Chapter 9

Training for Improved Performance

A MANAGER'S PERSPECTIVE

Hui walked out of the training room more excited than she had been in quite a while. She had just learned about a project management software program that she'd read about a year ago. When she heard that her company was offering a project management workshop, she had called to see whether the software she hoped to learn was covered. It was. So she rearranged two important meetings and booked the training.

The training had gone even better than she had hoped. The trainer opened with a story of a project just like the one Hui was managing. The trainer told another short story as a preview to the day's agenda, and then asked participants what they hoped to accomplish that day. Hui had practically jumped out of her seat to explain how she had long wanted to improve her project management skills, and in particular, use software to track her employees' tasks and, of course, due dates. The trainer had listened to Hui, and to the other participants' comments, and offered to make some adjustments to the workshop schedule to allow for more hands-on practice with the project management software.

Hui was grateful for the time to actually use the software. She was able to practice and ask questions, and the trainer listened to each question and answered what she could. When Hui had a detailed question that the trainer couldn't answer, the trainer had admitted she wasn't sure. After a short break, though, the trainer came over to Hui and provided her business card with an Internet address written on the back. "I called technical support, and they said that this web page should have the answer to your question. If it doesn't, my contact information is on the card—give me a call." Hui was impressed with how responsive the trainer had been, and how quickly she had found an answer.

As Hui left the room, she planned how she would get started. She needed a bit more practice time with the software this week before she would feel comfortable introducing it to her employees. And she would have to call her information technology support staff to get the software installed on her computer as well as on each of her team member's computers. We should be up and running by the end of the month, she thought.

THE BIG PICTURE *Effective Organizations Systematically Design and Deliver Training That Improves Individual and Organizational Performance.*

The bad news began the next morning, and continued throughout the day. The return call from her information technology specialist included statements like "low priority" and "may not be possible this year." Despite Hui's best arguments, she was not able to get the software installed. When she called her boss to appeal, things went from bad to worse. Her boss, Charlie, said, "We don't have time for you to experiment with some new software. You're too close to two critical deadlines. And I have an extra project that I need you to start tomorrow." Hui hung up the phone dejected.

Hui felt she should tell someone the frustration she was feeling, but she wasn't sure what to say. If she criticized her manager, she might be seen as a trouble maker. Maybe she should have talked to her manager before training started, to see what he thought about it. Maybe she should try to reach the trainer and see if she has any advice. Maybe someone in the HR department could help her.

WHAT DO YOU THINK?

Imagine you are listening to a conversation between Hui and her manager, Charlie. Charlie makes the following statements. Which of the statements do you think are true?

- T OR F Training keeps employees happy because it's a break from work, but it has little impact on the organization's bottom line.
- T OR F If trainees learn in training, they will transfer that learning back on the job.
- T OR F Lecture is a terrible method for delivering training.
- T OR F Training presented face to face is always more effective than training presented via computer technology.
- T OR F Evaluating training is a waste of time.

LEARNING OBJECTIVES

After reading this chapter you should be able to:

LEARNING OBJECTIVE 1 Explain how employee training practices can be aligned with an organization's competitive strategy.

LEARNING OBJECTIVE 2 Describe how partnering and using a systematic process for developing training can help ensure that an organization benefits from training.

LEARNING OBJECTIVE 3 Discuss the different ways in which training needs are determined.

LEARNING OBJECTIVE 4 Describe the variety of training methods available and explain how to make those methods more effective.

LEARNING OBJECTIVE 5 Explain why the purpose of a training evaluation should be used to guide the evaluation process.

How Can Strategic Employee Training Improve an Organization?

Training
A planned effort to help employees learn job-related knowledge, skills, and attitudes.

Nearly everyone who has worked has attended a training program. **Training** is a planned effort by a company to help employees learn job-related knowledge, skills, and attitudes.[1] The vast majority of companies offer training programs, and they come in many shapes and sizes: large group lectures given by an expert, on-the-job training delivered by a supervisor, simulations guided by a computer program, small-group projects coordinated by an executive, or online discussions with colleagues from around the country. The common element that defines training is that employees go through a structured experience that helps them to learn something they can use to improve their performance at work.

Knowledge
Memory of facts and principles.

Skills
Proficiency at performing a particular act.

Attitudes
An evaluative reaction to particular categories of people, issues, objects, or events.

Learning
A change in knowledge, skill, or attitude that results from experience.

We usually equate learning with being in school. For example, when we were younger and in primary school, we gained **knowledge**, which includes facts and principles of all kinds. We gained **skills**, which allow us to perform tasks like throwing a ball, using computers, and solving geometry problems. We also developed new **attitudes**, such as (hopefully) the belief that school is both fun and beneficial. When our experiences change our knowledge, skills, or attitudes, we call it learning. **Learning**, then, is a change in what we know, what we can do, or what we believe that occurs because of experience.

Of course, the truth is that we don't just learn in school, nor do we ever stop learning. We learn all the time in and out of classes, and we continue to learn throughout our lives. When we start a new job, we must learn about the industry, the company, and the day-to-day details of the position. To add to this challenge, companies and the jobs in them change over time. A company will get a new computer system, people will quit and new people will join, and products and services will be modified to meet changing customer demands. Most changes require that employees learn something new. So every job requires not only some learning to get started but also continued learning to avoid falling behind.

Most organizations, regardless of size and industry, offer at least some formal training to help employees learn.[2] In a manufacturing setting, for

instance, new employees can receive training on how to operate their equipment safely and effectively. Employees can learn in other, less formal ways, such as by watching others, asking for help, experimenting, or studying on their own.[3] These informal methods can be effective and inexpensive, so some firms rely heavily on informal learning. Small firms, in particular, often expect their employees to learn mostly through informal means.[4]

Informal learning methods
Natural learning that is neither planned nor organized.

While **informal learning methods** can work, they are not always appropriate. What if new employees at an automotive parts manufacturing facility were asked to learn all about metal stamping on their own? This process involves using large and dangerous equipment to shape metal products such as pipes. If an employee were injured because the company had not prepared him to use the equipment, then the company could be held liable for the injury. Formal training is also useful because it ensures that everyone learns the same things, such as the most efficient way to perform a task.

Training, when designed and delivered properly, can improve the overall effectiveness of an organization in three ways.[5] First, it can boost employees' commitment and motivation. Opportunities to learn new skills are important in today's economy, so employees appreciate learning opportunities offered by training. As a result, companies that offer more training foster employee commitment.[6] To be more precise, organizations that offer employees opportunities to learn and grow are seen as having employees' best interests at heart, and as a result, employees feel more committed to the organizations.[7] Employee commitment can benefit an organization by increasing retention of high-performing employees (see Chapter 7).

Second, training helps employees perform their work more effectively and efficiently, so the organization is able to function better on a day-to-day basis. If you've ever been to a grocery store where the cashier had not been trained to use the cash register efficiently, then you've been a victim of poor training (or, if you were really unlucky, it might have been a combination of poor employee selection and poor training). Research is very clear on this point—employees who receive training know more and are able to do more than employees who do not receive training.[8]

These first two benefits should come as no surprise given research findings about the commitment HR strategy discussed in Chapter 2. Providing employees with formal training is a key element of commitment-based HR.[9] Furthermore, providing training adds value on top of that provided by other HR practices. All other things being equal, providing training to a larger percentage of a company's workforce will increase that company's overall productivity.[10] Employees who are trained are more likely to be committed to the organization and have higher levels of knowledge and skill. As a result, they are better individual performers, and this helps the organization to be more productive.

The third way in which training benefits organizations is by helping them to meet their strategic objectives. It does so by providing employees with the *specific* knowledge, skills, and attitudes necessary to make strategic initiatives a reality. In other words, by making effective decisions regarding training, companies ensure that the right people have the right skills for achieving the competitive advantage sought by the strategy.

An example of a company that uses training effectively is Rockwell Collins. A leading supplier of aviation electronics equipment, Rockwell Collins is consistently faced with pressures to reduce design time of new products

(in order to keep pace with new technology) and to improve quality of current products (in order to reduce equipment failure). Faced with these challenges, Rockwell Collins continuously examines bottlenecks in moving from initial design to final products, looking for ways to speed up the process and improve quality.

A common bottleneck in the Rockwell Collins product design process was delays caused by electromagnetic interference (EMI), which often results in destruction of electronic parts. The company estimated that it was losing at least $1 million a year because of EMI. A quick investigation into the causes of the problem revealed that many testing engineers lacked a basic understanding of how to avoid EMI. Working with a training company called Strategic Interactive, Rockwell staff developed a 12-hour CD-ROM course that was delivered to 1,300 engineers in about six months. Delivering the training via CD-ROM meant a larger up-front cost for developing the course, but it allowed Rockwell to train engineers more quickly. Engineers could do the training on their own time without taking time away from work to travel to corporate headquarters.

Although the course cost nearly $500,000 to develop, the end result was worth the cost. The EMI problem disappeared, and Rockwell has avoided approximately $1 million in equipment losses every year since the training. The investment in training paid off for Rockwell, and it helped the company to implement its strategy to reduce the time it takes to design new products.

Building Strength Through HR

Rockwell Collins

Rockwell Collins is a leading designer and producer of aviation electronics. With approximately 20,000 employees, and nearly $4.5 billion in sales in 2009, it serves government and commercial customers all over the world. Using a strategic approach to training, Rockwell was able to:

- Identify a critical problem for the organization—design delays caused by electromagnetic interference—that could be solved by training.
- Use online training opportunities to deliver a course to over 1,300 engineers in about six months.
- Speed up product design and testing and avoid approximately $1 million in equipment losses.

Source. Cliff Purington and Chris Butler with Sarah Fister Gale, *Built to Learn: The Inside Story of How Rockwell Collins Became a True Learning Organization* (New York: AMACOM, 2003).

LEARNING OBJECTIVE 1

How Is Employee Training Strategic?

As we've just seen, training offers universal benefits for improving employee motivation, commitment, and job performance. Training can also be aligned with strategy to help an organization gain a competitive advantage over other organizations. Training needs and training resources thus vary across firms depending on the business strategy that they pursue.[11] Figure 9.1 summarizes some of these differences.

DIFFERENTIATION VERSUS COST LEADERSHIP STRATEGY

Let's first consider how training efforts should be aligned with the cost and differentiation strategies described in Chapter 2. A cost leadership strategy, including both the Bargain Laborer and Loyal Soldier strategies, requires that employees have knowledge, skills, and attitudes that help reduce costs and improve efficiency. For example, a local restaurant that is trying to compete based on low-cost menu items must have employees who know how to do their work efficiently with little waste. In other words, they must have the knowledge and skill needed to prepare and serve food quickly. Employees should also *believe* in efficiency and cost reduction and have a positive attitude toward working quickly. As a result, training for employees at this restaurant should not only build knowledge and skill so employees can work quickly without creating waste, it should also convince employees it is important to do so. The efforts of this small restaurant are, on a much larger scale, what companies like Motorola, General Electric, and Samsung Electronics are trying to accomplish with training programs designed to measure and improve quality.

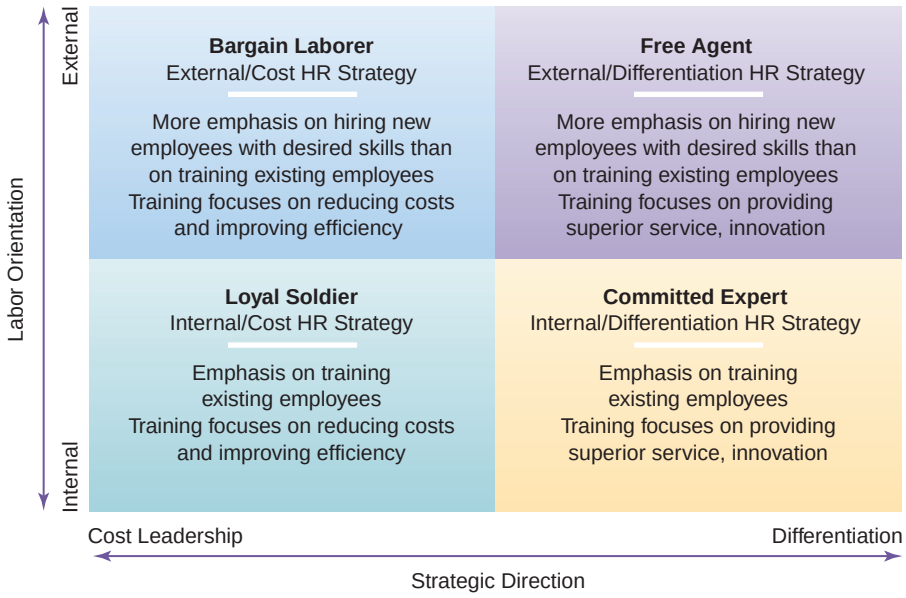


Figure 9.1 Strategic Framework for Employee Training.

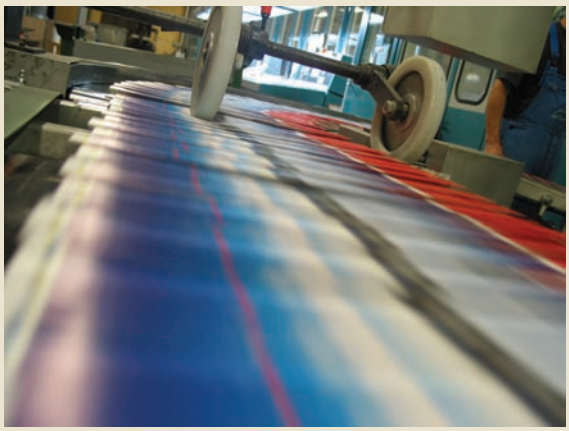
By training their employees on quality control principles and practices, these companies have been able to become more efficient, thereby reducing costs and increasing profits.[12]

A differentiation strategy, including both Free Agent and Committed Expert strategies, requires that employees be able to deliver services or make products that are superior to the services or products offered by competitors.[13] Some companies differentiate via innovation—constantly staying ahead of the competition with new products and services. With this type of differentiation, team-focused creativity training is a useful way to help employees share knowledge and build creative products. Apple, 3M, Coach, and General Mills are examples of companies that pursue this type of differentiation strategy and rely on this type of training. Differentiation can also be achieved via excellent customer service. For example, consider a different local restaurant trying to compete based on excellent service. This restaurant will train its employees how to impress customers by being considerate, friendly, and prompt. The efforts of this restaurant are similar to the efforts of companies like Nordstrom, Disney, Ritz-Carlton, and WorldColor.[14] The efforts of WorldColor are offered as a detailed illustration in the "Building Strength Through HR" feature.

Building Strength Through HR

WorldColor

WorldColor, formerly Quebecor World, considers itself a global leader in complete marketing and advertising solutions. It has approximately 20,000 employees working in 90 printing and related facilities in North and South America. Because they operate in a mature and competitive industry, WorldColor differentiates itself with integrated sales and support services. To ensure customer service representatives have the right knowledge, skills, and attitudes, the company developed a certificate program that focused on communication, negotiation, and self-management skills. In addition to improving skills, this three-course, nine-day certificate helped to shift the culture of the company to be team-oriented and collaborative, so complex printing jobs that were spread across multiple printing facilities could be handled efficiently and effectively. Plant managers reported favorable outcomes from the certificate program. For example, one manager reported customer satisfaction improvements from 87 to 97 percent in the year



the program was implemented. Another manager described a 25 percent decreased turnaround time on customer complaints, 18 percent fewer lost customers, and 61 percent increase in new customers.

Source: Information from Howard Prager, "Gaining a competitive advantage through customer service training," *Industrial and Commercial Training* 35 (2003): 259–262.

INTERNAL VERSUS EXTERNAL LABOR ORIENTATION

Training efforts must also be aligned with the relative emphasis the organization places on internal versus external labor orientations. As you know, a company with an internal labor orientation seeks to make its own talent, whereas a company with an external labor orientation seeks to buy talent that is already developed. These different orientations clearly influence how much time and money a company will spend on training. Companies with an internal labor orientation are willing to spend time and money to train current employees, while companies with an external orientation tend instead to hire new employees to fill their needs.

For example, consider a company with an internal labor orientation that discovers managers are not following appropriate labor laws in their recruiting and hiring (covered in Chapter 3). With an internal labor orientation, the company is likely to see this as a knowledge deficit that should be addressed by training managers on these laws. An alternative approach, and one that might be adopted by a company with an external labor orientation, would be to centralize employee selection and hire a labor attorney to coordinate processes and enforce compliance with laws.

The distinction between internal and external labor orientation can also play out at an organizational level when a company decides whether to train employees for new business opportunities or acquire a new company. As an example of an external orientation, consider Adobe's acquisition of Macromedia in 2005. Adobe was the world leader in static documents on the Internet (you have probably opened and read documents in the Adobe Acrobat PDF file format). However, the company had few employees and no business units with expertise in dynamic content for the Web, such as web pages that automatically update or offer interactive displays. Rather than creating a series of training programs to help employees learn about dynamic documents, and then build that capacity into their products, Adobe chose to buy that expertise. By acquiring Macromedia (which created Flash Player, a commonly used program that runs dynamic content on the Internet), Adobe was able to increase its capacity to compete in the software industry.[15] Adobe acquired this expertise rather than developing it via training.

Do companies with external labor orientations skip training altogether? The answer is clearly no. In such companies, training programs are still offered for a variety of reasons, particularly to help employees learn company-specific knowledge and skills. However, in such firms, HR management must find ways to keep training costs low. One way to do this is to purchase a training course that has already been designed. HR management first should verify that the course is relevant to their organization and potential trainees. If the material is relevant, then purchasing an existing program can be dramatically less expensive than developing a program from scratch. For safety training, for example, the National Safety Council sells self-study books, videos, and DVDs that cover such topics as Defensive Driving, First Aid, Motorcycle Safety, Electrical Safety, and Fire Protection. Many of these courses cost less than $150.[16] Even better from a cost perspective, some government agencies provide free online tools that can be used as instruction, such as the U.S. Department of Labor's programs on eye and face protection, respiratory protection, lockout/tagout, poultry processing, scaffolding, beverage delivery, baggage handling, grocery warehousing.[17]

Table 9.1 *Costs of Training and Tips for Keeping Training Costs Low*

Type of Cost	Tips to Reduce Costs
Visible Costs	
Development Costs	Partner with other organizations to share costs; purchase off-the-shelf training; use free or subsidized training from the government and nonprofits like university extension programs
Delivery Costs	Reduce trainee travel and eliminate facility costs by using self-paced, individualized instruction or technology delivery; reduce number and length of hand-outs; plan for reuse by laminating and retaining exhibits
Trainer Salary and Benefits	Train current employees to be part-time trainers; use contract trainers for nonrecurring projects
Hidden Costs	
Trainee Compensation and Lost Productivity	Shift training to be readily available at employees' desks; simplify work processes so employees can learn on the job without much training; reduce training time using task analyses to isolate and train only critical knowledge and skills
Wasted Investments	Use needs assessments to ensure that training need exists and is important to address; partner with management to increase transfer

Sources: David Van Adelsberg and Edward A. Trolley, *Running Training Like a Business: Delivering Unmistakable Value* (San Francisco: Berrett-Koehler, 1999); National Court Appointed Special Advocate Association, "Tips to Keep Volunteer Training Costs Down," 2001, retrieved online at http://www.casanet.org on April 4, 2007.

Table 9.1 provides a list of visible and hidden training costs and suggestions for how to reduce them. These tips can also be used by small businesses, or any organization that needs to control costs.

CONCEPT CHECK

1. *What is the key focus of training for a company pursuing a differentiation strategy? a cost leadership strategy?*
2. *How does training differ between companies that pursue an internal versus an external labor orientation?*

LEARNING OBJECTIVE 2

What Are Key Principles for Getting Benefits from Training?

Transfer of training
Application on the job of knowledge, skills, or attitudes learned in training.

Earlier, we identified three benefits an organization can gain from training its employees: Training can increase employees' commitment and motivation, it can enable them to perform better, and it can help the organization to meet its strategic objectives. To achieve these three benefits, training must result not only in learning but also in transfer of training. **Transfer of training** occurs when trainees apply what they have learned in training to their jobs.[18] For transfer to happen, employees must first remember what they learned, or maintain an attitude over time. For example, if a trainer shows a new employee the steps involved in using a piece of manufacturing equipment, the employee must remember those steps after training is complete. Moreover, the employee must actually use those steps back on the job.

Transfer is more complicated than it sounds, and there is considerable evidence that many training programs get employees to learn but not to

transfer.[19] In other words, employees seem to understand the training material, but they do not change their behavior on the job. When this happens, investments in training are essentially wasted. Imagine, for example, what would have happened if Rockwell Collins's 1,300 trained engineers had finished training and done nothing differently back at work. A great deal of everyone's time and money would have been wasted, and those responsible might be trying to claim unemployment benefits.

How can training be designed to encourage learning and transfer? Two fundamental practices will help HR professionals to meet this goal: (1) managers, employees, and HR professionals must work in partnership and (2) organizations must use a systematic process for designing, developing, and delivering training.

PARTNERSHIP

The first fundamental practice for ensuring learning and transfer is to operate training as a partnership among employees, their managers, and HR professionals. A partnership between HR professionals and employees is critical because these professionals cannot determine employees' knowledge and skill levels without their help. In addition, without the support of management, HR professionals are unlikely to be able to change the actual behavior of employees on the job. For example, if managers do not want employees to take the time to work on cost-cutting and quality-control projects, then training employees in how to run these projects is unlikely to change how the employees do their work and even less likely to improve the organization's bottom line.

Another way to think about the need for partnership is to consider that employee performance is determined by many factors that are not under the direct control of a human resource department. Table 9.2 lists six factors that are commonly considered to have a powerful influence on job performance.

The first four factors that affect job performance are primarily the responsibility of the employees' manager. First, managers must set clear expectations about what employees should and should not do on the job. Second, managers must provide necessary support in the form of equipment, supplies, and other resources. Third, managers must provide useful feedback indicating whether employees are exceeding, meeting, or failing to meet expectations. The feedback must also guide employees toward better performance. Fourth, managers must set appropriate consequences, which means rewarding effective performance and, if necessary, punishing ineffective performance. The fifth and sixth factors, individual capacity and required knowledge and skill, are

Table 9.2 *Factors Affecting Job Performance with Responsible Stakeholders*

Factor	Stakeholder
1. Clear Expectations	Manager
2. Necessary Support	Manager
3. Useful Feedback	Manager
4. Appropriate Consequences	Manager
5. Individual Capacity	Manager and HR Professional
6. Required Knowledge and Skill	Manager and HR Professional

Source: Information from Geary A. Rummler and Alan P. Brache, *Improving Performance: How to Manage the White Space on the Organization Chart,* 2nd ed. (San Francisco: Jossey-Bass, 1995).

the only two factors that HR professionals have much control over. Ineffective performance on the part of any one employee, then, may be largely a function of a manager's failure to ensure that one or more of these factors are in place.

HR professionals can influence employees' job performance by working with managers to ensure that employees have the individual capacity (generally through recruitment and selection) and the required knowledge and skill (generally through training and development) to do the job. So the HR function does play an important role, but even in this role, there must be a partnership. If what HR professionals offer as training seems worthless to managers, then they will tell their employees to disregard training and instead do their work as it should "really be done."

SYSTEMATIC PROCESS

The second fundamental practice used to ensure learning and transfer is to develop training systematically. There are many possible ways to develop training, but almost all have three fundamental components:

1. *Needs assessment* to determine who should be trained and what the training should include.
2. *Design and delivery* to ensure that training maximizes learning and transfer.
3. *Evaluation* to determine how training can be improved, whether it worked as intended, and whether it should be continued.[20]

Traditional model of instructional design
A process used to create training programs in which needs assessment is followed by design and delivery and then by evaluation.

Rapid model of instructional design
A process used to create training programs in which assessment, design and delivery, and evaluation overlap in time.

Two different forms of this three-component process are diagrammed in Figure 9.2. Part *a* depicts a circular process. This is the **traditional model of instructional design**, and it suggests beginning with a needs assessment that is followed by design and delivery and then by evaluation. Of course, the process is never complete because training needs are always changing, so after evaluation there will eventually be another needs assessment.

Part *b* of the figure shows the **rapid model of instructional design**.[21] Organizations may use this version of the process when they need to speed up the time from identified need to delivery of training. In the rapid model, training design begins while the needs assessment continues, as indicated by the overlap in the bars. Just as important, training begins before the program design is completely finished, and evaluation is used to modify the training as it is developed.

Whether the traditional or rapid model is appropriate depends on the nature of the training being designed. Training that must be right the first time—either because there is only one opportunity to train particular employees or because the cost of employees doing the wrong thing is

(a) Traditional Model of Instructional Design

(b) Rapid Model of Instructional Design

Figure 9.2 Two Approaches to Designing Training Programs.

too high—should not use the rapid model. For example, training for employees who operate expensive and dangerous equipment (airplanes, cranes, bulldozers, and tanks, for example) should not be delivered to trainees unless it has been examined in great detail for accuracy and safety. Product training for retail sales employees, in contrast, could be delivered before it was perfected, and this would ensure that employees had at least some knowledge of new products as they arrived.

CONCEPT CHECK

1. *What is transfer of training?*
2. *What are the two different systematic approaches to designing training programs? How are they similar, and how are they different?*

LEARNING OBJECTIVE 3

How Are Training Needs Determined?

How does an organization determine what training to offer and who should be trained? This process is called **needs assessment**, and it occurs in two different ways.[22] First, needs assessments may be done on a regular basis as training programs are planned and budgets are set. This planning process requires a proactive approach to determining training needs and developing training plans. Second, needs assessments may also be done in a reactive fashion in response to requests for particular training programs. The reactive and proactive approaches are described in more detail below.

Needs assessment
A process for determining what training to offer and who should be trained.

PROACTIVE NEEDS ASSESSMENT

Proactive needs assessment is a systematic process for determining and prioritizing the training programs to be developed and delivered by an organization. It generally has three distinct steps—organization analysis, task analysis, and person analysis.[23] Each step requires different types of data.

Proactive needs assessment
A systematic process for determining and prioritizing the training programs to be developed and delivered by an organization.

Organization Analysis

Organization analysis requires information about the organization's strategic goals, environment, resources, and characteristics. With this information, an organization can determine whether certain types of training would be useful for employees and for the organization as a whole. As noted earlier, the organization's strategy is relevant to decisions about training because different strategies require different knowledge, skills, and attitudes on the part of employees. Organizations that seek to differentiate themselves from their competitors with excellent service, for example, are more likely to benefit from service-related training courses than organizations with a cost-reduction strategy. The organization's labor orientation helps to determine whether training will be seen as an appropriate way to build employee knowledge and skill.

Organization analysis
A process used to identify characteristics of the organizational environment that will influence the effectiveness of training.

Organization analysis also requires an understanding of the environment within which the organization functions. Many facets of the environment, including the technical and legal environments, influence the type of training that an organization should offer. The technical environment includes the current and future technologies that employees will use to perform their work. For example, if an organization is planning to upgrade its computer systems, it will need to plan for training to assist in the transition and will also need to change its existing training to be consistent with the new systems.

The legal environment includes both legislative and regulatory mandates. HR professionals should know how training can assist in compliance and reduce the risk of legal problems. As an example, U.S. courts have determined that the degree of an organization's liability for discrimination depends on whether managers were trained in nondiscriminatory hiring practices.[24] Consequently, managerial training covering laws related to discrimination is useful for organizations covered by employment laws like the Civil Rights Act and the American with Disabilities Act, discussed in Chapter 3. Organization analysis should determine which laws are applicable.

Organization analysis also measures characteristics of the work environment, such as how much the organization supports its employees in attending training and using what they learned in training back on the job. Such support may take the form of policies, reward systems, management attitudes and actions, and peer support. Organizations that support training are considered to have a positive **training climate**. Thus, they are more likely to have employees who use learned skills back on the job, because employees are much more likely to succeed in transfer if they perceive that their organization has a supportive climate.[25] If trainees will be returning to a work environment that is not supportive, they should be prepared in training with strategies that will help them overcome the lack of support. Alternatively, it may be necessary to change the climate before investing in the training. Of course, this is easier said than done, because changing climate is a difficult process that unfolds over time only with the commitment of top management.[26]

Training climate
Environmental factors that support training, including policies, rewards, and the attitudes and actions of management and coworkers.

It is important to note that organization analysis need not be repeated every time a proactive needs assessment is conducted, but it should be repeated if the organization or its environment changes. Changes in competitors' practices, in internal management structure, and in labor laws can alter training needs, as can mergers, acquisitions, and alliances. HR professionals should constantly monitor the environment for such changes and conduct a formal organization analysis when changes are noted.

Task Analysis

Task analysis is a form of job analysis that involves identifying the work activities performed by trainees and the knowledge and skill necessary to perform the tasks effectively (see Chapter 4). The methods used in task analysis vary depending on the task being analyzed. The most common process used when the task analysis is being done to help design training is the following:

Task analysis
A process used to describe the work activities of employees, including the knowledge and skill required to complete those activities.

1. Groups of job incumbents develop lists of the tasks performed.
2. HR professionals group tasks into clusters based on similarity.
3. Groups of managers generate knowledge and skill statements for each task cluster.
4. Surveys, given to a new sample of incumbents, verify the task, task cluster, knowledge, and skill lists.

To avoid bias in the data collection, it is generally suggested that multiple groups and multiple incumbents be involved.[27] Of course, in smaller organizations or for jobs that don't exist yet, it may be impossible to get information from people already doing the job. In this case, a few of the individuals who will be responsible for the work to be done can participate. Whoever is involved, it is important to use more than one person in order to get high-quality data; any one individual may not have a complete or accurate perspective on the tasks.

There are three common variations of task analysis: competency modeling, cognitive task analysis, and team task analysis.

1. *Competency modeling* is similar to task analysis but results in a broader, more worker-focused (as opposed to work-focused) list of training needs. The process was described in Chapter 4. Competency modeling is most frequently used with managerial jobs. One benefit of using a competency model for needs assessment is lower cost, because this type of analysis does not involve determining specific competencies for a particular job. A related drawback is that the result of competency modeling may not have sufficient detail to guide training for any one particular job.[28]
2. *Cognitive task analysis* examines the goals, decisions, and judgments that employees make on the job.[29] While traditional task analysis focuses on observable tasks and behaviors, cognitive task analysis delves into the thought processes that underlie effective performance of a task. Experts are asked to think out loud while they perform each step of the task. Later, the transcripts of their words are analyzed to identify the knowledge and skills that were necessary at each step.
3. *Team task analysis* involves examining the task and coordination requirements of a group of individuals working together toward a common goal.[30] It is important to use team task analysis in situations where the performance of interest to the organization is largely determined by coordinated efforts. Research on nuclear power plant operations, for example, indicates that operating teams must exchange information and share key tasks in order to perform effectively. Team task analysis will identify the knowledge and skills that underlie these exchanges. Then, training will focus on knowledge and skills identified in the team task analysis as well as the required technical skills.

Person Analysis

Person analysis involves answering three questions:

Person analysis
A process used to identify who needs training and what characteristics of those individuals will influence the effectiveness of training.

1. Is training necessary to ensure that employees can perform tasks effectively?
2. If training is needed, who needs the training?
3. Are potential trainees ready for training?

First, person analysis should determine whether training is necessary by determining whether employees' knowledge and skill are relevant to improving their performance. If employees lack knowledge and skill required for performance, then training is appropriate. There are, however, many other reasons why employees may not perform effectively, including unclear expectations, lack of necessary support in the form of resources and equipment, lack of feedback about performance, inappropriate consequences, and lack of capacity.[31] You may recall this list from Table 9.2.

Second, if training is needed, it is necessary to determine who needs training. A number of different methods can be employed to make this determination. Two of the most common are examining employee records and asking employees whether they think they need training. Both can be useful, but each suffers from potential bias. Employee records may not be sufficiently detailed or may gloss over skill deficiencies because of legal concerns over keeping records of poor performance. As to self-assessments of training needs, employees generally overestimate their skills and thus underestimate the need for training.[32] Another commonly used method is to rely on supervisors to identify those who need or would benefit from training. Because no one method is perfect, multiple methods should be used when possible.

Third, HR professionals must determine if those who need to be trained are ready for training. To do this, they should examine the general mental abilities, basic skills, and motivations of the potential trainees. Research suggests that individuals with higher levels of general mental ability, necessary basic skills, and higher motivation are more likely to benefit from training.[33] That does not mean that training should be offered only to those who fit this profile. Training will, however, be more successful if it is adjusted for particular groups of trainees, as outlined in Table 9.3.

As one example, consider an outsourced call center where employees in another country answer phone calls from the United States. The center might develop two different training programs for employees with different levels of English-language skills. Employees with lower English-language skills may need a course that covers basic terminology and English phone etiquette before being trained on company-specific phone procedures. Assessing the basic language skills of employees will be necessary to determine whether language skill differences exist and to help assign employees to the proper training.

REACTIVE NEEDS ASSESSMENT

Reactive needs assessment
A problem-solving process used to determine whether training is necessary to fix a specific performance problem and, if training is necessary, what training should be delivered.

The analyses we have discussed are useful for proactively determining how an organization should allocate training resources. An alternative model deals with situations that involve a specific performance problem, such as low sales or high turnover. This model, **reactive needs assessment**, is a problem-solving process that begins with defining the problem and then moves to identifying the root cause of the problem and designing an intervention to solve it. Some organizations, like Rockwell Collins, have implemented this problem-solving process

Table 9.3 *Personal Characteristics Relevant to Training Effectiveness and Implications for Design*

Personal Characteristic	Definition	Suggestions for Training Design
General Mental Ability	Overall ability to process information and learn	Trainees with lower general mental ability generally require more time to learn and more structure and guidance in the training environment.
Basic Skills	Ability to perform fundamental tasks like reading, writing, and math	Trainees without basic skills required for a particular training program may need extra assistance during training or remediation prior to training.
Motivation to Learn	Interest in and desire to learn the material in training	Trainees with lower motivation may need to be convinced of the importance of training, either within the training environment or outside the training environment by their managers.

by requiring managers who request training to fill out a form. A modified version of the form used at Rockwell Collins is presented in Table 9.4. The questions on this form are designed to help managers think through whether the training requested is relevant to the company's strategy and related goals and whether training is the most efficient solution to the problem.

Some other organizations follow a three-step process. The steps are (1) problem definition, (2) causal analysis, and (3) solution implementation.[34]

Problem Definition

Problem definition begins with the identification of a business need. When a request for training comes in, the first question to be asked is whether the problem is important. Companies must prioritize, and it may be that the problem is not sufficiently related to the company's current strategy and goals to warrant the resources required to fix it. If the problem is sufficiently important, then the next question to be asked is, "What should be happening, and how does that vary from what is actually happening?" This means stating the problem as a gap between desired and actual performance. For example, suppose your sales team has been selling primarily inexpensive products

Problem definition
The gap between desired and actual performance.

Table 9.4 *Reactive Needs Assessment via Training Request Form*

Your Name: _____

Your Position: _____

Your Department: _____

Your Business Unit: _____

Best Way to Reach You: _____

Training Requested: _____

1. What business goals/objectives will this training support?
2. How does it support these goals/objectives?
3. What will the participants know or do differently (that they don't know or can't do now) after training is complete?
4. How critical is this change in knowledge or skill for improving employees' job performance? for your department or business unit's performance?
5. Can you envision benefits to this training beyond an improvement in participants' job performance? Consider, for example, improved teamwork among your employees or retention of high-performing employees.
6. Do any of your current employees have the desired knowledge/skill? If so, please provide information on who these employees are and how they acquired the desired knowledge/skill.
7. Can alternatives to a training course be used to ensure employees get the desired knowledge/skill? Consider, for example, new policies, a performance support tool like a job aid, coaching, or work redesign.
8. Is your department willing to incur the full cost of the training if no other departments are able to be involved?
9. Do you have any preferences for who should deliver this training? If you have an outside vendor in mind, please provide contact information and estimated cost information here.
10. Who needs the desired knowledge/skill? Please describe who they are (positions) and how many. Then answer the following questions about the projected participants:
    a. Approximately what percentage of their working time will be spent on tasks that require this knowledge/skill over the next 12 months?
    b. How soon after training will they make use of the knowledge/skill gained?
    c. In your opinion, are they interested and willing to learn the new knowledge/skill?
11. What is your timeline? When would the training need to start and end?

Source: Information from Cliff Purington and Chris Butler with Sarah Fister Gale, *Built to Learn: The Inside Story of How Rockwell Collins Became a True Learning Organization* (New York: AMACOM, 2003).

(less than $100 per item) but management wants you to increase sales of more expensive products (more than $1,000 per item) by 50 percent. In this case, the 50 percent difference between current sales and desired sales of expensive products represents a gap between desired and actual performance.

Causal Analysis

Causal analysis
A process used to determine the underlying causes of a performance problem.

Once a problem has been defined as a gap, it is necessary to find out the reasons for the gap. This is done through **causal analysis**. To understand the causes, we ask, "Why does this gap exist?" The gap may result from a lack of knowledge, a lack of motivation, a lack of feedback, or a poor environment. To determine the underlying cause of poor performance, HR professionals explore what employees are doing and why.

In the case of a sales team that should be selling more expensive products, causal analysis would determine why those products are not being sold. Is it because of a problem with the product itself or with the customers who are currently being targeted? Is it because sales employees are not motivated to make those sales, or perhaps because they are not knowledgeable enough about those products to close sales? Asking the right questions can lead to identifying a set of causes that will help determine whether training will solve the problem. If the cause is a knowledge deficit, then training can help close the gap between desired and actual results. If the cause is most likely the product or employee motivation, then a need has been identified that cannot be resolved through training.

Solution Implementation

The final step involves selecting and implementing the appropriate solution or solutions. This step includes brainstorming possible interventions, examining them for effectiveness and efficiency, and prioritizing them. Table 9.5 gives examples of possible solutions to the sales problem in our example. It is worth noting that many solutions do not involve training; training is not a useful solution to every performance problem. Note also that these solutions are categorized according to the performance factors identified in Table 9.2. Alternative solutions should be considered for their relative effectiveness (How well do we think they will work?) and efficiency (How much will they cost? How long will they take?). People familiar with the job can be asked

Table 9.5 *Potential Solutions to Performance Problems*

Cause	Category	Potential Solutions
Sales agents expect their *managers* to sell expensive and higher profit margin items.	Clear Expectations	Explain to all sales agents that sales high-margin items are part of each employee's job duties
Sales agents can't get questions about high-cost products answered from available technical manuals and technical support staff.	Necessary Support	Develop new technical manuals or hire a support person who can answer those questions
Sales agents cannot recall how much they sold that was high and how much was low margin.	Useful Feedback	Classify products by margin and provide weekly feedback on percent of category sold
Sales agents are rewarded for number of items they sell rather than for total money value of sales.	Appropriate Consequences	Alter rewards so commission is based not on number of sales but on profit from sales
Sales agents do not understand and cannot explain technical details of more expensive products.	Individual Capacity	Develop technical manuals that customers can access; hire a team of sales agents with this capacity and assign them responsibility for expensive items

to rate each potential solution for its anticipated effectiveness and efficiency. The solution that best balances efficiency and effectiveness should be selected for design and implementation.

PRIORITIZING AND CREATING OBJECTIVES

Once the organization has collected needs assessment information, it must put all that information together to determine what training to offer and whom to train. This part of the assessment process includes prioritizing training needs and setting objectives for training.

Determining Priorities

An organization often identifies a number of different training needs—usually more than can possibly be covered given the training budget and the time that employees can be away from their work. What can be done? Prioritize! There are a few different ways to prioritize, including ratings and interviews, but no one method is best.

Figure 9.3 shows one method for prioritizing training needs based on a task analysis. The figure lists some knowledge and skills necessary for a general manager's human resource responsibilities. A sample of managers and employees familiar with the job can be asked to rate each item on this list along two scales—strategic importance and need for training. Strategic importance is the importance of this particular item for helping the person perform his or her work effectively and in a way that benefits the entire organization. Need for training is the degree to which it is important that the person have this knowledge and skill before beginning work. A low need for training means that

Knowledge, Skill, or Attitude	Strategic Importance	Need for Training	Composite
Knowledge of laws, regulations, policies, standards, and procedures for hiring new employees	3	4	7
Knowledge of laws, regulations, policies, standards, and procedures for promoting employees	1	0	1
Knowledge of laws, regulations, policies, standards, and procedures for terminating employees	3	1	4
Skill presenting technical concepts and solutions to nontechnical functional teams	4	2	6
Be passionate about high-quality, high-touch customer service	4	4	8

Strategic Importance

How important is this knowledge, skill, or attitude to the job and the organization as a whole?

Need for Training

How important is it that employees be trained on this before they start work?

Scale

0 = Not Important
1 = Somewhat Important
2 = Important
3 = Very Important
4 = Extremely Important

Figure 9.3 Sample Prioritization Worksheet Using Knowledge, Skill, and Attitude Statements.

performers can learn as they work. Once all the ratings have been collected, they are summed to create a composite rating. Then the list is rank-ordered from highest to lowest scores. The needs that come to the top are those that are most relevant to the organization's strategy and that are required early on the job. The items highest on the list should be the focus of training.

Creating Objectives

Whether proactive or reactive needs assessment techniques are used, if training is required, then an essential output of the assessment process should be a list of training objectives. Here, an objective is simply a desired and intended outcome. Two of the most critical types of objectives are learning objectives and organizational objectives.[35]

Learning objective
The individual learning outcome sought by training.

Learning objectives are the intended individual learning outcomes from training. For a veterinary surgeon, for example, an outcome might be knowledge of the anatomy of a particular animal or skill in using a scalpel to remove cysts. The learning objectives should be used to determine the content, methods, and media used in training (we describe these elements of training in the next section).[36] Learning objectives are useful because they provide a basis for selecting features of training, provide measurable results that can be used to determine if training was effective, offer guidance to learners about what they should be doing, and ensure that, even if multiple trainers or sessions are involved, the same outcomes are achieved.[37]

Effective learning objectives have three components:

1. *Performance* identifies what the trainee is expected to do or produce.
2. *Conditions* describe important circumstances under which performance is to occur.
3. *Criteria* describe acceptable performance in a quantifiable and objective way.

Table 9.6 gives some examples of ineffective learning objectives and the changes necessary to make them effective.

Table 9.6 *Examples of Ineffective and Effective Learning Objectives*

Ineffective Objective	Missing Element(s)	Effective Objective
Understand business ethics	Performance Conditions Criteria	*Given videotaped scenes of a manager running a business meeting* (conditions), *be able to identify instances of unethical behavior* (performance). *Identify all instances of unethical behavior as defined by your company's Code of Conduct* (criterion).
Be able to describe the features and benefits of a product	Conditions Criteria	*Given a potential customer, a product, and related literature* (conditions), *describe the features and benefits of the product* (performance). *All key benefits and features in literature described; all information presented is factual; customer is not insulted, demeaned, embarrassed, or ridiculed* (criteria).
Identify three major varieties of red wine with 100% accuracy	Conditions	*Given three glasses of different varieties of red wine* (conditions), *be able to identify* (performance) *each correctly while blindfolded* (criterion).
On the 15-yard shooting range, be able to draw your revolver and fire five rounds from the hip within three seconds	Criteria	*On the 15-yard shooting range* (conditions), *be able to draw your revolver and fire five rounds* (performance) *from the hip within three seconds. All rounds must hit the standard silhouette target* (criteria).

Source: Information from Robert F. Mager, *Preparing Instructional Objectives,* 3rd ed. (Atlanta: Center for Effective Performance, 1997).

Organizational objectives capture the intended results of training for the company. These may include increased productivity, decreased waste, or better customer service. Specifying the intended organizational result of training programs helps to ensure that the training provides value to the organization as a whole and that each program is linked to the strategy of the firm. Setting organizational objectives can thus help in prioritizing. For example, if a training program has the objective of increasing customer satisfaction, but reducing costs is the primary strategic direction of the firm, then that program should be considered lower priority than a program intended to help reduce costs.

Organizational objective
The organization result sought by training.

CONCEPT CHECK

1. *What are the steps in a reactive needs assessment? a proactive needs assessment?*
2. *What components do effective learning objectives include?*

LEARNING OBJECTIVE 4

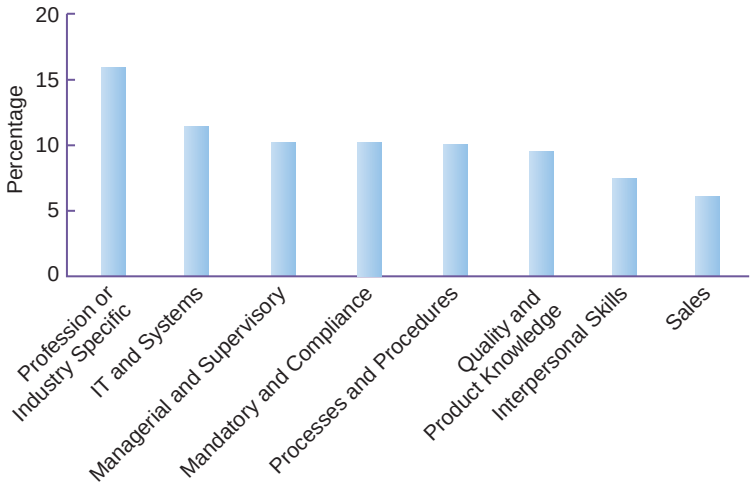
How Is Effective Training Designed and Delivered?

Once objectives have been written, decisions must be made about content (what to deliver to trainees), methods (how to help trainees learn the content), media (how to deliver content and methods to trainees), and transfer enhancement techniques (how to help trainees transfer what they learned back to the job).

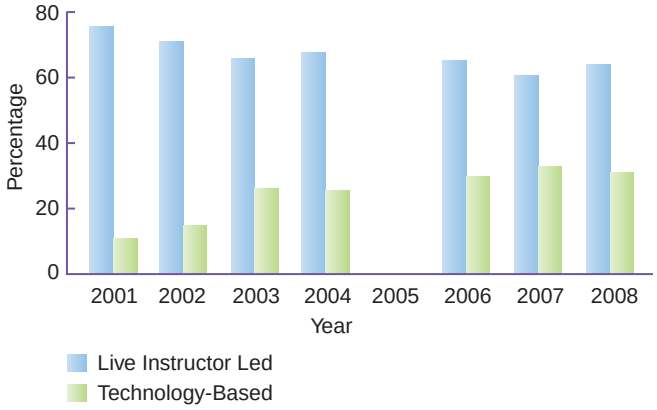
Figure 9.4 shows the variety of content offered by a large sample of organizations in the United States in 2008, along with the media that are used to deliver this content. In terms of content, the largest proportion of training time is devoted to topics that are specific to the industry, such as computer assembly and testing at computer companies such as Dell and inventory control at clothing companies such as Old Navy. Other types of training that receive considerable time include information technology, managerial and supervisory, mandatory and compliance, business processes and procedures, quality and product knowledge, and sales. Part *b* of the figure indicates that training media have changed gradually over the years to include more and more technology-based delivery, including CD-ROM and Internet-based training.

CONTENT

Content is the material that is covered in training. Training objectives are used to determine what content is needed. The person responsible for training can select content in several ways: (1) create it from scratch, (2) consult with subject matter experts, (3) examine theory and research in the literature, (4) purchase off-the-shelf materials, and (5) contract with a training vendor to create the materials.[38] No one way is best, and many training designers combine these techniques. For example, a management training course offered



(a) Percentage of Selected Content Coverage by Content Area in 2008



(b) Year-to-Year Trend in Percent of Learning Hours Provided in the Classroom Versus via Technology

Figure 9.4 Snapshots of Training Practices in the United States. *Source: Andrew Paradise and Laleh Patel, 2009 State of the Industry Report* (Alexandria, VA: American Society for Training and Development, 2009), 14, 16.

by Ford Motor Company includes materials created by the company's trainers in consultation with Ford engineers, materials taken from the published literature on management, and some off-the-shelf videos and exercises to help build managerial skills such as delegating and conducting performance reviews.

Training vendors
Organizations that sell existing training programs or services to develop and deliver training programs.

Because creating materials from scratch or in consultation with local experts is time consuming, many organizations use **training vendors** to create their training. Training vendors are companies whose primary business is to design and deliver training programs. To select a vendor that will provide a strategically relevant and high-quality program, management should ask prospective vendors a series of questions such as the following:[39]

- What projects have you completed that are similar to our project in terms of needs, objectives, and situation?
- May we see samples of your work? What evidence do you have that this work was effective? May we contact your references?
- Who will be working on this project, and what are their backgrounds and qualifications?
- Explain your work process. Where will you work? What will you need from us in terms of space, personnel, information, and other resources?
- Explain your evaluation process. How many milestones do you expect? How will you monitor progress? How would you prefer to receive feedback?
- What do you expect that this project, as explained up to this point, will cost? How do you charge? How are expenses handled?
- If we experience overruns in cost or time, how are those handled?
- Who will own the final work—our company, your company, or both?

TRAINING METHODS

The various ways of organizing content and encouraging trainees to learn are referred to as **training methods**. Training methods vary in terms of how active the learner is during training. More passive methods can be useful, but they should seldom be used without the addition of at least one more active method.

Training methods
How training content is organized and structured for the learner.

Methods should be selected primarily based on their usefulness in helping achieve the training program's objectives. Table 9.7 provides a summary of which training methods are believed to work best for particular objectives, along with the relative costs of the methods. The table also indicates whether transfer of training is likely based simply on the nature of the method. These factors, along with preferences of the instructor and of trainees, should all be considered when selecting the training method for a particular program.[40] Methods that directly increase transfer are discussed later in this section.

Presentation

Presentation is the primary passive method of instruction. A presentation involves providing content directly to learners in a noninteractive fashion.

Table 9.7 *Characteristics of Various Training Methods*

Method	Training Objective			Costs		Likelihood of Transfer
	Knowledge	Skill	Attitude	Development	Administration	
Presentation	Yes	No	No	Low	Low	Low
Discussion	Maybe	Yes	Yes	Low	Low	Low
Case Study	Maybe	Yes	Maybe	Medium	Low	Medium
Discovery	No	Yes	Maybe	Medium	Medium	Medium
Role Play	No	Yes	Yes	Medium	Medium	High
Simulation	Yes	Yes	Maybe	High	Medium	High
Modeling	No	Yes	No	High	High	High

Source: Adapted from Alan M. Saks and Robert R. Haccoun, *Managing Performance through Training and Development,* 3rd ed. (Ontario, Canada: Nelson, 2004), 162.

It is a passive method because learners do little other than read or listen and (hopefully) make sense of the material. The most common type of presentation is a lecture given by an instructor. Lectures have a bad reputation, but research suggests that people can and do learn from them.[41] Lectures are an efficient way for many learners to receive the same content and gain the same knowledge. This means that presentations can be useful when the learning objective of training is for trainees to gain knowledge, such as an understanding product features. A disadvantage of presentations is that learners are not given any formal opportunity to test or apply what they are learning. For this reason, presentations seldom help trainees gain skills.

Presentations can include various types of information. Some presentations include only verbal information (words), but others also include auditory information (sounds), static visual information (pictures), and dynamic visual information (animation). Presentations can be made more interesting with the addition of these other types of information, but the additional information should complement rather than distract from the verbal information being conveyed. Trainees can be overwhelmed or confused if confronted with too much information.[42]

To avoid the problem of presenting too much information at once, companies may break training into several units. For example, to prepare its employees for the General Securities Representative Exam (Series 7), Merrill Lynch has a course that combines written text, telephone tutoring, and computer-aided testing. The written text is offered in a series of specially prepared booklets that present information in short paragraphs and use bold print for key concepts.[43] Breaking down material in this way helps to ensure that trainees can learn without being overwhelmed.

Presentations can help employees learn even more if they are combined with active methods. You have probably experienced this in school. Listening to a lecture may help you learn a fact or two, but without an opportunity to do something with that knowledge, you forget it.

Discussions

Discussions represent a more active training method. Discussions increase trainees' involvement by allowing for two-way communication between trainer and trainees and among trainees. Discussion can help trainees to accomplish several things:

- Recognize what they do not know but should know.
- Get their questions answered.
- Get advice on matters of concern to them.
- Share ideas and develop a common perspective.
- Learn about one another as people.[44]

Discussions can be used to build knowledge and critical-thinking skills, but they are best used to help improve motivation and change attitudes. Discussions must be facilitated by a trainer in order to allow everyone an opportunity to participate. With larger audiences, discussions often do not work well because not everyone has a chance to contribute.

Case Study

Case analysis is an active training method in which trainees discuss, analyze, and solve problems based on real or hypothetical situations. Cases can be used to help teach basic principles and to improve motivation and change

attitudes. Generally, however, the primary objective is to develop skill in analysis, communication, and problem solving.[45] Cases vary in length and complexity. Although long, complex cases are often used in business schools, trainers in businesses shy away from them, preferring to use shorter cases.[46]

Discovery

Discovery is an active method that involves presenting trainees with a task that offers rich opportunities to learn new skills. For example, employees might be given access to a new computer program and asked to figure out for themselves how to do their work tasks using the program. Although this method may sound more like learning by experimentation than training, discovery can be structured so that skills needed for job performance are available to be learned. In effect, discovery is experimentation in a controlled training environment.

Discovery can be highly motivating for trainees, but it has serious drawbacks. Without any guidance from the instructor, it is highly inefficient and can result in people learning the wrong things.[47] A more efficient approach is discovery coupled with guidance, where the instructor is more active in asking questions and providing hints that help learners while they explore. Appropriate guidance can help motivate trainees and ensure that they learn the best way to perform the task.[48]

Role Play

When trainees engage in role playing, each participant acts out a part in a simulated situation. This active method offers an opportunity for trainees to practice new skills in the training environment. It is most often used to help trainees acquire interpersonal and human relations skills. Role playing typically has three phases:[49]

1. *Development* involves preparing and explaining the roles and the situation that will be used in role playing.
2. *Enactment* involves the time that trainees take to become familiar with the details of the role and then act them out. Enactment can be done in small groups, with two actors and an observer, or with larger groups, with a small set of actors and the rest of the audience serving as observers. Of course, for skill building to occur, all trainees must have an opportunity to serve as an actor at some point.
3. *Debriefing*, in which trainees discuss their experiences, is considered the most important phase of role playing. Discussions should address the connections among the role-playing experience, the desired learning outcomes, and the desired organizational outcomes. Trainers must provide feedback to ensure that trainees learn from the role-playing experience. In other words, trainers must offer constructive criticism to trainees, explaining what they did well and where they need more practice.

Simulation

Simulations are active methods that reproduce events, processes, and circumstances that occur in the trainee's job. Participating in a simulation gives trainees the opportunity to experience at least some aspects of their job in a safe and controlled environment and build skills relevant to those aspects of the job. For example, pilots can be trained with mechanical flight simulators. Simulations can also involve role playing with many actors or interactive

computer technology, such as in a virtual world like Second Life. To achieve the greatest benefits, simulations should be designed to replicate as closely as possible both the physical and psychological conditions that exist on the job. For instance, to simulate a manager's daily experience, trainees could work on multiple tasks simultaneously and coordinate their efforts with those of other people in order to get their tasks completed.[50] After all, these are the conditions under which managers typically accomplish their work. Related to simulations are educational games, which combine entertaining engagement with attention to user's learning. Computer games are becoming more popular, but they should be used with careful attention to selecting or designing a game that triggers learning of relevant information. [51]

Modeling

Behavior modeling is a powerful method that draws together principles of learning from many different areas. As described in the "How Do We Know?" feature, research has repeatedly found that this method is effective for improving skills.[52] The basic process is simple:

1. The trainer explains key learning points.
2. The trainer or another model performs a task while trainees observe.
3. Trainees practice performance while the trainer observes.
4. The trainer provides feedback to the trainees.

Behavior modeling works particularly well when the model is someone whom the trainees see as credible and when that model shows both positive and negative examples of the task performance.[53]

On-the-Job Methods

With the methods discussed so far, trainees work off the job in a training setting. Training can also occur on the job. One common approach to on-the-job training is also among the least likely to help employees learn. Some companies pair up inexperienced employees with experienced employees and ask the inexperienced employees to watch and learn.[54] This approach can be a useful way to help employees become familiar with the job, but it is not always effective because experienced employees may not do the work properly or may not know how to teach. In fact, because this type of on-the-job training is often poorly planned and ill structured, it seldom fits the definition of training provided at the start of this chapter.

Effective on-the-job training is structured and systematic. Structured on-the-job training is an application of behavior modeling that is carried out in small-group situations on the job. The process is the same as that described in the discussion of behavior modeling: the trainer explains key learning points and then performs the task while trainees observe. The trainees then practice performance while the trainer observes, and the trainer provides feedback.

TRAINING MEDIA

Training media
How training content and the associated methods are delivered to the learner.

Training media are the means by which content and methods are delivered to trainees. Each passive and active training method we have discussed can be delivered in a number of different ways. For example, the information in a presentation can be transmitted by an instructor face to face (a classic lecture); an instructor via video or Web conference (videoconferencing); a sophisticated computer program; a basic computer presentation or website;

How Do We Know?

Is There One Best Way to Train for Computer Skills?

One of the most common training challenges organizations face is how to get their employees to use computers effectively and efficiently. Because computers are virtually everywhere, employees who can't use computers can really hurt an organization's ability to produce goods and provide services.

What is the best way to train computer skills? A study conducted by Steven Simon and Jon Werner helped answer this question. These researchers tested four different ways to train computer skills. One method was behavior modeling, another was self-paced study, and a third was lecture. A fourth group of employees did not receive training and was expected to learn on the job. Trainees were novice computer users working in construction for the U.S. Navy in Gulfport, Mississippi.

Measures of knowledge and skill collected immediately after training were highest for employees who received training using behavior modeling. Results were similar when employees were tested again one month later—those trained with the behavior modeling method still had higher skills. Satisfaction with the computer system, also assessed one month after training, was also highest for behavior modeling.

The Bottom Line. Employees can learn to use computers in many different ways, including simply learning on their own, on the job. However, this study strongly supports the idea that there is one best way to improve computer-related knowledge, skills, and attitudes, at least for novice users. Training using behavior modeling resulted in better outcomes across different measures and over time.

Source: Information from Steven J. Simon and Jon M. Werner, "Computer Training through Behavior Modeling, Self-Paced, and Instructional Approaches: A Field Experiment," *Journal of Applied Psychology* 81 (1996): 648–659.

an audio presentation (such as with an iPod or other MP3 player); or typed written material. The trend today is toward using some form of technology to deliver training. Indeed, this trend has been heralded as an e-learning revolution. **e-learning** is training delivered online, and it has both benefits and drawbacks, as described in the "Technology in HR" feature.

e-learning
Training delivered through computers and network technology.

With all the possible choices, how can an organization decide which training media to use? There are no powerful research results suggesting that only one or two media work for delivering training. Instead, the choice should be guided by a two-step process. First, the selected training method should be examined to see if it has a media requirement. A media requirement is a characteristic of a training medium that is fundamentally necessary to ensure that a training method is effective. Second, the cost and accessibility of the remaining media should be considered to make the final selection. We next look more closely at each of these steps.

Media Requirements

You might wonder whether it is really possible to learn through all of the different media listed above. Occasionally, people ask, "Doesn't training have to be delivered face to face, by an experienced instructor, to be effective?" The answer is clearly no. Research has demonstrated that carefully designed training can be equally effective whether it is presented via technology (like computers or videoconferencing) or face to face by an instructor.[55] In fact,

Technology in HR

Benefits and Drawbacks of e-Learning

Widespread access to computers and the Internet provides a cheap, efficient, and customizable means of delivering training. Using the Internet or a corporate intranet, employees can, at least in theory, take training whenever and wherever they want. This benefit can reduce training costs because employees can learn at their workplaces without having to travel to a central training site. Training can also be individualized so that trainees see only the material they need rather than having to sit through a presentation on material they already know. Taken together, these benefits make training more efficient.

Training professionals have some reasonable concerns about e-learning, however. First, the up-front cost can be substantial, particularly for high-quality training that can be accessed by all employees. Second, interaction among peers is constrained, which reduces the enjoyment and networking opportunities offered by traditional face-to-face training. Finally, noninteractive e-learning can bore trainees and can suggest that simply putting written material on a computer makes it training. The truth of the matter is that online material, when all it contains is reading, is no different from a book; it is a source of information rather than training structured to help employees learn. If you have ever taken an online course that consisted of little more than page after page of text, then you have suffered through what some companies offer as e-learning programs.

Research also points to another concern—technology-driven learning often puts control of learning into the hands of learners, and not all learners make choices that help them learn. Learners do not necessarily know what they don't know, so they might skip over material that would benefit them. Employees who are not motivated to learn, and who have many demands placed on their time at work, are more likely to skip over material and thus limit the benefits that training can yield.

Companies can address at least some of these concerns by: (1) taking the time to design e-learning so it requires learners to be active, (2) using e-learning only when the learners are ready and willing to use it, and (3) providing support to learners in the form of time to take the training and, if necessary, a training space away from the office. In the end, whether e-learning is appropriate depends on the situation—on whether it is appropriate for this organization, this training, and these trainees. If there is a good fit, then e-learning can be a powerful tool.

Sources: Liz T. Welsh, Connie R. Wanberg, Kenneth G. Brown, and Marcia J. Simmering, "e-Learning: Emerging Uses, Best Practices, and Future Directions," *International Journal of Training and Development* 7 (2003): 245–258; Kenneth G. Brown, "Using Computers to Deliver Training: Which Employees Learn and Why?" *Personnel Psychology* 54 (2001): 271–296; Renee E. DeRouin, Barbara Fritzsche, and Eduardo Salas, "Optimizing e-Learning: Research-Based Guidelines for Learner-Controlled Training," *Human Resources Management* 43 (2004): 147–162; Kenneth G. Brown, "A Field Study of Employee e-Learning Activity and Outcomes," *Human Resource Development Quarterly* 16 (2005): 465–480.

some studies have shown that technology-delivered training can be more effective than traditional face-to-face instruction. Nevertheless, some training methods do require specific media characteristics.[56] Two fundamental media requirements are explained here. Other requirements may arise in the course of developing a training program in a particular organization with a particular set of objectives and methods.

First, if the training uses guided discovery, role playing, simulations, or behavior modeling exercises, then an instructor or sophisticated computer program is required. To be effective, these methods require someone to analyze what the trainees do and provide feedback that helps them gain skill. Therefore, either an instructor must be present, or a computer must be programmed to behave like an instructor.

Second, if a training presentation includes both video and audio, then the training medium must be able to deliver both video and audio. Although somewhat obvious, this requirement suggests that teleconferences, which organizations use to deliver presentations to people scattered all over the country, and podcasts should only be used for presentations that are primarily verbal. If visual materials are an essential part of the presentation, then videoconferencing or some similar medium should be used. Web conferencing, which includes a window to display charts, graphs, video, and animation, has become popular for this type of presentation. A sample screenshot of just such a program is presented in Figure 9.5. This graphic includes a main window for the display of content, a list of participants in the upper right-hand corner, and a video of the presenter in the bottom right-hand corner.

Cost and Accessibility

Different training media have different costs, and more technologically sophisticated media not only are more expensive but also may create access problems. For example, if you develop a CD-ROM–delivered computer training

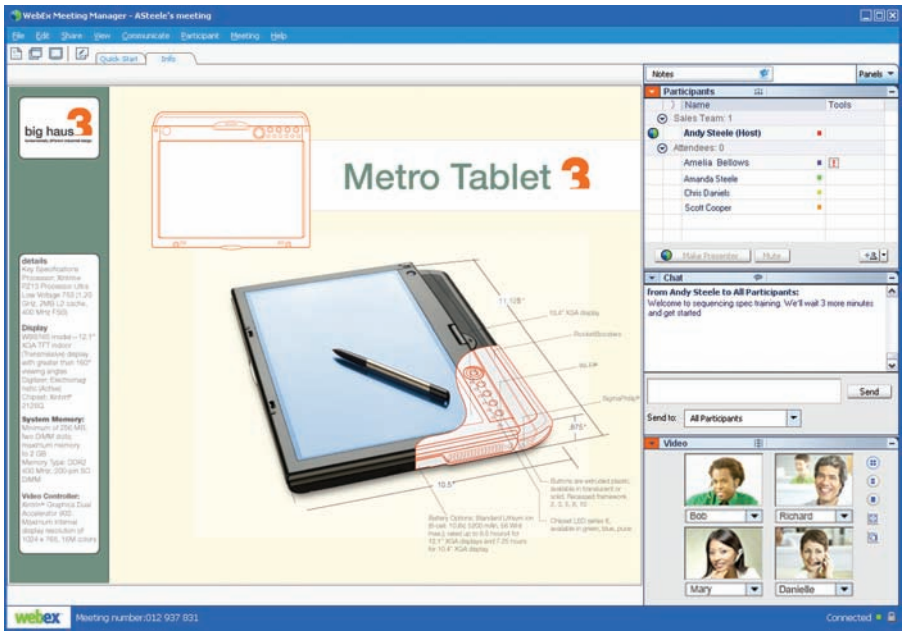


Figure 9.5 Screenshot of a Web Conference. *Source: Web-ex.* Used with permission.

course, but it only runs on high-end PCs with Windows operating systems, then it's possible that not all employees will be able to use it. Employees who do not have high-end computers, or who work with Apple computers, may be unable to take training conveniently. Both cost and access should be taken into account when finalizing choices about media.

In general, if the audience for training is small, then the organization may choose to save time and money by using media that don't require time-consuming work up front. In such a case, a face-to-face, live presentation may be preferable to computer-delivered training. However, if a company already has successful templates for creating computer-delivered training, then it may actually be less expensive than other delivery media.[57]

TRANSFER-ENHANCEMENT TECHNIQUES

As noted earlier, learning does not guarantee that trainees will transfer what they learn back on the job. As a result, transfer will not necessarily happen even if training is designed and delivered in the ways we've just discussed. What can the organization do to foster transfer of training? A number of techniques that can be used before, during, and after training will help.[58]

Before Training

One of the least commonly used but most powerful techniques to enhance transfer, at least according to trainees, is management involvement with trainees prior to training.[59] Managers can work with employees in a number of ways to help them prepare for training. For example, managers can build transfer into employees' performance standards, offer rewards to trainees who demonstrate transfer, involve employees in planning training, brief trainees on the importance of training, send co-workers to training together, and encourage trainees to attend and actively participate in all training sessions. When managers work in partnership with trainers and trainees, transfer is much more likely to occur.

Behavioral contract
An agreement that specifies what the trainee and his or her manager will do to ensure training is effective.

One highly structured way for managers to work with employees is through a **behavioral contract**, which spells out what both the employees and the managers expect to happen during and after training. A behavioral contract would include specific statements about how the employee will use newly acquired knowledge and skill on the job and how the supervisor will support those efforts. The best approach is for employees to work with their managers to create and sign a contract that both agree on.[60] Because it is so formal, the behavioral contract may not be appropriate in all organizations. In organizations whose policies and practices are generally more informal, a simple conversation between manager and employee may be more appropriate. A sample behavioral contract is shown in Figure 9.6.

During Training

During training, the trainer can use at least two different approaches to foster transfer. The first approach is to structure the training in ways that will help trainees to generalize what they learn back on the job. This can be done by focusing training on general principles and varying the situations under which skills are practiced.[61] For example, training managers to conduct performance reviews should provide general guidelines rather than a lock-step process that must be followed every time. General rules provide knowledge that is flexible enough to be applied in a variety of situations. The management trainees can

TRAINEE STATEMENT:

I, _____, would like to participate in the following training program: _____. If agreed, I will:

* complete all pre-work and other assignment.
* attend all portions of the training.
* actively listen and participate throughout the training content.
* create specific actions detailing how I will apply training content.

Signed: _____

Date: _____

MANAGER STATEMENT:

I, _____, as the supervisor of the employee identified above, agree that I will:

* release the trainee from sufficient work assignment to allow complete preparation for and attendance of all portions of the training.
* meet with the trainee before and after training to explore opportunities for application.
* provide specific opportunities for the trainee to practice the newly acquired behaviors and skills.
* provide encouragement, support, and reinforcement as the trainee applies newly acquired behaviors and skills.

Signed:_____

Date: _____

Figure 9.6 Sample Behavior Contract Between Trainee and Manager. *Source:* Information from Mary L. Broad and John W. Newstrom, *Transfer of Training: Action-Packed Strategies to Ensure High Payoff from Training Investments* (Reading, MA: Perseus, 1992).

then practice conducting performance reviews in a number of different role-playing situations with characters who react differently. Practice of this type will better prepare them for the uncertainty and variability of the task when it is done back on the job.

The second approach uses an instructional add-on called **relapse prevention training**. This training directly addresses situations in which trainees may have difficulty applying trained skills and provides strategies for overcoming relapses into old patterns of behavior. Relapse prevention programs generally ask trainees to do the following: (1) Select a skill from training and set a specific goal to use that skill; (2) anticipate when they might relapse to old behavior instead of using the newly acquired skill; (3) write out the positive and negative consequences of using (or not using) the new skill; (4) review relapse prevention strategies that can be used to prevent or recover from relapses, including recognizing behaviors that might lead to relapse and preparing a support network; (5) describe a few work situations that might contribute to a relapse; and (6) prepare strategies for dealing with these situations. Research has found that relapse prevention programs can be beneficial if the transfer of training climate is poor.[62] A downside of relapse prevention is that it requires extra training time, and it may not work effectively if the training climate is positive.

Relapse prevention training
A transfer enhancement activity that helps prepare trainees to overcome obstacles to using trained behaviors on the job.

After Training

After training, the manager and trainee should work together to ensure transfer. Techniques managers can use include giving positive reinforcement for using trained skills, arranging for practice sessions, supporting trainee reunions, and publicizing successes in the use of trained skills. Managers might also consider reducing job pressures in the first few days that trainees are back from training, to allow the trainees time to test out their new knowledge and skill.

One other important action that managers must take is to provide trainees with an opportunity to use the skills from training as soon as possible after

Opportunity to perform
Allowing employees a chance to use the skills they learned in training back on the job.

the training is over. This concept, known as **opportunity to perform**, is essential because without an opportunity to use the new knowledge or skill, it will decay.[63] As you have probably learned in your own lives, knowledge or skill gained and not used is lost over time. For example, you may have memorized the capitals of all the states when you were in elementary school, but you probably don't remember many of them today. If there will be a time delay between when training must be done and when employees need to use it, managers must create opportunities for employees to refresh their knowledge and skill so it is not lost.

In the "How Do We Know" feature, you can learn about two interventions completed after training that helped boost transfer for restaurant managers.

PUTTING IT ALL TOGETHER

When objectives, content, methods, media, and transfer enhancements have all been selected, then training materials must be prepared, reviewed for accuracy and quality, and produced. What training materials will be needed

How Do We Know?

How Can Transfer Be Enhanced?

All too often, trainees do not use what they learn in training back on the job. One U.S.-wide restaurant chain experimented with ways to make sure that their management training was used on the job. Michael Tews and Bruce Tracey helped the organization design a test to see whether self-coaching, upward feedback, or a combination of both was successful at enhancing transfer. One group of trainees completed self-coaching via a workbook that asked open-ended questions and requested they write down goals and track performance. Another group of trainees received upward feedback in the form of ratings and comments from subordinates regarding the degree to which they used trained behaviors. Yet another group received both, and one group received none of the interventions. In total, 87 new managers participated in this research study. The training was aimed at helping managers clarify expectations, monitor performance, reward performance, provide corrective feedback, and inspire employees. The program was eight hours and included lectures, discussion, video, and role-play.

Both interventions worked, but the use of trained behaviors on the job was highest when both interventions were used. Neither intervention was cost free, though, as each requires some post-training administrative work and trainee effort. The restaurant chain that sponsored the research decided to use upward feedback in the future because it required less trainee effort and administrative follow-up.

The Bottom Line. Both self-coaching and upward feedback can be useful for boosting transfer following a training course. The best transfer results occur when both are used, but this requires a good deal of trainee and administrative time. If transfer is a serious concern, and resources are not limited, then using both interventions makes sense. In other situations, the organization should consider which intervention makes the most sense given the nature of the organization, the training, and the trainees.

Source: Information from Michael Tewes and J. Bruce Tracey. "An empirical examination of interventions for enhancing the effectiveness of interpersonal skills training," *Personnel Psychology* 61 (2008): 375–401.

depends on the choices made during design. For example, a course that is instructor-led will require trainees' guides, an instructor's guide, and perhaps audiovisual presentation material.

Effective training can take a long time to develop. It might, for example, take 30 to 80 hours of a HR professional's time to produce one hour of instructor-led training, including the time to conduct a needs assessment, draft a preliminary design, and obtain expert reviews of content. Producing technology-delivered instruction, simulations, and behavior modeling methods can be particularly time consuming. For instance, producing one hour of high-quality computer-delivered simulation may take as many as 400 hours of an HR professional's and a computer programmer's time.[64] Of course, development times vary depending on many factors. The point is that it can take a considerable amount of time to make decisions about training and then act on these decisions to produce the necessary training materials. HR professionals must therefore be effective project managers, taking care to leave enough time to both design and develop all necessary materials.

CONCEPT CHECK

1. *What training methods keep learners active during training?*
2. *What are the benefits and drawbacks of e-learning?*
3. *At what points in time can transfer-enhancement strategies be used?*

LEARNING OBJECTIVE 5

How Do Organizations Determine Whether Training Is Effective?

Training evaluation is the process used to determine the effectiveness of training programs. **Training effectiveness** refers to the extent to which trainees (and their organization) benefit as intended from training. The training evaluation process typically involves four steps: (1) determining the purpose of the evaluation, (2) deciding on relevant outcomes, (3) choosing an evaluation design, and (4) collecting and analyzing the data and reporting the results.[65]

Training effectiveness
The extent to which trainees and their organizations benefit as intended from training.

PURPOSE

The first step in evaluation is to determine the purpose of the evaluation. Most of the reasons to evaluate training fit into three primary categories: (1) provide feedback to designers and trainers that helps improve the training; (2) provide input for decisions about whether to continue or discontinue the training; and (3) provide information that can be used to market the training program.[66]

There are three primary targets of evaluation—that is, three kinds of information that evaluators can collect and analyze: (1) training content and

design, which can be assessed to provide feedback to designers and trainers; (2) changes in learners, which can be measured to provide feedback and make decisions about training; and (3) organizational payoffs, which can be collected and used for all three purposes.[67] Each target can be assessed in a number of ways, as discussed in the next section. Figure 9.7 illustrates this perspective on training evaluation.

To provide an example of the connection between purpose and targets, consider a company that offers new supervisors a one-week, face-to-face training course in basic supervisory skills. This training might be evaluated for one, two, or three different reasons. If the training were evaluated to provide feedback that would improve the course in the future, then training experts could be asked to review the training to ensure that the content is accurate and the design choices (methods and media) are appropriate. If the training were evaluated to determine whether it should be continued in the future, then learners could be observed to see if they actually learned the material and used it on the job. Finally, if the training were evaluated to develop marketing materials that would help recruit future trainees, then changes in new supervisor turnover for business units that use the training could be tracked. If turnover rates were lower in business units that used the training, then this result could be crafted into a powerful story about the benefits of training. The story could be distributed widely to encourage other business units to send their supervisors to the training. Of course, an organization might evaluate this training course for all three reasons, in which case it could do all of the above!

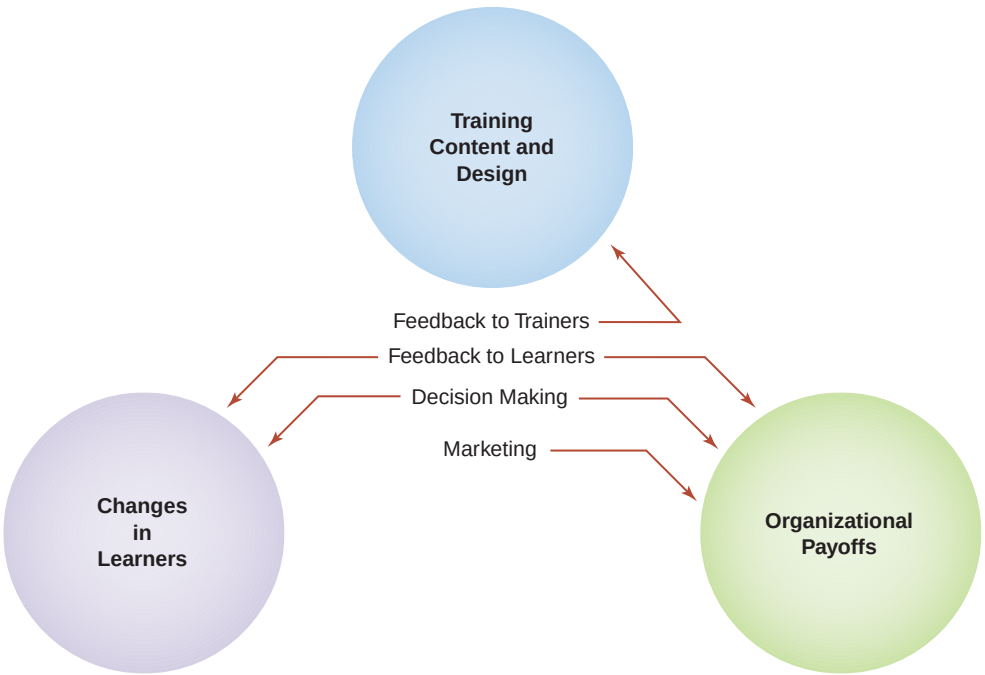


Figure 9.7 The Three Primary Targets of Evaluation. Kurt Kraiger, "Decision-Based Evaluation," in Kurt Kraiger (Ed.), *Creating, Implementing, and Managing Effective Training and Development* (San Francisco: Jossey-Bass, 2002), 331–376. Used with permission.

Evaluation is not always a single-step activity that only occurs at the end of training. In fact, evaluation efforts may begin while training is being designed. Evaluators may collect information about whether the training objectives and content are aligned with the business strategy and whether the training methods are aligned with the training objectives. This effort might include review by subject matter experts and managers, as well as feedback from trainees following exposure to a course outline or sample materials. Doing evaluation work while training is being developed helps ensure that training is likely to have the desired effects.[68]

OUTCOMES

Training outcomes can be roughly divided into four categories—reactions, learning, transfer, and organizational results.[69] These outcomes provide different types of information about training that are more or less useful, depending on the purpose of the evaluation.

Reactions

Trainee reactions capture how the trainees felt about training: Did they like it? Did they think it was interesting and useful? Reaction measures are similar to the end-of-semester teacher evaluation forms that most colleges have students complete. Evaluations of this sort can be useful for determining how learners react to the training content and design, but they are not good measures of learning. Research shows that reactions do not always relate to how much trainees actually learned.[70] Still, reactions can help evaluators gauge what went well and what did not which can be useful for providing feedback to training designers and trainers. Reactions can also be useful as overall measures of satisfaction with training courses. High levels of dissatisfaction suggest that something is wrong and that trainers may need to alter the program in some way.

Companies should be careful about making decisions to discontinue courses or to fire trainers based on reaction data alone. Research suggests that there are many determinants of reactions, including factors that are not under the trainer's control. For example, trainees' general tendency to be positive or negative can sway their reactions.[71] If a trainer happens to get a particularly negative set of trainees, then reactions to that course may be lower regardless of what the trainer does. In sum, reaction data should be interpreted cautiously and are probably better used to provide feedback to improve training than to make decisions about discontinuing training.

Learning

As noted earlier, learning is a change that occurs from experience. Learning can involve knowledge, skills, or attitudes, and each of these can be assessed.[72] Knowledge can be assessed with traditional tests, such as multiple-choice, fill-in-the-blank, or open-ended tests. It can also be measured with other techniques, such as asking trainees to explain relationships among key concepts and testing whether trainees' beliefs about relationships are similar to experts' beliefs. Skills can be measured by scoring role plays, simulations, and behavior-modeling exercises for the use of the desired skills. Attitudes can be assessed by asking trainees about their beliefs and their motivation, as well as by watching trainees' behavior for evidence of the desired attitude.

If an objective of training is to have employees believe that promptness is important to customers, for example, then trainees could be scored for their promptness in end-of-training activities.

Learning objectives for a training program should be easily classifiable into these categories and should make clear how to evaluate whether learning has occurred. For example, the learning objective in Table 9.6 concerning wine varieties offers a precise way to determine if a waiter has learned as intended from a wine course. The revised objective was "Given three glasses of different varieties of red wine, be able to identify each correctly while blindfolded." Because this objective was written so effectively, it provides everything necessary to determine whether the training was effective. All that we need is some wine, some glasses, and a blindfold.

Transfer

Transfer, as we have seen, refers to applying learning acquired in training to behavior on the job. To assess transfer, evaluators can ask employees about their own post-training behavior, or they can ask trainees' peers and managers about the trainees' behavior. In some cases, existing records can be used to examine transfer. For example, if sales training encourages trainees to sell items with both high- and low-profit margins, the records of employees' sales can indicate whether their actual sales move in that direction.

Organizational Results

Organizational results are, of course, outcomes that accrue to a group or the organization as a whole. To assess organizational results, we can use basic measures of effectiveness, such as an increase in sales for the whole company or a decrease in turnover, or we can use efficiency measures, which balance benefits with costs.

Organizational results can be made even more informative by taking into account the resources required to achieve those results. When we analyze the costs of training along with the benefits, we are examining **training efficiency**. An increasingly popular efficiency measure is **return on investment (ROI)**. For a training program, we calculate ROI as follows:

Training efficiency
The extent to which the benefits of training exceed the costs of developing and delivering training.

Return on investment (ROI)
An efficiency measure created by dividing the monetary value of training benefits by the costs of delivering training and multiplying the result by 100.

$$\text{Return on Investment} = \frac{\text{Benefits of Training}}{\text{Cost of Training}} \times 100$$

So if a program to train employees in customer service cost a total of $10,000, and the financial benefit was $10,000 from a reduction in returned merchandise, then the ROI is 100 percent that means the company received benefits equal to the costs of its efforts.

ROI can be negative (if the benefits of training are negative instead of positive), moderate (if the benefits exceed the costs), very large (if the benefits far exceed the costs), and anywhere in between. In one study, a training course resulted in an ROI of nearly 2000 percent, meaning that the company gained back nearly 20 times the money it invested in the training.[73] Of course, few training courses yield a return that large. The same study found that the average ROI for sales/technical training was 156 percent.

Evaluating organizational results requires more resources than evaluating reaction and learning outcomes, because it involves collecting information outside of the training context. Consequently, these outcomes are generally measured less frequently than others. One general rule is to evaluate organizational outcomes only for the most high-profile and expensive programs.[74]

DESIGN

Evaluation designs differ in when data are collected and from whom. Some evaluation designs provide greater certainty about the results of training, but these same designs are more resource intensive. To illustrate this point, we will discuss two of the most common evaluation designs, one on each end of a continuum of certainty.

Post-Test Only

The designs most commonly used in organizations are called *post-test only* designs. This means that training outcomes are measured only at the end of training for the training group. The group is given a survey or test after training, and we examine the results to see if the results are as expected. Post-test only designs do not offer much certainty about whether training caused the results observed. It is possible, for example, that the trainees knew the training material in advance. It is also possible that they learned it on their own, outside of training. Despite the limited certainty that this design offers, it may still be useful if the evaluator is primarily concerned that trainees reach a certain level of proficiency. For example, if training is intended to ensure that assembly-line employees catch all products with a troublesome manufacturing defect, then knowing for sure whether training was the cause is less critical than having all trainees capable of identifying the defect.

Pre-Test and Post-Test with Control Group

To provide greater certainty about whether training was effective, evaluators can test employees both at the beginning and at the end of training (to look for change) and can compare trained employees with untrained employees with similar characteristics (to verify that training caused the change). To provide the greatest certainty, employees should be randomly selected either to receive training or to be in a control group that does not receive training. When random assignment to training and nontraining conditions is possible, then the pretraining differences between trained and untrained employees are reduced, and we can have greater confidence that differences observed after training are a result of the training and not some other factor.

When is it worth the time and effort to use this particular design, or others that require multiple tests and multiple groups? If a training program is being considered that will be expensive and there are real questions about whether to do it, then this effort will provide decision makers with the information necessary to make the best decision possible. In other words, if the purpose of the evaluation is to determine whether training makes enough of a difference to be continued, then it makes sense to take the time to use a more sophisticated evaluation design. Less sophisticated designs may be sufficient when the purpose of training is to provide feedback to trainers or market the program.

RESULTS

Once the purpose, outcomes, and design of evaluation have been specified, the evaluation can be conducted. Then the data collected must be analyzed and reports generated. Depending on the purpose of the evaluation, the

reports may be widely disseminated or simply summarized for the trainer. Whatever the case, it is important to revisit the purpose of the evaluation and make sure that the right people see the report so that the information gained from the evaluation is used as intended.

CONCEPT CHECK

1. *What are the three purposes for evaluating training?*
2. *What are the four different outcomes that can be used to evaluate training?*
3. *What does ROI stand for?*

A MANAGER'S PERSPECTIVE REVISITED

In the Manager's Perspective that opened this chapter, Hui was frustrated with her experience after a company-sponsored training program. She wondered why she was not allowed to use what she learned; no one seemed to support her efforts. She began to wonder whether the whole experience had been a waste of time. She also wondered how she might have avoided this frustration. Following are the answers to the "What Do You Think?" quiz that followed the Manager's Perspective. Were you able to correctly identify the true statements? Can you do better now?

1. Training keeps employees happy because it's a break from work, but it has little impact on the organization's line. **FALSE.** *Training can have a big impact on the bottom line if it is created in partnership with management and if it is systematically designed and delivered.*
2. If trainees learn in training, they will transfer that learning back on the job. **FALSE.** *Learning is a prerequisite for transfer but does not guarantee that transfer will occur.*
3. Lecture is a terrible method for delivering training. **FALSE.** *When trainees need to acquire basic knowledge, lecture can be an efficient way to help them do so.*
4. Training presented face to face is always more effective than training presented via computer technology. **FALSE.** *Face-to-face training and computer-based training can be equally effective. The choice depends on the requirements of the chosen training method and concerns regarding cost and accessibility.*
5. Evaluating training is a waste of time. **FALSE.** *Evaluation can be used to improve training, make decisions about continuing or discontinuing training, and market training.*

Hui's experience is, unfortunately, not uncommon. Training programs in organizations are not always supported. When training programs are linked to organizational strategy, are designed and delivered well, and are supported by the organization, they can help provide a competitive advantage. The principles discussed in this chapter can help improve training decisions so that organizations can realize this competitive advantage.

Summary

LEARNING OBJECTIVE 1

How is employee training strategic?

Employee training practices should align with the organization's business strategy. When companies follow a cost strategy, training should help employees solve problems and be more efficient. When companies use a differentiation strategy, training should help employees provide better service or be more creative and innovative. In terms of the overall amount of training, organizations with an internal labor orientation will offer more training than organizations with an external labor orientation. Organizations with an external labor orientation will lean toward acquiring new knowledge and skill by hiring new employees or by merging with or acquiring other organizations. These organizations still offer training programs, though, and they must continually strive to keep costs low.

LEARNING OBJECTIVE 2

What are key principles for getting benefits from training?

Regardless of business strategy, training should be developed according to the same principles: (1) partnership among trainer, employee, and manager and (2) systematic design and development. Design and development should follow a three-phase process that includes needs assessment, design and delivery, and evaluation. Depending on the nature of the training, and the setting in which it is developed, these steps can be completed sequentially (traditional design) or almost simultaneously (rapid design).

LEARNING OBJECTIVE 3

How are training needs determined?

Needs assessments can be proactive or reactive. Proactive needs assessment is regular and planned, and it involves collecting information about the organization, the task, and the people. Reactive needs assessment occurs when managers request training, and it follows a problem-solving process of defining the problem, determining the causes, and implementing solutions.

LEARNING OBJECTIVE 4

How is effective training designed and delivered?

Training methods can be categorized as passive, active, and on-the-job. Presentations, the primary method for passive training, can be a useful way to deliver knowledge-based content, but they are limited in that they cannot help trainees gain skills. To develop skills, learners need more active training methods, such as discussion, case analysis, discovery, role playing, simulation, and behavior modeling. For on-the-job training to be effective, it must be structured and systematic.

LEARNING OBJECTIVE 5

How do organizations determine whether training is effective?

The first and most important decision regarding evaluation is deciding its purpose. The purpose of the evaluation influences the outcomes, outcomes measures, evaluation strategy, and final report. Three common purposes for evaluation are: (1) providing feedback to designers, trainers, and trainees; (2) providing input for decision making about the value of continuing the training; and (3) providing information that can be used to market the training program. To provide feedback on training, training content and design can be examined before, during, and after training. To provide input to decisions about training, changes in learners and organizational payoffs can be examined to determine if training is effective at producing desired changes. To provide marketing information, information about training design, learners, and organizational payoffs can be crafted into stories about benefits of training.

Key Terms

attitudes 332
behavioral contract 358
causal analysis 346
e-learning 355
informal learning methods 333
knowledge 332
learning 332
learning objective 348
needs assessment 341
opportunity to perform 360
organization analysis 341
organizational objective 349
person analysis 343
proactive needs assessment 341
problem definition 345
rapid model of instructional design 340
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relapse prevention training 359
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skills 332
task analysis 342
traditional model of instructional design 340
training 332
training climate 342
training effectiveness 361
training efficiency 364
training media 354
training method 351
training vendors 350
transfer of training 338

Discussion Questions

1. What kinds of training content are most important for organizations using cost strategies? differentiation strategies?
2. Why do organizations following an internal labor orientation generally offer more training than organizations with an external labor orientation?
3. What are the key differences between the proactive and reactive needs assessment approaches?
4. How are learning and organizational objectives used in the training design and development process?
5. It is often easy to confuse training methods and training media. Consider the human resources course you are currently taking. What are the methods and what are the media being used?
6. What are the strengths and weakness associated with the following training methods: presentation, discovery, simulation, and behavior modeling? How can each method be made more effective?
7. Consider the classes you have taken throughout school. Which classes were the most beneficial for you? Do you attribute that to the classes' content, methods, media, or some other factor?
8. Have you ever taken an online course or another form of distance education, such as a correspondence course? How was the experience different from a traditional face-to-face class?
9. Consider the classes you have taken throughout school. How have they been evaluated? What purpose or purposes do you think these evaluations have served?
10. What is transfer enhancement, and why is it helpful for employees?

Example Case

Northwestern Memorial Hospital

Many in the Chicagoland region and around the nation would consider Northwestern Memorial Hospital (NMH), a 138-year-old institution, to be among the very best teaching hospitals. They have earned this distinction

because of their high-quality patient care, extraordinary physicians and hospital staff, strong financial position, and world-class facilities.

Not one to rest on its laurels, NMH is continually changing and striving for excellence. In 1999, the hospital opened its new, 2 million square foot healthcare facility. The 17-story Feinberg Inpatient Pavilion and the 22-story Galter Outpatient Pavilion share an eight-floor base of public areas and diagnostic and therapeutic services. "This was a major accomplishment. When we were finished, we asked ourselves, 'What's the next mountain we should climb?'" says Dean Manheimer, Senior VP, Human Resources.

That mountain turned out to be an ambitious strategic plan with three critical interrelated goals: (1) provide the best patient experience; (2) recruit, develop, and retain the best people; and (3) develop the resources to achieve its mission and vision through exceptional financial performance. Among other things, this strategy strives for a more comprehensive and integrated approach to workforce development. Central to its success is NMH's new Learning Academy, launched in 2002. Seen as the lever to advance its "best people" strategy, the Academy oversees all management development, clinical and other functional education, facilitates the creation of new training and certificate programs, and builds outside workforce development partnerships.

Early in 2000, Human Resources staff conducted an internal audit of its education programs. While the Hospital always had an abundance of opportunities for staff development, the audit uncovered unnecessary redundancies within the hospital's education offerings. For example, six courses were being taught six different ways for Body Mechanics—the movement of patients. NMH developed the Academy to establish standardized training policies and solutions, link the education programs closely to the organization's business strategy, provide staff easy access to learning, and utilize the most efficient technologies.

Today, the Academy provides an online catalog and registration system for all the hospital's education programs, which total over 200 courses ranging from communications, project management, information services, and budgeting to an array of healthcare specialties, some of which have been designed by internal instructional staff in cooperation with employees who are subject matter experts. Area community colleges and universities are also brought onsite to deliver high-demand, credit-based courses. Last year, the Academy delivered approximately 55,000 hours of training to 21,000 employees and received a 91 percent satisfaction rate. In addition, the Academy delivered over 3,000 hours of management training to higher level staff, including human resources best practices, diversity education, building collaborative workplaces, and delivering/receiving constructive performance feedback. The Academy also hosts skill development "Lunch and Learn" sessions where managers and employees learn, for example, flexible scheduling strategies, personal development planning, and interviewing techniques.

But what many staff members are most proud of are the three "schools" the Academy developed for Nuclear Medicine, Radiation Therapy, and Diagnostic Medical Sonography. The schools offer onsite programs that are open to both employees and community members. In August 2003, the first class of seven graduated from the school of Nuclear Medicine, an important achievement, given the skill shortage in this area. NMH hired many of the students, eliminating all hospital vacancies for the first time in five years. In addition, NMH eliminated staff overtime and agency usage, resulting in a cost savings of $800,000.

QUESTIONS

1. What is the strategy pursued by NMH? Can it be easily classified as differentiation or cost reduction? as internal or external labor orientation?
2. Describe the various ways in which NMH is delivering training and other related learning opportunities to its employees.
3. What benefits did NMH gain by developing the Academy and its associated schools?
4. If the NMH School of Nuclear Medicine cost the organization $200,000, what was the return on investment for this particular Academy program?

Source: Excerpted from *Case Study*: *Northwestern Memorial Hospital*, by Work-Force Chicago and Council for Adult and Experiential Learning. Retrieved online at http://www.workforcechicago2.org on April 5, 2010. Used with permission.

DISCUSSION CASE *Hypothetical Telecommunications*

Sales at a large telecommunications company were down for the third quarter. Management reviewed several strategies to improve sales and concluded that one solution would be to improve training for the large, dispersed sales force.

For the sake of expediency, the training department began using a needs assessment it conducted several years before as a basis to develop enhanced training. The plan was first to update the original needs analysis, and then to develop new training strategies on the basis of what it found. The department also began investigating new training technologies as a possible means to reduce training delivery costs. However, management was so intent on doing something quickly that the training department was ultimately pressured into purchasing a generic, off-the-shelf package by a local vendor.

One of the features of the package that appealed to management was that the course could be delivered over the Web, saving the time and expense of having the sales force travel to the main office to receive training. Hence, even though the package was costly to purchase, the company believed that it was a bargain compared to the expense of developing a new package in-house and delivering it in person to the sales force.

Six months after the training had been delivered, sales were still declining. Management turned to the training department for answers. Because no measures of training performance had been collected, the training department had little information upon which to base its diagnosis. For lack of a better idea, members of the training department began questioning the sales force to see if they could determine why the training was not working.

Among other things, the salespeople reported that the training was slow and boring and that it did not teach them any new sales techniques. They also complained that, without an instructor, it was impossible to get clarification on things they did not understand. Moreover, they reported that they believed sales were off not because they needed training in basic sales techniques, but because so many new products were being introduced that they could not keep up. In fact, several of the salespeople requested meetings with design engineers just so they could get updated product information.

QUESTIONS

1. Outline the key decisions made from the beginning to the end of this case. Who made each of those decisions, and why?
2. Describe the ideal process for handling the concern about declining sales, ignoring for now the pressure from management.
3. What arguments could be made to convince management that working with an outdated needs assessment is not wise?
4. If you were asked to develop a training program for these sales agents, what content, method, and media would you choose? Explain your answers as best you can given the limited information provided.

Source: Excerpted from Eduardo Salas and Janice A. Cannon-Bowers, "Design Training Systematically," in Edwin A. Locke (Ed.), *Handbook of Principles of Organizational Behavior* (Oxford, UK: Blackwell, 2000).

EXPERIENTIAL EXERCISE

Finding an Off-the-Shelf Training Product

Imagine that you have been asked to prepare a short workshop on stress management to newly promoted supervisors. Because time and money are short, you are going to examine two alternatives: using a training vendor to develop the program as a custom course or purchasing a program as an off-the-shelf product. To prepare for a meeting on this topic, you must do research on training vendors and on off-the-shelf products. Write a short report providing descriptions of vendors and products. To get you started, here are some websites called "learning portals" that contain multiple links to courses that are available both online and face to face:

- www.sumtotalsystems.com
- www.elementk.com
- www.skillsoft.com

An even larger list of these portals can be found at the following Web address: http://www.learnativity.com.

INTERACTIVE EXPERIENTIAL EXERCISE

The Art of Training: Finding the Right Program for Global Telecommunications
http://www.wiley.com/college/sc/stewart

Access the companion website to test your knowledge by completing a Global Telecommunications interactive role play.

In this exercise, Global Communications wants your help in improving its training programs. One of the department managers is complaining that his employees "just don't get it, so they must need more training." It doesn't seem that this manager has very good communication skills, and you can understand why employees may not be learning from him. To make matters more challenging, though, the manager tells you he doesn't have much of a budget for training, and he can't afford to let his employees miss work for more than a few hours anyway. You start thinking about what can be done. Global really wants to use training to support the Committed Expert HR strategy. How should the training program be developed and carried out? •

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