee motivation as well as flexibility in staffing. Cross-training also gives employees a broader, systemwide perspective of their jobs and increased capacity for innovative problem solving.

From this integrative perspective, the creative value can be seen in the Phelps Dodge refinery example. Prior to implementation of teamwork, employees who worked in the furnace area had relatively narrow job descriptions and titles such as ladler, tapper, bricklayer, water tender, inspector, control room operator, and so on. However, as a team all employees in the furnace area are now expected (and given incentive) to become cross-trained in as many of these different jobs as possible. Once this happens, employees are then in a position to see and appreciate connections that would go unnoticed from within the "chimneys" of a narrow task-focused job. With an enlarged perspective of the work they do, team members are now in a position to recognize connections that were either viewed as inconsequential before or simply unnoticed. This insight then serves to fuel the creative and innovative problem solving that drives an organization toward genuine continuous improvement and creative breakthroughs. Occasionally, these insights lead to innovations that result in cost savings or improvements worth millions of dollars. More often than not, however, the results are of a less heroic nature, such as when a few thousand dollars are saved because a team figures out how to modify a furnace so that it can use an ordinary spark plug rather than an expensive specialized one, or when labor and overtime costs are reduced as staffing flexibility and process streamlining are used.

to increase productivity. Though mundane, such minor daily advances carry a tremendous cumulative weight when aggregated over time and across enough teams.

Despite these benefits, cross-training and job rotation are not appropriate for all work teams. For one thing, it can be prohibitively expensive; cross-training increases not only direct training costs but also the costs associated with the slowdown that occurs as team members must work their way up a new learning curve! In addition, cross-training and job rotation are all but impossible for some types of teams (surgical teams, highly specialized military or flight crews, and so on). But when an organization places a strategic premium on the benefits derived through continuous improvement and creative problem solving, a more systematic approach to cross-training and job rotation must be viewed as a critical element in realigning training and development for teams. This need to consider the benefits of cross-training, relative to its costs in a particular situation, merely serves to reinforce the importance of a thorough and comprehensive needs assessment that clearly uncovers the appropriateness of a team training program before it is designed and implemented.

Teamwork-related training needs

Assessing teamwork training needs involves systematic review of the KSAs needed to function effectively as a member of a given team. Previous research has identified two essential categories of teamwork-related KSAs relevant for training and development? The first consists of *interpersonal* KSAs. In team settings, the demands placed on individual members to interact effectively with each other on a personal level are profoundly enlarged, compared to what occurs in a more traditional or autocratic work setting. Team success usually requires (among other things) individual members who can communicate and collaborate effectively, build rapport with one another, manage conflict constructively, encourage productive team discussions, and so on. Table 5.2 lists the interpersonal knowledge and skills required for teamwork..

The second category of essential teamwork-related KSAs consists of those capabilities associated with *self-management* of the team and its members. Certainly, teams vary widely in the degree to which they are empowered to be self-managing, ranging anywhere from fully autonomous to still being directed by a team leader who is a supervisor or member of management. The degree to which teams are self-managing, however, implies almost by definition that many of its essential managerial or supervisory functions are performed collectively by the members of the team. If this is the case, team success also requires (among

Table 5.2. Essential Knowledge, Skills, and Abilities Relevant to Teamwork Training.

INTERPERSONAL KSAS	
Conflict resolution	Ability to foster useful conflict, while minimizing dysfunctional conflict
	Ability to match the conflict management strategy to the nature of the conflict
	Ability to use integrative (win-win) strategies rather than distributive (win-lose) strategies to resolve conflict
Collaborative problem solving	Ability to use the right level of participation for a problem
	Ability to minimize barriers to team problem solving
Communication	Ability to employ open networks of communication
	Ability to communicate openly and supportively
	Ability to use active listening and probing techniques
	Ability to pay attention to nonverbal messages
	Ability to appropriately use everyday socialization (e.g., small talk) to enhance interpersonal relations among team members
SELF-MANAGEMENT KSAS	
Goal setting and performance management	Ability to set specific, challenging, and accepted team goals
	Ability to monitor, evaluate, and provide feedback on performance
Planning and task coordination	Ability to coordinate and synchronize tasks, activities, and information
	Ability to establish fair and balanced roles and workloads among team members
Operations management	Ability to run effective and efficient team meetings
	Ability to make operational contributions or improvements

Source: Adapted from Stevens and Campion (1994); used with permission.

other things) individual team members who can help it perform such basic managerial activities as effectively setting goals, planning or coordinating tasks, monitoring individual and team performance, meeting appropriate cost or operational targets, and so on. Although a number of these dimensions are highly task dependent (as with operational targets), much of the remainder involves generic managerial practices and is likely to be relevant to most types of self-directed teams. A detailed summary of these self-management KSAs relevant for teamwork training is also provided in Table 5.2.

For employees in a traditionally autocratic organization, these interpersonal and self-management KSAs are less important. At best, some basic level may be required, such as minimal communication skills that enable an employee simply to understand the scope and content of the directions given by a supervisor, or conflict resolution skills that go no farther than basic familiarity with the company's grievance procedure. The needs assessment stage of aligning the training and development function for teams must therefore analyze the degree to which it is appropriate for instructional programs to include elements that stress development and mastery of these essential interpersonal and self-management competencies. This was clearly the case with the Phelps Dodge-El Paso team training curriculum, where as much as two-thirds of the training content revolved around most of the elements identified in Table 5.2.

The degree to which these teamwork-related KSAs vary from team to team also points to the importance of conducting an appropriate needs assessment before designing and delivering the training program. For example, it was noted above that teams may be deliberately designed with varying levels of self-management (a project management team might be fully autonomous, while a military tank crew would be led in a highly autocratic fashion), making self-management KSAs an issue of either more or less importance for team training, depending on the circumstances. In such cases, the components of a teamwork-related training program must be adapted to the particular requirements of the work done by the team. This helps ensure that training resources are not misdirected.

Managers' and supervisors' training needs

As the transition to self-directed teams occurs, a fundamental shift must also take place with regard to the basic management or supervisory style expressed throughout the organization. In addition to the changing role and task demands for the employees, the comparable demands facing managers and supervisors also change. Rather than functioning in the

traditional, autocratic role of directing employees, managers and supervisors must now function as team coaches and facilitators. Further, they must view one of the essential functions of their role as being to ensure that required resources are made available for the teams they oversee, and that disruptive obstacles or barriers are removed. Also, managers and supervisors must function as linking pins to coordinate between the teams and other parts of the organization.

At Phelps Dodge-El Paso, the group of employees perhaps most challenged by the change to teamwork was the supervisors. Much of their challenge revolved around the fact that the new teamwork system was asking them to give up the very authority and control that had historically served to define their place and function within the company. Now they were being asked to relinquish much of that control to the employees on the plant floor, whom they had previously directed. Additionally, the supervisors were also challenged by the inherent difficulties faced whenever someone must unlearn old skill sets and acquire new ones. However, most supervisors at the plant were eventually able to make the transition to a more facilitative style of team leadership, but it first required relinquishing many of their old assumptions, values, and beliefs related to a highly directive supervisory approach and replacing them with new ones consistent with an empowerment philosophy. This was accomplished primarily through the twenty hours of classroom instruction (wherein supervisors were introduced to the philosophy of participative management, explored what it means to be an empowering leader, and practiced how to coach others for commitment), but a needs assessment was first conducted to identify the desired content for the supervisory training program.

Intact team training needs

To function effectively, teams require not only members and managers who possess the requisite skills and abilities (the task-related, interpersonal, self-management, and facilitator/coaching KSAs) but also the appropriate dynamics and processes operating within them at the group level (team cohesion and morale, positive work norms, workload equity, proper team role structure, presence of an open and trusting team climate, etc.) that permit teams to function effectively as a collective unit. With self-directed teams—that is, teams collectively responsible for managing their own internal processes, dynamics, and operations—the training needs assessment should examine the degree to which these internal group processes are critical to team success, and whether or not their mastery should be developed into a team training program.

Although there is a lack of systematic research addressing the question of whether or not it makes sense to train intact teams for their group processes and internal dynamics, experience seems to suggest that training whole teams makes sense for those with long-term assignments, relatively low turnover, and high within-team, coordination requirements. This was clearly the case with the teams in the Phelps Dodge example. On the other hand, high turnover of team members and short-lived team assignments tend to eliminate the benefits of intact team training.

Managers should also be sensitive to the types of KSAs being emphasized in the training, because it may be possible to provide a fair amount of learning through instructional techniques outside the specific teams and team members involved. For example, generic conflict management and consensus decision making can be taught in practice training sessions with artificial classroom groups. Part of the implication of this strategy for training needs assessment is that not only must team members learn the characteristics required for effective team functioning (that is, they must acquire a common working model that can serve as a guide in becoming an effectively functioning team); they must also develop a level of comfort with, or mastery of, the actual behaviors that are required to put into place those processes and dynamics needed for team effectiveness. Such issues should be uncovered in the team training needs assessment.

TRAINING NEEDS ASSESSMENT OF THE INDIVIDUAL EMPLOYEE.

After assessing task requirements for teams and coaches, the training needs analysis focuses on the needs of the individual employee. This assessment helps identify who within the organization has the requisite KSAs and who does not. It ensures that employees selected for training are the ones who will benefit most from it.

Individuals can vary greatly in their mastery of teamwork skills. For example, the mental health professionals of a state human services agency who form a project task force may already have the interpersonal skills needed to be effective team members but may be lacking in effective meeting or other self-management skills. This suggests a training program emphasizing self-direction rather than interpersonal skills development for this group of employees. Similarly, individual members of a corporate board of directors may have the needed meeting management skills but lack key interpersonal skills. This suggests a training program that is the opposite of the one provided for the mental health professionals.

Managers should be aware that there are a number of different techniques available for appraising the training needs of individual team

members and coaches, to determine their training needs. For example, one relatively straightforward approach is simply to collect evaluations or ratings on the individual's current level of proficiency on the knowledge, skill, or ability in question, much as would be done in a traditional performance appraisal rating. As appropriate, these ratings could be provided by such sources as the team leader or some other member of management, coworkers or peers, subordinates, customers (both internal and external), and the individuals themselves. The advantage of gathering these assessment evaluations from multiple sources is that each one typically sees the individual's performance and proficiency from a different perspective and can therefore provide unique or additional insights into the person's relative strengths and weaknesses. However, such ratings are also subject to all of the limitations facing organizations in the use of performance appraisal systems generally (individual bias, perceptual limitations, differing agendas, etc.), so results must be collected and interpreted with caution.

Along with the assessment evaluations or ratings, two additional techniques are available to conduct individual employee training needs assessment: paper-and-pencil evaluations and behavioral simulations. Behavioral simulations are very similar to the traditional assessment center technique in terms of using simulated role-play exercises and trained raters to evaluate the individual's behavior in the role-play. Behavioral simulations are certainly more expensive and time consuming, both in terms of their development and administration, but they are typically rich sources of assessment data based on actual observed behaviors. On the other hand, paper-and-pencil evaluation or testing is much more efficient in terms of its usage and scoring. In addition, there are a wealth of commercial assessment test instruments readily available that have an extensive research record and have proven to be quite valid for many uses (for example, general cognitive ability tests are especially effective at predicting success of training in traditional, academic-style environments). There are also newly emerging paper-and-pencil instruments developed specifically to measure the degree to which individuals possess both the personality traits" as well as the skills and abilities for teamwork."

In summary, we can do an individual's training needs assessment by using paper-and-pencil assessments, behavioral simulations, some sort of ratings or evaluations, or possibly a combination of these techniques. Keep in mind, however, that the ultimate objective is to gather critical information as to whether or not the individual has the capability to function effectively in the team environment (either as a manager or a team member). Once this determination is made, individuals can be assigned

to a particular training course or program so as to derive the greatest possible value for both the organization and the individual.

NEEDS ASSESSMENT FOR THE ORGANIZATION. Compared to task assessment and individual assessment, organization needs assessment for team training is relatively underdeveloped, in terms of its technical and conceptual foundations. Nonetheless, the organization assessment is still important since its objective is to help us understand how the training system fits into the context or environment of the entire organization. It also helps us identify components or systems within the organization that either facilitate or inhibit effective transfer of training. That is, the organization needs assessment may be viewed as a systemwide review of those factors that potentially have a significant impact on the degree to which a team training program produces the desired changes in behavior back in the job setting.

Unfortunately, "transfer of training" problems are all too common.¹² The training manager must seek to identify barriers to transferring teamwork skills from the classroom. One way to avoid the question of transfer is to use on-the-job training techniques that rely on the supervisor as coach.

Another way to avoid these barriers is to use organization climate surveys to identify potential problem areas. For instance, if a climate survey shows that only a small fraction of employees positively endorse the item "My supervisor listens to my ideas and concerns," then it makes sense to devote a larger portion of the supervisor training curriculum to learning exercises designed to help participants develop better listening skills.

The Phelps Dodge-El Paso case also illustrates how resource constraints serve as an organizational barrier to effective training. In this particular example, managers determined that the scope of the required training was so demanding that it would easily outpace the company's internal capabilities for delivery, and the cost to contract for external training would be prohibitively expensive. Consequently, they found it necessary to set up and staff their own in-house training and development department before they could satisfy the demand for team training.

SHAPING CULTURE AND VALUES THROUGH TRAINING. Although the training needs assessment is intended to analyze the degree to which the current organization and its systems support the transfer of team training back to the job, a valuable question concerns use of training to help

create an organization climate or culture conducive to teams. Experience has shown that it can. For example, skilled facilitators can be used to guide top leadership teams through a process of self-discovery in strategic retreats designed to help articulate the key underlying values that guide the organization. A mission or vision statement is often the tangible product of this endeavor. Moving from autocracy to teams inevitably demands organizationwide culture change, which in turn calls for articulating and reshaping basic values, beliefs, and assumptions (see Chapter Two). The organization must start at the top with such a change, or it will inevitably fail.

Strategic leadership retreats are nothing new to organization development facilitators. They have been around for a while but traditionally have focused more on identifying corporate strategies and business directions and less on shaping the organization's culture, values, and beliefs. To fully support the transition to teamwork, training and development professionals are in a unique position to facilitate these strategic efforts so as to help top leadership establish an organizational climate or context that manifests the openness, trust, empowered decision making, flattened hierarchies, team-oriented rewards, and other elements required to support teamwork.

Top-down change of climate and values was clearly evident in the Phelps Dodge-El Paso movement to teams. Though it did not begin with strategic retreats facilitated by the training and development function, nevertheless it did begin at the top, with a plant manager who had enough personal conviction, commitment, and leadership presence to drive the change himself. Eventually, he was able to get the rest of his top management team on board, and through the use of strategic planning sessions he was also able to involve the rest of the plant managers to help shape and guide the change process. Whether this process starts with a facilitated change session or not, the critical lesson from this case is that the change started at the top. This is much like what happens at many other organizations making the successful transition to teams. Sometimes this top-down change in climate and culture occurs because of the spontaneous initiative of an insightful leader, as at Phelps Dodge. But if it does not, skilled facilitators can step in and help the top leadership team make the necessary changes.

In summary, by the time the organization completes the needs assessment in stage one of the team training process, it should have clearly identified the specific training needed, who needs it, and the conditions in which it is to occur. Phelps Dodge-El Paso illustrates how this can be done. In their training needs analysis, managers concluded that all 750

employees would need team member training on such topics as managing team meetings, total quality management, team problem solving, interpersonal communication skills, constructive conflict resolution, and others (recall the earlier list under the heading "Phased Training for Teams"). They also determined that they needed to maintain their current efforts at providing systematic training in process control, quality control, and cost awareness to those teams and team members who needed it. In addition, approximately seventy-five managers and supervisors needed more advanced training on topics related to leading in a team environment (for details, see the earlier list under the heading "Managers' and Supervisors' Training Needs"). Their organization needs analysis also revealed the fact that the scope and logistics of this training effort would be so demanding that they would have to deliver it in-house over a phased-in period of several years to reach everyone effectively. Finally, the needs analysis also found that their internal resources to deliver the required training were inadequate, so they would have to set up and staff their own internal training and development operation first.

Unfortunately, the reality in most organizations is that training needs assessment data are limited at best, frequently involving little more than subjective assumptions made by managers or external consultants. In some cases, it simply reflects an outside expert's perfunctory "assessment" that the organization's training needs match nicely with the expert's training products or services! In any case, even if systematic needs assessment data are not available or cannot be obtained, managers should strive to evaluate their needs as systematically as time and resources allow. Once the training needs have been identified and prioritized, the design-and-implementation stage of team training follows naturally and appropriately.

Training Design and Implementation

Armed with the results from the needs assessment, managers can turn next to the design-and-implementation stage of training targeted to specific -needs. This stage focuses on (1) determining specific training objectives, (2) choosing the trainer or outside vendor, (3) developing the curriculum or lesson plan, (4) matching the training program methods and techniques to the curriculum, and (5) actual delivery of the training program itself. We now discuss each in turn.

DETERMINING SPECIFIC TRAINING OBJECTIVES. Although broader training needs are typically identified in the initial needs assessment stage

(for instance, the need for teamwork-related KSAs, such as those presented in Table 5.2), more specific program objectives should be articulated to guide design and implementation of a specific training curriculum. For example, although a broad training objective might require that team members be able to help improve quality and lower product defect rates, a more specific curriculum objective might include such things as knowing how to, adjust settings on a plastic injection molding machine if they are out of specification, or scoring above 85 percent on an examination covering the particular company's statistical quality control process. To be helpful, such objectives should be as specific, clear, and measurable as possible.

CHOOSING THE TRAINER. Trainers can be external vendors or in-house providers. Each choice has advantages and drawbacks. At least five factors influence the decision to use external trainers. The first is availability of expertise; are there content and process experts on staff, or must we turn to outsider vendors to get it? Second, although fixed costs are higher for staffing and running in-house training, does the scope of its usage allow for the averaging of those costs over time and across a large number of trainees? Third, do we have enough time to develop the needed training programs in-house, or do we need to buy them off-the-shelf right away? Fourth is the potential need to protect proprietary information; do we need to deliver training programs that include proprietary information that must be kept within the company? Finally, there are other miscellaneous considerations; for example, would credibility be enhanced if training were delivered by supervisors or other subject matter experts from within the company, or can outside experts bring a fresh perspective? Once these issues have been addressed, the next step involves actual development of the team training curriculum or lesson plan.

DEVELOPING THE CURRICULUM. At this stage of the process, the specific training objectives are translated into an executable training session or lesson plan. This is where the actual content, timing, and sequencing of training activities are determined. The survey conducted in 1990 by Wellins and his colleagues" shows that companies with self-directed teams conduct a wide variety of training on many different topics. Many of the major topics potentially useful for the content of team training follow naturally from the areas targeted in training needs assessment. Exhibit S. I presents a summary list of topics frequently found in team training programs. Although the team training topics identified in the exhibit are primarily related to the interpersonal and self-management

aspects of team work, they are by no means the only topics common to much team training. That is, job-specific technical or taskwork-related training (such as instruction covering use of equipment and machinery, teaching use of quality or work-flow process management tools, etc.) is a very important topic for production and service teams, especially if they have a cross-training component even though they are not listed in Exhibit 5.1. In addition, proficiency in using facilitation skills and leading others through empowerment are common topics for managerial team training even though they are not presented in the exhibit.

Managers should keep in mind that much of this training content is not appropriate for all teams. For example, team training in a manufacturing environment is likely to include substantial exposure to operational and quality tools, such as flowcharting and statistical process control; however, this same content would not be valuable for the typical project team. Illustrations like this simply reinforce the importance of conducting a valid needs assessment early on, to target program content and design for maximum impact and efficiency.

MATCHING THE INSTRUCTIONAL APPROACH TO THE CURRICULUM. Delivery of team training often involves six approaches: (1) videotapes, (2) traditional classroom lectures, (3) on-the-job activities, (4) role-plays and experiential simulations, (5) self-assessment instruments, and (6) computer-assisted instruction.

Videotape is perhaps the most commonly used technique in industry. A main advantage of videotapes is that they can display events or model behaviors and skills with greater ease and with more consistent standardization than many other methods. This is valuable when the behavior or skill of interest cannot readily be presented in the traditional training environment. Some team training classes have used feature-length films to provide rich examples for analysis and discussion (the movie *12 Angry Men* is a very effective primer on group dynamics, while *The Bridge on the River Kwai* illustrates the impact of social and interpersonal relations). In addition, the availability of topics covered in off-the-shelf videotapes is quite extensive. Videotaping can also be a cost-effective means of standardizing the instructional component of self-study coursework, but the downside is that the initial cost can be quite expensive for customized productions. Videotapes have also been criticized because they tend to encourage passive learning, are unresponsive, and provide only one-way communication when it comes to student interaction.

Traditional classroom lectures involve oral presentation of material by someone who typically is a subject matter expert on the topic. Like

Exhibit 5.1. Typical Interpersonal and Self-Management Team Training Topics and Instructional Methods.

TEAM TRAINING TOPICS	INSTRUCTIONAL METHODS					
	Videotapes	Traditional classroom	On-the-job activities	Role-plays and simulations	Self-assessment instruments	Computer-assisted learning
Conflict management	X	X	X	XXX	XX	X
Listening and communication	X	X	X	XXX	Xx	X
Collaborative problem solving	X	X	XX	XX	XX	XX
Meeting management	X	X	XXX	XX	X	
Goal setting		XX	XX	Xx	X	
Selecting new team members		XX		XX		
Performance measurement	X	XX	X	XX		X
Feedback skills	X	X	XXX	XX	X	
Team roles		Xx	XXX	XX	X	
Team development and morale	X	XX	XX	X	X,	
Team norms and ground rules		XX	XXX	X	X	
Workload equalization		XX	X	X	X	
Individual differences		XX	X	XX	XXX	X

Note: the number of Xs in each cell indicates the degree to which the instructional method is suited for delivering the team training topic; the more Xs, the better suited the method.

videos, lectures are also a commonly used training technique, primarily because they provide a relatively low cost means for reaching large numbers of trainees in a short time span. In addition, if acquisition of knowledge learning is the main objective, lectures are an especially well-suited training method. When used along with appropriate support materials (handouts, workbooks, visual aids, etc.), the lecture method readily facilitates transfer of concepts, theories, and factual information for teams, as would typically be the case if the learning is about quality control tools or statistical process analysis techniques. Nevertheless, this method has been widely criticized because of its one-way communication aspect, the tendency once again to create passive learners, and inability to simultaneously target trainees who are at different levels of readiness or experience. *On-the-job training* occurs when the trainee is introduced to the duties and requirements of the position while at the actual job site. Although this particular method greatly facilitates more immediate transfer of training, on-the-job training is all too frequently used as a casual strategy where the trainee is simply introduced to the job by a coworker who has been asked to "show the newcomer the ropes." However, when used in this ad hoc manner as a substitute for an appropriately designed team training program, the success of on-the-job training varies widely, based on numerous factors beyond the control of the training function (such as the experience of the coworker and his or her mentoring abilities, the motivation and learning ability of the trainee, etc.). But when properly designed and implemented, on-the-job training can be a very successful approach because it emphasizes use of proper modeling, immediate practice and feedback, and performance within the context and relevance of the actual job. For example, teams can often learn such concepts of collaboration and task coordination skills better when doing their task with on-the-spot coaching, rather than having to apply skills from the training room to their work; with coached working sessions, transfer of training becomes a nonissue because the training doesn't have to transfer. On the other hand, on-the-job training and practice can be problematic when faced with such considerations as cost (limited capital machinery for practice, potential for scrap rates that would be unacceptably high) or safety (learning cockpit procedures while in actual flight versus in a flight simulator). In such instances, it makes sense to move to on-the-job training only after trainees have demonstrated an adequate level of skill or proficiency in the classroom or other more controlled setting.

In *role-playing and experiential simulations*, trainees practice applying new behaviors and skills in a psychologically safe and controlled setting

by acting out parts in contrived situations or case scenarios. These scenarios are typically simple in nature, but they can sometimes be quite elaborate or rich in detail. When combined with classroom lectures, modeling or demonstration of the ideal behavior, and on-the-spot feedback and critique, role-playing and simulations can be a highly effective way of initiating lasting changes in behavior. They are especially well-suited for helping shape attitude changes, or for improving skills and behaviors related to interpersonal effectiveness. An especially powerful-but also potentially intimidating-variation is the *self-confrontation* technique, which involves videotaping the role-play session. With this approach, the trainee reviews the videotape of his or her performance in the role-play while a trained evaluator provides in-depth feedback on successful and unsuccessful aspects of the performance. This feedback and evaluative critique is usually the key to the success of any role-play or simulation exercise, whether the session is videotaped or not. In addition, the success of role-plays and simulations also depends on both the participant's willingness to adopt the roles and respond within context as well as the skills of the training facilitator to help coach the individual through the exercises so that they provide a meaningful learning experience.

Self-assessment instruments include personality measures (for example, the Myers-Briggs Type Indicator," the California Psychological Inventory," the 16PF, ¹⁷ etc.) as well as other inventories of skills and personal resources (the Teamwork-KSA Test"), and preferences or values (the Measure of Styles of Handling Interpersonal Conflict" or the Listening Self-Inventory"). These assessment measures are typically used to enhance trainee awareness of their own personal strengths and areas for potential development, but they can also be used to help trainees develop greater appreciation for the individual differences that can exist among team members. Rather than simply being used as ends in themselves, however, self-assessments and inventories in team training are generally used as a starting point for subsequent team building or personal-development activities.

Numerous off-the-shelf self-assessment inventories are widely available at minimal cost, and those developed by reputable researchers who follow rigorous professional standards can typically be treated as sound instruments that provide favorable measurement properties (such as being both reliable and valid measures). Caution must be used to ensure that the results from these instruments fit within the organization's strategy and objectives. In addition, the quality of the results often reflects the honesty and motivation of the trainees in responding to the assessment items. Therefore, care must be taken to ensure that the purposes

and intended uses of the results are communicated up front, openly and accurately, to the trainees (that is, whether or not results will be kept in company records or personnel files, if they will be used to make staffing assignments or whether they are for developmental purposes only, etc.). As a final caution concerning use of self-assessment inventories, we occasionally find that widespread use of a specific assessment technique within a company leads to emergence of a "common language" within teams (for example, team members become known by their personality "type"). Although this can certainly facilitate communication -and lead to common understanding among team members, we caution against overreliance -on any one specific assessment and its underlying theoretical perspective; not only can this create Myopia within the organization and its teams but human behavior is typically far too complex a phenomenon to be reduced to simplified labels or categories.

Computer-assisted instruction (or CAI) is a recent innovation in instructional approaches. The real advantage of CAI is that it has the potential to provide instruction that is *interactive* with the trainee-that is, the potential to branch the training content and depth to meet the student's individual training progress based upon his or her responses. However, a current criticism with many CAI programs is that few are truly interactive; instead they are little more than high-tech variations of the more traditional video presentations or lectures.²¹ Though it has tremendous potential, CAI does not automatically improve the quality of team training. Its success depends on the degree to which training needs and instructional design are properly matched-as with any other instructional technique.

CAI has been shown to be effective for training that involves sequencing -and procedural learning, as well as for efficiently satisfying heavy training demands. For some kinds of team learning, computerized simulations can also be much cheaper and safer (clearly so with aircraft cockpit flight crews) than on-the-job or classroom training approaches. CAI has also been praised for its ability to individualize the pace, content, and sequencing of the training, and to patiently correct errors while reinforcing accuracy. Though initial development can be expensive, hardware costs are constantly decreasing. Additional concerns that have been noted about CAI include the degree to which the process can become mechanical or monotonous to use, the limited scope of human interaction, the reality that programming is time consuming, restrictions that are tied to commercial software, and the real tendency toward information overload.

In summary, no one technique is best suited for all team training situations. Managers must be cautious about adopting a particular training

methodology simply because it is widely used or easy to implement. Managers should also be cautious about heavy reliance on a single technique or method. Rather a comprehensive team training program invariably uses a mix. It may begin with self-assessments to develop baselines and raise self-awareness, followed by lectures to teach the principles behind a desired skill or behavior, coupled with videotaped presentation of the behavior being modeled the correct way, after which role-plays are used to allow practice and reinforcement, subsequently followed up with on-the-job assistance provided at the work site by an experienced coworker or mentor. Each approach should be considered for its different strengths and weaknesses and should be matched to the objectives of the particular lesson plan, the nature of the skill sets to be acquired, the availability of supporting resources, and trainee acceptance and preferences. Exhibit 5.1 provides a summary of the degree to which various instructional methods are suited for delivering the different team training program topics.

DELIVERING THE TRAINING PROGRAM. The final step in designing and implementing team training involves sorting through the specific logistics required for actual delivery. At this stage, care must be given to such matters as preparing materials, coordinating schedules for those involved, procuring facilities and equipment, disseminating and communicating the program information and schedules, and finally, delivering the program itself.

Evaluation of Training

Training program evaluation consists of "the systematic collection of descriptive and judgmental information necessary to make effective training decisions related to the selection, adoption, value, and modification of various instructional activities." Although there is some controversy about criteria for evaluating team training effectiveness, experts agree that at a minimum evaluation requires collecting reliable data in such a way as to support valid conclusions about a training program's impact. This presupposes accurate and reliable team performance data. Systematic training evaluation is challenging, since it frequently requires expertise in research design and measurement methodology that goes beyond the capabilities of the managers and staff in most organizations. This means that outside expertise usually must be brought in, often at considerable expense. Consequently, this last stage of the training and development process may be the most neglected. However, systematic

evaluation is necessary to determine the true financial value of training and to improve its design and delivery.

The management at Phelps Dodge-El Paso discovered the value of such systematic evaluation when it examined the impact of its team training program shortly after the last action team had completed its forty hours of training. Plant managers could readily see that some of the fifty-eight teams were clearly more effective than others. If possible, they wanted to determine exactly how and why this was the case. Their hope was that if they could identify what the more effective teams were doing differently, then the information could be used to improve the performance of the less-effective teams, as well as serve to guide design and delivery of the next round of team training. With this in mind, the plant brought in outside expertise to help collect and analyze data that compared measures of team effectiveness (relative team performance on safety, cost, quality, production, etc.) to three different predictor variables: ratings of (1) individual team member contributions, (2) internal team processes and dynamics, and (3) organizational support and culture. After the results were tabulated, the findings clearly showed that teams with better-skilled members, more effective internal processes, and greater organizational support were significantly more likely to be among the plant's top producing teams (statistical correlations between team performance and the predictor factors ranged from $r = .52$ to $.76$). This information not only gave encouraging support to the belief that the company's training dollars had been well spent but it also pointed to specific and actionable steps that could be taken to target team training efforts so as to improve the performance of the less-effective teams in the plant.

TRAINING FOR DIFFERENT TYPES OF TEAMS

The effectiveness of each type of team described throughout this book is greatly affected by the training-and-development function. The training requirements and emphasis for each are somewhat different, as we discuss in this section.

Production Teams

Production teams are the type described most predominantly throughout the Phelps Dodge example. The training requirements for members of production teams are typically exhaustive. They require training to

acquire and master interpersonal and self-management KSAs, and production teams typically also require a significant degree of technical skills cross-training in the functional areas of the work done by the teams. In addition, self-directed production teams need extensive training on the basic fundamentals of production and operations management (work flowcharting, process analysis, total quality principles and measurement, etc.), safety, and cost or profit awareness to the degree that these issues are relevant to the specific work of the team. It should also be noted that production teams typically are staffed with the expectation that people are assigned to work for a prolonged-perhaps even indefinite-period of time as team members. Consequently, the value of training intact teams is typically much greater for production teams with this extended expectation of team member longevity.

Service Teams

Most of the issues, as well as the content, of service team training closely parallel those of production teams. That is, self-directed service teams also need significant training to support the interpersonal and self-management aspects of their teamwork. In addition, they will require crosstraining for those work elements related to delivering their service. To the degree that service team members interact directly with customers, one can also reasonably expect that a fair amount of customer service training is advisable. Finally, as with production teams, if people are assigned to service teams with an expectation of extended or indefinite membership, then they also derive much greater value from instructional efforts that emphasize training intact teams.

Management Teams

Compared to the other types of teams, top management teams require a special focus in the training they receive. Specifically, this chapter has discussed the importance of using facilitated strategic planning sessions with top management teams to shape the tone and cultural context for the overall transition to teams. Remember that a successful transition from autocracy to empowered teams requires a fundamental change in an organization's climate and culture (that is, its core values and beliefs). This change must start with the top -management team and then cascade its way down through the ranks. Executive teams also have the responsibility to develop the overall strategic plan for the change effort, and they must ensure that this strategic change effort allocates adequate budgets, personnel, and other resources to support the effort.

In addition to the training-and-facilitation work required with top management teams, middle managers and lower-level supervisors also require significant training and development to learn how to operate effectively in an empowered environment. For most managers, the shift to self-directed teams demands that they discard most or all of the techniques and assumptions that made them successful in an autocratic organization; they must be replaced with the ability to coach and facilitate (they need to know how to train and mentor others, how to lead through empowerment, and how to create and maintain open work environments characterized by high levels of trust and involvement). In the Phelps Dodge example, the managers and supervisors were the employees who faced probably the biggest challenge in making the transition to teams. Training and individual development cannot be neglected for managers and supervisors.

Project Teams

Because the nature of project work is typically of short duration (although this is certainly not always the case), the value of training a specific collection of intact team members may be quickly outlived as individuals turn over and are replaced. Thus, a more worthwhile approach for training and development with project teams is to focus on developing competencies among individual team members that are transportable from one team assignment to the next. Such transportable competencies include the interpersonal and self-management KSAs, but they also embrace the ability to effectively manage a team's internal processes and dynamics in a generic sense (for example, how to move quickly through the stages of team formation and development, how to hold effective team meetings, how to establish and maintain productive team norms and ground rules, and so on). Although individuals can certainly be trained in their intact groups, they could also be in artificial groups created just for the specific training course. The strategy, however, is to emphasize training for the individual team member, rather than for the team as a whole, because this helps ensure that effective team processes are manageable regardless of the individual team assignments or project teams involved.

Action Teams

Whereas project teams want to use training that focuses on individuals acquiring skills and abilities, action teams want to focus on training that involves the entire intact team. Because action team performance is

highly dependent on the coordinated and well-timed interactions of its team members, integrated task performance is the main focus of action team training sessions. The actual content of this task performance training is determined by the team's specific type of work (firefighting, musical performance, aircraft operation, etc.). Though much of this task-specific action team training may involve little more than repetitive drilling or practice sessions, it can also be some of the most complicated and demanding in terms of using high-tech simulations and exercises. At the same time, it can also be some of the least complicated in terms of interpersonal and self-management demands. For example, the interpersonal communication skills required of team members in a typical military crew are quite minimal and would not extend much beyond simply being able to understand and execute instructions from another team member. On the other hand, a musical jazz group is typically very receptive and open to the creative innovations of its members, while experience suggests that military leaders tend to be rather averse to collaborative problem-solving efforts among subordinates! Thus, the content and scope of training needs for action teams depend in large measure on the specific performance objectives and task requirements of each team.

Parallel Teams

Since the primary objectives of parallel teams involve coordination of parallel work efforts, training on some self-management skills may be of greatest value for parallel team members. In addition, since the coordination efforts between parallel team members frequently involve a fair amount of interaction and communication between team members, it is advisable to employ training on key interpersonal communication skills as well. Managers should recognize that although the work of parallel teams is significant, successful performance of its oversight function typically requires relatively minimal emphasis on these trainable interpersonal and self-management teamwork skills in comparison to other types of teams.

BEST PRACTICES FOR TEAM TRAINING

This chapter suggests several practices for supporting work team effectiveness:

The top management team must start with a long-term vision for the organization. A vision was critical to the success at Phelps Dodge-El Paso, where the plant manager championed the vision,

shaped the culture, and implemented the strategic plan to make it happen.

The role of training is indispensable for transitioning from an autocratic brown-field site to empowered teams. If an organization is unable or unwilling to commit the resources needed for team training, success may well prove very elusive. For most organizations, the cost and scope of the required team training require an unprecedented level of commitment.

The scope of skills and abilities that individuals must acquire is impressive and includes such things as greater breadth of taskwork KSAs via cross-training and job rotation, an array of critical interpersonal and self-management KSAs, familiarity with effective team processes and dynamics, and a facilitative or empowering leadership style for supervisors and managers.

Results should not be expected right away. Managers should be prepared to provide sustained training over a period of several years for true culture change. Viewed this way, team training is not a product that is delivered but a process that needs to be continuously refined as an organization's experience with teams evolves.

Begin by carefully designing the training for supervisors and future team leaders, and deliver their training in advance of that for team members themselves. If possible, involve the supervisors in delivering the training to the new team members.

For production, service, and action teams with low turnover, train as intact teams. For teams with high turnover or timelimited assignments (project or parallel teams), training should focus on individuals' acquisition of skills.

As the organization starts moving to teams, begin by training a few highly motivated, high-performing pilot teams that are most likely to succeed. As they begin to experience success and are able to learn from their experience, then begin phasing in the training to other teams.

Take account of the motivations and concerns of managers and supervisors, which differ from those of front-line employees. Managers and supervisors have to unlearn an old style, learn a new one, and recognize the importance of changing. Employees must acquire new skills and learn to meet the obligations of empowerment. Many managers view this situation with apprehension, while many employees view it with excitement and anticipation.

CONCLUSIONS

You can teach an old dog new tricks! Phelps Dodge-El Paso and other companies have shown that the brown-field transition from autocracy to empowered teams can be done without downsizing or large-scale replacement of employees. In five years, the El Paso refinery made a transition to teams with a retention rate over 90 percent because the training-and-development function enabled both line and management employees to function effectively in their new roles.

At the beginning of this chapter, we mentioned a national survey of managers that identified training as a key factor in the success of self-directed teams, and inadequate training as the greatest hindrance." The scope and magnitude of training required for a transition to teams can be unprecedented in a workforce unaccustomed to them. A manager might ask, "Is it worth the effort and cost to retrain our current workforce? Why not just start over from scratch?" In fact, the term *greenfield site* has emerged. to describe this basic approach, since it is often believed to be easier to plow under a "green field" in order to build and staff a new facility from scratch, rather than transition a long-standing operation and its people (or "brown-field site") to a team approach. Certainly, there are times when the strategy of hiring for teams from scratch makes a lot of sense, as when a new facility is being opened or expanded, or if the existing culture and attitudes are too entrenched to change. However, the reaction simply to replace employees who don't have the required skill sets is a short-term solution that has tremendous costs of its own. These costs are especially pronounced whenever employee commitment and involvement are critical to success, or when the people in the organization have a wealth of knowledge, experience, and history about the company, its clients, the operations and processes, and so on, that would be difficult-perhaps even impossible-to replace with new hires (often because of steep learning curves or other challenges and constraints). Thus, when a brown-field strategy is selected as the one to pursue, a key to a successful transition to teams is extended use of the training and development function. In this sense, training truly "represents" a positive hope.²⁴

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