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Chapter **Seven**

Traditional Training Methods

Objectives

After reading this chapter, you should be able to

1. Discuss the strengths and weaknesses of presentational, hands-on, and group building training methods.
2. Provide recommendations for effective on-the-job training (OJT).
3. Develop a case study.
4. Develop a self-directed learning module.
5. Discuss the key components of behavior modeling training.
6. Explain the conditions necessary for adventure learning to be effective.
7. Discuss what team training should focus on to improve team performance.

Training Drives Growth at Zeigler Auto Group

In 2004, the Zeigler Auto Group consisted of four dealerships and a president, Aaron Zeigler, with a desire to expand. Along with aggressive hiring, Zeigler's plan would require a training program to build skills and alignment with the company's values. A training program helps attract ambitious salespeople because recruiters can show that it will help them develop their selling skills and perhaps move into management. Furthermore, the largest dealership networks have formal training programs, and Zeigler wanted to compete for talent with them. Training has helped the company meet its president's ambition to expand. It now has more than 23 dealerships in four states, with a workforce that includes hundreds of salespeople and service advisers.

The company developed training that combines classroom instruction with videos. The videos are available for salespeople, service advisers, and department managers. There are more than 2,000 videos in an online library. The videos range in length from 30 seconds to between five and eight minutes. The library also includes training videos that have been developed by Zeigler's executives and managers. The videos cover essentials such as having a positive attitude at work and how to treat a customer as well as more complex topics such as overcoming a customer's objection to purchasing a car. After watching the videos, the employees take a quiz to check their understanding. Video instruction is used because the format is flexible and allows employees to learn as their schedule permits.

page 301

When they meet for classroom training, which happens every month or two, they drill down deeper into topics. The classroom training involves either face-to-face sales training or a guest speaker at headquarters, with the presentation shared in other locations via videoconferencing. Guest speakers have included Jim Craig, the goalie for the 1980 gold medal–winning U.S. Olympic ice hockey team, and Bill Rancic, the first contestant to be hired from Donald Trump's TV show *The Apprentice*. The guest speakers' presentations are also videotaped, if they agree, and included in the video library. Training for new hires also involves face-to-face classroom instruction. Zeigler also uses mentoring groups to develop employees evaluated to have the potential to become managers. Participation in the mentoring groups is by membership only. The invitation comes from Zeigler based on a general manager's recommendation. The mentoring groups meet six to eight times a year at the company headquarters to discuss and analyze more complex parts of a

groups meet six to eight times a year at the company headquarters to discuss and analyze more complex parts of a manager's job that are not addressed in the training sessions.

One measure of the success of the training is that employee turnover is now just 7 percent, far down from more than 25 percent just 10 years earlier. Also, sales per employee per month are higher than they were before the company started using the high-frequency video approach to learning.

Source: Based on Zeigler Auto Group, Careers page, www.zeigler.com, accessed February 18, 2018; Al Jones, "Kalamazoo-Based Zeigler Buys More Car Dealerships in Chicago Area," *MLive*, January 21, 2016, https://www.mlive.com/news/kalamazoo/index.ssf/2018/03/zeigler_auto_group_buys_more_f.html; Jon McKenna, "Training Helps Sustain

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Michigan Dealership Group's Evolution into a Substantial Corporate Player," *CBT Automotive Network*, December 1, 2015; https://www.cbtnews.com/training-helps-sustain-michigan-dealership-groups-evolution-into-a-substantial-corporate-player/; Arlena Sawyers, "Getting Schooled in the Car Dealership Business," *Automotive News*, June 1, 2015, www.autonews.com/article/20150601/RETAIL07/306019979/getting-schooled-in-the-car-dealership-business, accessed April 1, 2018.

INTRODUCTION

The Zeigler Auto Group uses a combination of training methods to develop the skills of its staff members. For most companies, including the Zeigler Auto Group, training methods have to be developed or purchased within a budget, there usually is a sense of urgency for the training, and training must be made available to those employees who need it.

Several studies have shown that most workplace learning doesn't occur through formal courses or programs but rather on the job, informally, and through social interactions with others.[1] For example, one study of executives found that 70 percent of learning occurred on the job in the workplace, 20 percent occurred socially through coaching and mentoring, and only 10 percent occurred through formal classroom instruction. This is known as the **70-20-10 model** of learning. Many trainers rely on this model for designing or choosing training methods that will be included in courses and programs. Similar to the emphasis on conditions for learning and transfer discussed in Chapter Four, "Learning and Transfer of Training," this model suggests that to increase the likelihood that learning will occur in training, the content needs to be meaningful and practical, the learner has to

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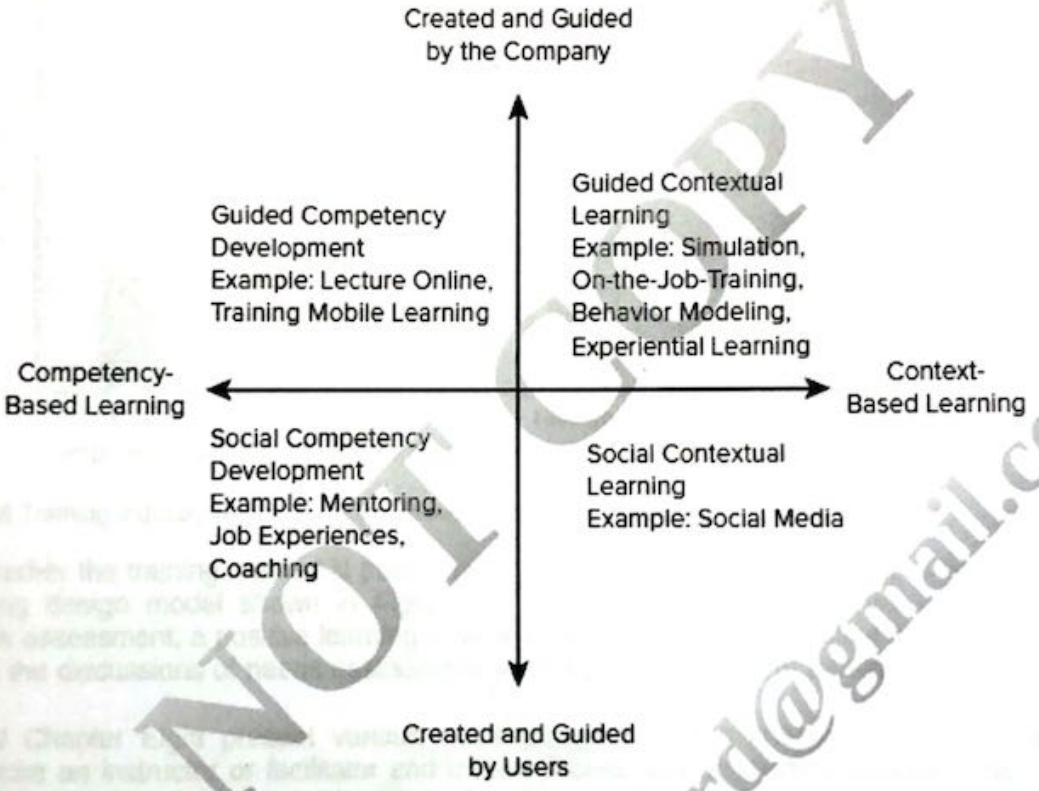
sharing knowledge on issues, problems, and topics related to their current job. Employees have always learned from face-to-face meetings and phone conversations with peers. What is new is that the increased availability and access to smartphones and tablet computers provide a multimedia, low-cost, easy-to-use, and familiar way to interact with others using social media such as blogs, wikis, social networks (such as Facebook), and microblogs (such as Twitter). This provides many possibilities for technology-aided social contextual learning. We will discuss blogs, wikis, social networks, and microblogs in Chapter Eight, "Technology-Based Training Methods." Keep in mind that training methods can cut across the quadrant shown in Figure 7.1 if they include multiple types of learning, such as a virtual classroom that includes simulations and use of social networks.

page 303

FIGURE 7.1 A Learning System



Source: From J. Meister and K. Willyerd, *The 2020 Workplace. How Innovative Companies Attract, Develop, and Keep Tomorrow's Employees Today* (New York: Harper Business 2010).

More and more companies are using training methods from all four quadrants. This allows employees to have more choice in how and when they learn. It also recognizes the need for both dedicated training time using traditional methods (such as instructor-led courses) as well as just-in-time learning that can occur through accessing relevant content (such as a video) or interacting with peers and experts (such as through social media). Traditionally, training and development activities have been largely "instructor focused." This means that the instructor or trainer, along with the company, has the primary responsibility for ensuring that employees learn.[3] The learner plays a passive role as the receiver of information, and learning occurs to the extent that the appropriate conditions are provided by the learning "experts" or are inherent in the learning method. For example, the instructor bears the responsibility for identifying what should be learned, determining the most appropriate methods, and evaluating the extent to which knowledge and skill acquisition have resulted from the learning activity. Increased recognition of the 70-20-10 model has resulted in training that emphasizes a more active role for the learner and informal learning.[4] Also, the greater availability and use of online and mobile technology (e.g., iPads) to deliver instruction and facilitate social collaboration gives the employee the opportunity to choose when, how, from whom, and even what content to learn.[5] In the next section, Figure 7.2 provides an overview of the extent to which the many different training methods are being used by companies today. Instructor-led classroom training remains the most frequently used method, but the use of online learning, virtual classroom, or a combination of methods continues to grow.

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sharing knowledge on issues, problems, and topics related to their current job. Employees have always learned from face-to-face meetings and phone conversations with peers. What is new is that the increased availability and access to smartphones and tablet computers provide a multimedia, low-cost, easy-to-use, and familiar way to interact with others using social media such as blogs, wikis, social networks (such as Facebook), and microblogs (such as Twitter). This provides many possibilities for technology-aided social contextual learning. We will discuss blogs, wikis, social networks, and microblogs in Chapter Eight, "Technology-Based Training Methods." Keep in mind that training methods can cut across the quadrant shown in Figure 7.1 if they include multiple types of learning, such as a virtual classroom that includes simulations and use of social networks.

page 303

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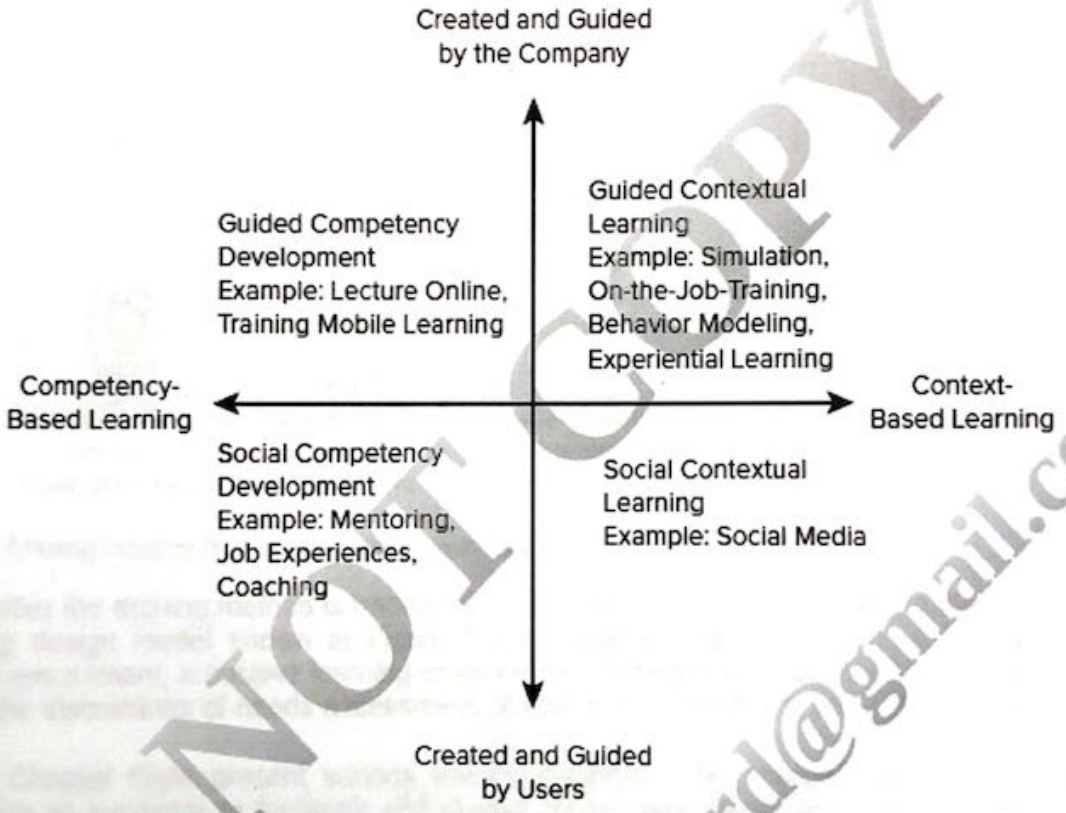

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FIGURE 7.2 Use of Training Methods

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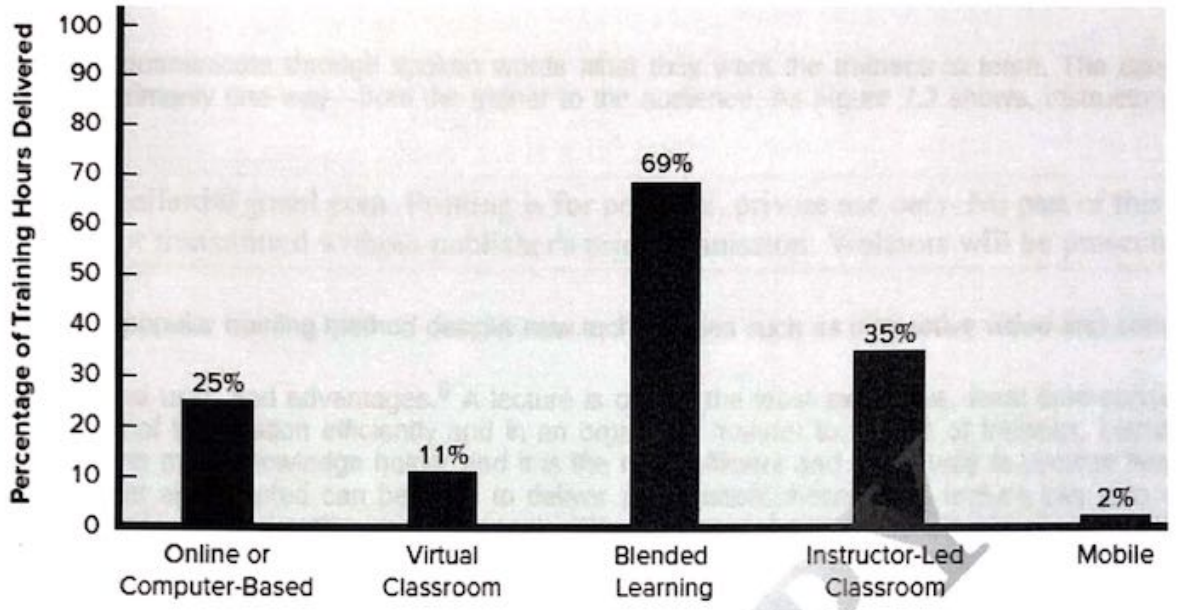

Source: Based on "2018 Training Industry Report," *training* (November/December 2018), pp. 18–31.

Regardless of whether the training method is traditional or technology-based, for training to be effective, it needs to be based on the training design model shown in Figure 1.2 in Chapter One, "Introduction to Employee Training and Development." Needs assessment, a positive learning environment, and transfer of training are critical for training program effectiveness. Recall the discussions of needs assessment, learning, and transfer of training in Chapters Three, Four, and Five.

This chapter and Chapter Eight present various training methods. This chapter focuses on **traditional training methods,** which require an instructor or facilitator and involve face-to-face interaction between trainees. However, most methods discussed here can be adapted for online, virtual reality, mobile learning, or other new training technologies used for training delivery or instruction. For example, a classroom lecture can occur face to face with trainees (traditional training) or can be delivered through a virtual classroom, in which the instructor is not in the same room as the trainees. Also, instruction can be real-time (synchronous) or time-delayed (asynchronous). Through technology, a lecture can be attended live (although the trainees are not in the same classroom as the trainer), or the lecture can be videotaped or burned onto a DVD. The lecture can be viewed by the trainees at their convenience on a notebook computer that gives them access to the appropriate medium for viewing the lecture (e.g., DVD player or Internet connection).

page 304

Chapter Eight discusses web-based training, e-learning, virtual reality, and social media. The increased use of technology-based training for delivery of instruction is occurring because of the potential increase in learning effectiveness, as well as the reduction in training costs.

Keep in mind that many companies' training programs use a combination of methods to capitalize on each method's strengths for learning and transfer. To train its business services employees in how to solve customer issues, during the first meeting Intermedia uses virtual instructor-led training, video, lab activities, and role play scenarios.[6] Employees can access the training once they are back on the job to refresh their skills. Health Decisions, a clinical research organization, needed to expand its staff expertise in women's health issues.[7] To do so it developed a training program that included video, e-learning, and instructor-led sessions.

The traditional training methods discussed in this chapter are organized into three broad categories: presentation methods, hands-on methods, and group building methods.[8] The following sections provide a description of each method, a

methods, hands-on methods, and group building methods." The following sections provide a description of each method, a discussion of their advantages and disadvantages, and tips for the trainer who is designing or choosing the method. The chapter concludes by comparing methods based on several characteristics, including the learning outcomes influenced, the extent to which the method facilitates learning transfer, the cost, and the effectiveness.

PRESENTATION METHODS

Presentation methods are methods in which trainees are passive recipients of information. This information may include facts, processes, and problem-solving methods. Lectures and audiovisual techniques are presentation methods. It is important to note that instructor-led classroom presentation methods may include lectures, video, workbooks and manuals, DVDs, and games. That is, a mix of methods can actively engage trainees in learning and can help with transfer of training.

Lecture

In a **lecture,** trainers communicate through spoken words what they want the trainees to learn. The communication of learned capabilities is primarily one-way—from the trainer to the audience. As Figure 7.2 shows, instructor-led classroom

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presentation remains a popular training method despite new technologies such as interactive video and computer-assisted instruction.

Lectures have several uses and advantages.[9] A lecture is one of the least expensive, least time-consuming ways to present a large amount of information efficiently and in an organized manner to groups of trainees. Lectures are useful when the instructor is the main knowledge holder and it is the most efficient and direct way to provide learners with that knowledge. Lectures that are scripted can be used to deliver a consistent message. A lecture can also demonstrate a subject-matter expert's passion and enthusiasm for a topic. Alamo Pharma Services uses regional sales trainers, trainers, and company leadership as

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presenters in its training courses. In addition to presentations, the courses include polling, discussion, video, and online chat rooms.[10] Also, TED Talks (see www.ted.com) are a good example of how lectures can be motivational, interesting, and provide a simple message to learners in less than 20 minutes. Lectures are also used to support other training methods such as behavior modeling and technology-based techniques. For example, a lecture may be used to communicate information regarding the purpose of the training program, conceptual models, or key behaviors to trainees prior to their receiving training that is more interactive and customized to their specific needs.

page 305

Table 7.1 describes several variations of the standard lecture method. All have advantages and disadvantages.[11] Team teaching brings more expertise and alternative perspectives to the training session. Team teaching does require more time on the part of trainers, however, not only to prepare their particular session but also to coordinate with other trainers, especially when there is a great deal of integration between topics. Panels are good for showing trainees different viewpoints in a debate. A potential disadvantage of a panel, however, is that trainees who are relatively naive about a topic may have difficulty understanding the important points. Guest speakers can motivate learning by introducing relevant examples and applications. For guest speakers to be effective, trainers need to set expectations with speakers regarding how their presentation should relate to the course content. Student presentations may increase the material's meaningfulness and trainees' attentiveness, but they can inhibit learning if the trainees do not have presentation skills.

page 306

TABLE 7.1 Variations of the Lecture Method

Method	Description
Standard lecture	Trainer talks and may use visual aids provided on the blackboard, whiteboard, or Microsoft PowerPoint slides, while trainees listen and absorb information.
Team teaching	Two or more trainers present different topics or alternative views of the same topic.
Guest speakers	A speaker or speakers visit the session for a predetermined time period. Primary instruction is conducted by the instructor.
Panels	Two or more speakers present information and ask questions.
Student presentations	Groups of trainees present topics to the class.

The lecture method has several disadvantages. Lectures tend to lack participant involvement, feedback, and meaningful connection to the work environment—all of which inhibit learning and transfer of training. Lectures appeal to few of the trainees' senses because trainees focus primarily on hearing information or seeing facts, principles, or processes. Lectures also make it difficult for the trainer to judge quickly and efficiently the learners' level of understanding. To overcome these problems, the lecture is often supplemented with question-and-answer periods, discussion, video, games, case studies, or simulations. These techniques allow the trainer to build into the lecture more active participation, job-related examples, and exercises, which facilitate learning and transfer of training.

For example, EY combines e-learning with a virtual classroom and face-to-face instruction for training its tax professionals.[12] The virtual classroom courses are 30 minutes long. In the first 10 minutes, online polling is used to test participants' understanding of key concepts covered in the e-learning course. The trainer is encouraged to help clarify any key concepts that the participants don't understand. Following the polling, participants work in five- or six-person virtual teams on case studies. Next, participants attend the live, face-to-face class in which they complete income tax returns using EY's processes and technology.

Audiovisual Techniques

Audiovisual instruction includes overheads, slides, and video. Video is used for improving communications skills, interviewing skills, and customer-service skills and for illustrating how procedures (e.g., welding) should be followed. Video is usually used in conjunction with lectures to show trainees real-life experiences and examples.

Consider how Farmers Insurance, Verizon Communications, and Asurion use videos in their training.[13] As part of its training to improve the experience of its customers, Farmers Insurance uses 16 videos that are two to three minutes long. Employees observe actual customer interactions, identify their responsibilities, and determine what they could do to

improve the customer's experience. Managers are provided with a guide for each video. The guide provides tips on how to discuss the key points and reinforce learning after employees complete a video. At Verizon, customer-facing employees use an app to access a customer interaction video that models the best way to talk to customers about the features and benefits of its new pricing plans. Asurion is a company that provides device insurance and warranty and support services for cell phones, consumer electronics, and home appliances. Asurion's development team creates and provides employees with videos explaining the features and selling points of its new products. These videos help employees learn how to deal with customers' questions and concerns about new products.

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Most problems in using video result from the creative approach used.[14] For example, common problems include: too much content for the trainee to learn; poor dialogue between the actors (which hinders the credibility and clarity of the message); overuse of humor or music; and drama that makes it confusing for the trainee to understand the important learning points emphasized in the video.

HANDS-ON METHODS

page 307

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Hands-on methods are training methods that require the trainee to be actively involved in learning. These methods include on-the-job training (OJT), simulations, case studies, business games, role playing, and behavior modeling. These methods are ideal for developing specific skills, understanding how skills and behaviors can be transferred to the job, experiencing all aspects of completing a task, or dealing with interpersonal issues that arise on the job.

page 307

On-the-Job Training

On-the-job training (OJT) refers to new or inexperienced employees learning in the work setting and during work by observing peers or managers performing the job and then trying to imitate their behavior. OJT is one of the oldest and most used types of informal training.[15] It is considered informal because it does not necessarily occur as part of a training program and because managers, peers, or mentors serve as trainers. If OJT is too informal, however, learning is less likely to occur. OJT can be useful for training newly hired employees, upgrading experienced employees' skills when new technology is introduced, cross-training employees within a department or work unit, and orienting transferred or promoted employees to their new jobs.

OJT takes various forms, including apprenticeships and self-directed learning programs. (Both of these are discussed later in this section.) OJT has several advantages over other training methods.[16] It can be customized to the experiences and abilities of trainees. Training is immediately applicable to the job because OJT occurs on the job using actual tools and equipment and actual job tasks. As a result, trainees are highly motivated to learn and the skills learned in OJT more easily transfer to the job. Both trainees and trainers are at the job site and continue to work while training occurs. This means that companies save the costs related to bringing trainees to a central location, hiring trainers, and renting training facilities. Finally, OJT can be offered at any time, and trainers will be available because they are peers or managers.

At Nomad Global Communication Solutions, a company that builds and equips disaster response trailers, each task in the manufacturing process is assigned to an employee expert who breaks every step into simple, easy-to-understand language.[17] The expert works alongside every new employee, explaining the steps needed to complete the assigned task. The expert repeats steps that appear confusing and asks questions to ensure that the employee understands what he is doing and is able to remember the steps.

At Sweet Candy Company, a candy maker based in Salt Lake City, Utah, new employees receive training in basic safety and emergency evacuation procedures in an orientation session and then are assigned a mentor.[18] The mentor works with the new employee for two weeks, providing hands-on, one-on-one training. Teams hold weekly meetings, and managers provide training on safety issues throughout the year. Employees also receive a weekly safety contact card on which they note safety hazards that they have encountered on the job and how they have fixed the problem. The safety contact cards are turned in, and each month the company has a safety celebration where the cards are put into a drawing. Employees win prizes such as a day off or a $10 gift card. All of the safety contact cards are reviewed to identify safety issues and hazards, which are then communicated to the employees.

page 308

OJT is an attractive training method because, compared to other methods, it needs less investment in time or money for materials, the trainer's salary, or instructional design. Managers or peers who are job-knowledge experts are used as instructors. As a result, it may be tempting to let them conduct the training as they believe it should be done.

There are several disadvantages to this unstructured approach to OJT. Managers and peers may not use the same process to complete a task. They may pass on bad habits as well as useful skills. Also, they may not understand that demonstration, practice, and feedback are important conditions for effective OJT. Unstructured OJT can result in poorly trained employees, employees who use ineffective or dangerous methods to produce a product or provide a service, and products or services that vary in quality.

OJT must be structured to be effective. Table 7.2 shows the principles of structured OJT. Because OJT involves learning by observing others, successful OJT is based on the principles emphasized by social learning theory. These include the use of a credible trainer, a manager or peer who models the behavior or skill, communication of specific key behaviors, practice, feedback, and reinforcement. For example, at Rochester Gas and Electric in Rochester, New York, radiation and chemistry instructors teach experienced employees how to conduct OJT.[19] While teaching these employees how to demonstrate software to new employees, the trainer may ask the employees to watch other OJT instructors as they

page 309

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Several steps are necessary to develop effective self-directed learning:[25]

page 310

1. Conduct a job analysis to identify the tasks that must be covered.
2. Write trainee-centered learning objectives directly related to the tasks. Because the objectives take the place of the instructor, they must indicate what information is important, what actions the trainee should take, and what the trainee should master.
3. Develop the content for the learning package. This involves developing scripts (for video) or text screens (for computer-based training). The content should be based on the trainee-centered learning objectives. Another consideration in developing the content is the medium (e.g., paper, video, computer, or website) that will be used to communicate the content.
4. Break the content into smaller pieces ("chunks"). The chunks should always begin with the objectives that will be covered and include a method for trainees to evaluate their learning. Practice exercises should also appear in each chunk.
5. Develop an evaluation package that includes evaluation of the trainee and evaluation of the self-directed learning package. Trainee evaluation should be based on the objectives (a process known as *criterion referencing*). That is, questions should be developed that are written directly from the objectives and can be answered directly from the materials. Evaluation of the self-directed learning package should involve determining ease of use, how up-to-date the material is, whether the package is being used as intended, and whether trainees are mastering the objectives.

Self-directed learning is likely to become more common in the future, as companies seek to train staff flexibly, take advantage of technology, and encourage employees to be proactive in their learning.

Apprenticeship

Apprenticeship is a work-study training method with both on-the-job and classroom training.[26] The typical length of an apprenticeship is four years but it can range from two to six years. To qualify as a registered apprentice under state or federal guidelines, apprentices in most cases must complete at least 144 hours of classroom instruction and, depending on state rules, obtain a certain number of hours of on-the-job experience.[27] For example, learners in the Ohio State Apprenticeship Program are required to complete 144 hours of instruction and a minimum of 2,000 hours of paid, on-the-job training.[28] Once their training is complete, apprentices are called *journey workers*, and they earn certification from the U.S. Department of Labor or a state apprenticeship agency. Table 7.3 shows the top 10 occupations for apprentices. In 2017, there were over 533,000 active apprentices in over 22,000 registered apprenticeship programs.[29] The average annual wage for an apprentice is $50,000. Apprenticeships can be sponsored by individual companies or by groups of companies cooperating with a union. The typical costs of apprenticeships for employers ranges from $170,000 to $250,000, including four years of classroom training, medical benefits, and salary on the job while the apprentices learn. Apprentices are not required to work for the company after they graduate. Unions' collective bargaining agreements designate what proportion of union dues or hours worked by its members are used to fund apprenticeship programs. As Table 7.3 shows, most apprenticeship programs are in electrical work, plumbing, pipefitting, steamfitting, and carpentry. Table 7.4 provides an example of an apprenticeship program for a machinist.

TABLE 7.3 Top 10 Occupations for Active Apprentices

Rank	Occupation	Active Apprentices
1	Electrician	41,489
2	Plumber, Pipefitters, and Steamfitters	23,094
3	Carpenter	20,159
4	Construction Laborers	14,089
5	Heavy and Tractor Trailer Truck Drivers	7,890
6	Electrical Power Line Installers and Repairers	7,008
7	Sheet Metal Worker	6,667
8	Structural Iron and Steel Workers	5,225
9	Drywall and Ceiling Tile Installers	4,509
10	Roofer	3,946

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Source: Based on "Top 10 Occupations for Fiscal year 2017," from U.S. Department of Labor, Employment and Training Administration. Available at https://doleta.gov/oa/data_statistics2016.cfm.

TABLE 7.4 Example of a Machinist Apprenticeship

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Hours	Weeks	Unit
240	6.0	Bench Work
360	9.0	Drill Press
240	6.0	Heat Treat
200	5.0	Elementary Layout
680	17.0	Turret Lathe (Conventional and Numerical Control)
800	20.0	Engine Lathe
320	8.0	Tool Grind
640	16.0	Advanced Layout
960	24.0	Milling Machine
280	7.0	Profile Milling
160	4.0	Surface Grinding
240	6.0	External Grinding
280	7.0	Internal Grinding
200	5.0	Thread Grinding
520	13.0	Horizontal Boring Mills
240	6.0	Jig Bore/Jig Grinder
160	4.0	Vertical Boring
600	15.0	Numerical Control Milling
240	6.0	Computer Numerical Control
640	16.0	Related Training
8,000	200.0	TOTAL
Probationary: **The following hours are included in the totals above, but must be completed in the first 1,000 hours of apprenticeship:**		
80	2.0	Drill Press (probation)
280	7.0	Lathe Work (probation)
360	9.0	Milling Machine (probation)
40	1.0	Elementary Layout (probation)
80	2.0	Related Training (probation)
840	**21.0**	**TOTAL**

Source: A. H. Howard III, "Apprenticeship," in *The ASTD Training and Development Handbook*, 4th ed., ed. R. L. Craig (New York: McGraw-Hill, 1996), p. 808.

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In an apprenticeship program, the hours and weeks that must be devoted to completing specific skill units are clearly defined. The OJT involves assisting a certified tradesperson (a journey worker) at the work site. The OJT portion of the apprenticeship follows the guidelines for effective OJT by including modeling, practice, feedback, and evaluation.[30] First, the employer verifies that the trainee has the required knowledge of the operation or process. Next, the trainer (who is usually a more experienced, licensed employee) demonstrates each step of the process, emphasizing safety issues and key steps. The senior employee provides the apprentice with the opportunity to perform the process until all are satisfied that the apprentice can perform it properly and safely.

page 312

Apprenticeships have benefits for both the learner and the company.[31] Learners earn pay while they learn and their wages increase automatically as their skills improve. Learners often receive a job offer and good wages from the company that sponsors their training. Apprentices gain a wide range of skills and knowledge based on their classroom and on-the-job experience. They tend to be cross-trained, which means they can move to different tasks and jobs. For example, an individual who completes a machinist apprenticeship can begin working as a machinist and then move to other areas of production, sales, and eventually management. Unlike the expense of a college eduation, the costs for the learner are usually limited to textbooks.

Apprenticeship programs benefit employers by providing them with the skills they need but are difficult to find in the labor market.[32] Employers also benefit from high employee retention and loyalty rates among apprentices, improved morale and emphasis on continuous learning, a talent pool, improved safety, and training customized to their needs. Recognizing the value of apprenticeships, President Trump signed an executive order that makes it easier for companies, unions, and trade associations to develop their own program guidelines and provides additional funding for apprenticeships (not surprising, given that he was the host of the television show *The Apprentice*).

At Newport News Shipbuilding, graduates of apprenticeship programs make up 13 percent of the workforce. Its program includes 800 apprentices in 25 occupations. Eighty percent of graduates are still employed by Newport News 10 years later. Because apprentices want to learn, it helps create an environment where more experienced employees want to share their knowledge and help apprentices learn new skills. This helps develop a skilled internal labor force, which is likely unavailable outside the company (recall the discussion in Chapter One of how companies are having difficulty finding employees with the skills they need). Siemens has an apprenticeship program in its Charlotte, North Carolina, factory.[33] Siemens partners with a local community college to offer courses in combination with on-the-job training. The apprentices are recruited from local high schools and the company pays approximately $180,000 per student in providing tuition, books, and wages during the four-year program. Apprentices learn skills needed in advanced manufacturing and graduate from the program with an associate degree. The apprenticeship program at Scot Forge, a metals manufacturer, also involves classes at local colleges and work on the shop floor. The company pays apprentices' wages and tuition. Apprentices who graduate from the three-year program receive an associate degree and are guaranteed a job at the company for two years.

Apprentice-like programs are also used to prepare new managers. The president and chief executive officer of Goldcorp, a company in the mining industry, offers the chance for MBAs to apply for a nine-month apprenticeship.[34] The apprentice shadows Goldcorp's CEO and observes board meetings, negotiations, mine acquisitions, and other important aspects of the mining industry. Goldcorp hopes the apprenticeships will attract more MBAs to the mining industry, which is viewed by many graduates as an unsafe and dirty business. Hyatt Hotels offers several programs in which management trainees complete training in the areas of facilities, culinary arts, sales, hotel operations, accounting, and catering.[35] Trainees rotate through all parts of the hotel and perform all aspects of each job, from washing dishes to catering, and then spend the rest of the training time in their specialty area. Employees who complete the training are placed in entry-level management positions.

page 313

Besides the development costs and time commitment that management and journey workers have to make to apprenticeship programs, another disadvantage of many of these programs is that, despite efforts to be inclusive, there still may be limited access for minorities and women.[36] Also, there is no guarantee that jobs will be available when the program is completed. This is especially a problem in poor economic times such as the 2009 recession.

Simulations

A **simulation** is a training method that represents a real-life situation, with trainees' decisions resulting in outcomes that mirror what would happen if they were on the job. A common example of the use of simulators for training is flight simulators for pilots. Simulations, which allow trainees to see the impact of their decisions in an artificial, risk-free environment, are used to teach production and process skills as well as management and interpersonal skills. As you will see in Chapter Eight, new technology has helped in the development of virtual reality, a type of simulation that even more closely mimics the work environment.

Simulators replicate the physical equipment and conditions that employees encounter on the job. Alive Hospice in Nashville, Tennessee, uses simulation to train doctors and other health-care providers in how to communicate terminal diagnoses to patients.[37] One side of the room looks like a doctor's office. The other side of the room has a hospital bed. Trainees practice scenarios with one or more employees playing the role of the patient or family member. The four scenarios include telling a patient about a terminal diagnosis and responding to angry family members. The interactions are videoed so that following the simulation the trainee and a facilitator can review what happened and discuss what went well as well as areas for improvement. According to one doctor, the simulation was useful because she never had any formal training in how to hold an end-of-life conversation. Watching and receiving feedback made her realize she was too quick to

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jump into the conversation when the patient was talking. The realism of the simulation helped another doctor recognize the need to reduce the tension resulting from an interaction with a patient's angry family member.

At Automatic Data Processing, Inc., 30 high-potential global managers, working in teams of six, participate in a computer-based business simulation that replicates the company's business model.[38] The team, acting as the company's executive board, must operate a financially sound and profitable business through five rounds by creating growth opportunities in a competitive global market.

There are several features that simulators must have to be effective.[39] Trainees need to interact with the content, the trainers, and other trainees. Feedback should be provided to

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descriptions, etc.), writing the story, preparing questions to guide trainees' analysis, and writing an interesting, attention-getting case opening that will attract trainees' attention and provide a quick orientation to the case.

page 315

TABLE 7.5 Process for Case Development

1. Identify a story.
2. Gather information.
3. Prepare a story outline.
4. Decide on administrative issues.
5. Prepare case materials.

Source: Based on J. Alden and J. K. Kirkhorn, "Case Studies," in *The ASTD Training and Development Handbook*, 4th ed., ed. R. L. Craig (New York: McGraw-Hill, 1996), pp. 497–516

There are a number of available sources of preexisting cases. A major advantage of preexisting cases is that they are already developed, but a disadvantage is that the case may not actually relate to the work situation or problem that the trainee will encounter. It is especially important to review preexisting cases to determine how meaningful they will be to the trainee. Preexisting cases on a wide variety of problems in business management (e.g., in human resource management, operations, marketing, and advertising) are available from Harvard Business School, the Darden Business School at the University of Virginia, Ivey Business School at the University of Western Ontario, and various other sources.

KLA-Tencor uses cases studies as part of a program known as "The Situation Room" to help managers learn how to deal with common leadership problems.[43] A group of between 8 and 20 managers get together face to face or virtually each month for one year and read one of twelve 350–400 word case studies. Each case is based on a real situation or problem that occurred at KLA-Tencor. It has to be broad enough for most managers to have experienced the situation, issue, or problem, but specific enough to be useful. After they read the case, the managers are given three minutes to write their response to the situation. Participants share their responses and their peers provide feedback. If a peer doesn't like a response, he or she can provide an alternative. After all participants have shared their responses, four teams are formed and they are given "homework." Between the first and the second sessions, participants are expected to meet for an hour in their teams and review content, models, methodology, and/or tools that they have been exposed to in prior courses. Based on this review, they are asked to provide a response to the situation. During the second session participants share their prepared responses and discuss them. Based on what they learned from the first and second sessions, participants are asked to prepare a personal response focusing on how they will handle the situation if they encounter it on their job. The outcomes of the sessions are documented on the company's knowledge management system so practices can be shared with other managers facing similar challenges. Managers completing the program have found it valuable. KLA-Tencor is currently analyzing employee engagement survey scores to see if managers who participated in The Situation Room have improved in the leadership and management categories assessed on the survey.

Business Games

Business games require trainees to gather information, analyze it, and make decisions. Business games are primarily used for management skills development. Games stimulate learning because participants are actively involved and because games mimic the competitive nature of business. The types of decisions that participants make in games include all aspects of management practice: labor relations (agreement in contract negotiations), ethics, marketing (the price to charge for a new product), and finance (financing the purchase of new technology). Games are also used for developing job-specific skills such as patient triage or aircraft repair. They are similar to simulations in that they can be used for training that otherwise would involve risk of injury or accidents or would be too costly.[44]

Typical games have several characteristics.[45] Games involve a contest among trainees or teams of trainees or against an established criterion such as time or quantity. Games are designed to demonstrate an understanding or application of a knowledge, skill, or behavior. Several alternative courses of action are available to trainees, and trainees can estimate the consequences of each alternative, but only with some uncertainty. Trainees do not know for certain what the consequences of their actions will be because the consequences are partially based on the decisions of other game participants. Finally, rules limit participant behavior.

page 316

To ensure learning and transfer of training, games used in training should be simple enough that trainees can play them in a short period of time. The best games generate excitement among the participants and interest in the game.

Meaningfulness of the game is enhanced if it is realistic. Trainees need to feel that they are participating in a business and acquiring knowledge, skills, and behaviors that are useful on the job.[46] Debriefing from a trainer can help trainees understand the game experience and facilitate learning and transfer. Debriefing can include feedback, discussions of the concepts presented during the game, and instructions in how to take the knowledge, skills, or behavior emphasized in the game and use them at work. Table 7.6 contains some questions that can be used for debriefing.

TABLE 7.6 Questions to Use When Debriefing a Game

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- How did the score of the game affect your behavior and the behavior of the team?
- What did you learn from the game?
- What aspects of the game remind you of situations at work?
- How does the game relate to your work?
- What did you learn from the game that you plan to use at work?

Source: Based on S. Sugar, "Using Games to Energize Dry Material," in *The ASTD Handbook of Training Design and Delivery,* eds. G. Piskurich, P. Beckschi, and B. Hall (New York: McGraw-Hill, 2000), pp. 107–120.

A team of nurse educators from the University of North Carolina at Chapel Hill use a game, Friday Night at the ER, to improve the collaboration between nurses, physicians, and other health professionals who work in rural county hospital emergency rooms.[47] Needs assessment showed that the professional staff working in these emergency rooms felt the greatest training need was for improved communications and collaboration to deliver better patient care. The game challenges players to help manage a hospital during a typical day. Each player performs a role that is different from, yet dependent on, players in other hospital roles. Each session of the game concludes with the opportunity for players to reflect on and discuss what they learned and to make plans to apply what they learned in their real hospital roles.

A review of research on computer games shows that trainees learn more when they are actively involved in learning the content (rather than reading text or listening), they have unlimited access to the game, and the game is used as a supplement to other training methods, such as lecturing.[48] Games may give team members a quick start at developing a framework for information and may help develop cohesive groups. For some groups (such as senior executives), games may be more meaningful training activities (because the game is realistic) than presentation techniques such as classroom instruction.

Role Plays

Role plays refer to experiences in which trainees take on a role such as a manager, client, or disgruntled employee and explore what is involved in the role.[49] Role plays are usually included in training programs involving interpersonal skills such as communications, sales, providing performance feedback, coaching, leadership, and team building. Role plays can be completed in small groups of two to three persons in which all trainees complete

page 317

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the role play. Alternatively, several trainees can volunteer to role-play while the remaining trainees observe them. In a role play, outcomes depend on the emotional (and subjective) reactions of the other trainees.

page 317

At Wequassett Resort and Golf Club in Chatham, Massachusetts, the training schedule considers both the need to make guests happy and the need to help both new and returning employees learn how to do that.[50] From October to April, the resort is closed, but 340 employees start work in the spring before the resort opens. Half of the employees are receiving training for the first time, while the returning employees need refresher training. Wequassett Academy offers 70 courses in four schools (customer intimacy, technical training, information and technology, and management). The goal of training is to provide the kind of service that will encourage guests to come back again, as well as recommend the resort to their friends. The resort's training is in step with its business, which requires a personal touch. Training involves classroom instruction with role plays, as well as the use of DVDs. Employees have to successfully complete competency checklists before they are able to work. For example, food servers may have to take courses in menu knowledge, food service, and wine knowledge.

For role plays to be effective, trainers need to engage in several activities before, during, and after the role play. Table 7.7 shows the activities that comprise effective role plays.

TABLE 7.7 Activities for Effective Role Plays

- Provide background information on the purpose of and context for the role play.
- Make sure that a script is provided with enough detail for trainees to understand their roles.
- Arrange the room so trainees can see and hear the role players.
- Develop and use observation sheets and checklists that emphasize the issues in the role play.
- Provide debriefing on the experience of the role players and observers, the relationship of the role play to the company context, and important learning points.

Sources: Based on S. Karve, "Setting the Stage for Effective Role Plays," *T+D* (November 2011), pp. 76–77; S. Thiagarajan, "Instructional Games, Simulations, and Role Plays," in *The ASTD Training and Development Handbook*, pp. 517–533.

Behavior Modeling

Behavior modeling presents trainees with a model who demonstrates key behaviors to replicate and provides trainees with the opportunity to practice the key behaviors. Behavior modeling is based on the principles of social learning theory (discussed in Chapter Four), which emphasize that learning occurs by (1) observation of behaviors demonstrated by a model and (2) vicarious reinforcement. **Vicarious reinforcement** occurs when a trainee sees a model receiving reinforcement for using certain behaviors.

Behavior modeling is more appropriate for teaching skills and behaviors than for teaching factual information or knowledge. Research suggests that behavior modeling is one of the most effective techniques for teaching interpersonal and computer skills.[51]

Table 7.8 presents the activities in a behavior modeling training session. These activities include an introduction, skill preparation and development, and application planning.[52] Each training session, which typically lasts four hours, focuses on one interpersonal skill, such as coaching or communicating ideas. Each session includes a presentation of the rationale behind the key behaviors, a video of a model performing the key behaviors, practice opportunities using role play, evaluation of a model's performance in the videotape, and a planning session devoted to understanding how the key behaviors can be used on the job. In the practice sessions, trainees are provided with feedback regarding how closely their behavior matches the key behaviors demonstrated by the model. The role-playing and modeled performance are based on actual incidents in the employment setting in which the trainee needs to demonstrate success.

page 318

TABLE 7.8 Activities in a Behavior Modeling Training Program

Introduction (45 mins.)

- Watch video that presents key behaviors.

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- Listen to rationale for skill module.
- Discuss experiences in using skill.

Skill Preparation and Development (2 hrs., 30 mins.)

- View model.
- Participate in role plays and practice.
- Receive oral and video feedback on performance of key behaviors.

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Application Planning (1 hr.)

- Set improvement goals.
- Identify situations in which to use key behaviors.
- Identify on-the-job applications of the key behaviors.

Well-prepared behavior modeling training programs identify the key behaviors, create the modeling display, provide opportunities for practice, and facilitate transfer of training.[53] The first step in developing behavior modeling training programs is to determine (1) the tasks that are not being adequately performed due to lack of skill or behavior and (2) the key behaviors that are required to perform the task. A **key behavior** is one of a set of behaviors that is necessary to complete a task. In behavior modeling, key behaviors are typically performed in a specific order for the task to be completed. Key behaviors are identified through a study of the skills and behaviors necessary to complete the task and the skills or behaviors used by employees who are effective in completing the task.

Table 7.9 presents key behaviors for a behavior modeling training program on problem analysis. The table specifies behaviors that the trainee needs to engage in to be effective in problem analysis skills. Note that the key behaviors do not specify the exact behaviors needed at every step of solving a problem. Rather, the key behaviors in this skill module specify more general behaviors that are appropriate across a wide range of situations. If a task involves a clearly defined series of specific steps that must be accomplished in a specific order, then the key behaviors that are provided are usually more specific and explained in greater detail. For example, tennis players learning how to serve must follow a

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detailed sequence of activities (e.g., align feet with the baseline, take the racquet back over the head, toss the ball, bring the racquet forward over the head again, pronate the wrist, and strike the ball). People learning interpersonal skills must develop more general key behaviors because there is always more than one way to complete the task. The development of general key behaviors promotes far transfer (discussed in Chapter Five). That is, trainees are prepared to use the key behaviors in a variety of situations.

page 319

TABLE 7.9 Example of Key Behaviors in Problem Analysis

Get all relevant information by: • Rephrasing the question or problem to see if new issues emerge • Listing the key problem issues • Considering other possible sources of information
Identify possible causes.
If necessary, obtain additional information.
Evaluate the information to ensure that all essential criteria are met.
Restate the problem considering new information.
Determine what criteria indicate that the problem or issue has been resolved.

Another important consideration in developing behavior modeling programs is the modeling display. The **modeling display** provides the key behaviors that the trainees will practice to develop the same set of behaviors. DVDs and online video are the predominant methods used to present modeling displays. In online behavior modeling training, the learner can practice the key behaviors by watching scenarios that mimic an interpersonal interaction. At certain points during the scenario, for example, when asked a question, the learner is asked to choose one of several choices of how they would respond. Just like in a real interpersonal interaction, they then see how the other person would react to their response. (The use of new technology in training is discussed in Chapter Eight.) Effective modeling displays have six characteristics:[54]

1. The display clearly presents the key behaviors. The music and the characteristics of the situation shown in the display do not interfere with the trainee seeing and understanding the key behaviors.
2. The model is credible to the trainees.
3. An overview of the key behaviors is presented.
4. Each key behavior is repeated. The trainee is shown the relationship between the behavior of the model and each key behavior.
5. A review of the key behaviors is included.
6. The display presents models engaging in both positive use of key behaviors and negative use (i.e., ineffective models not using the key behaviors).

Providing opportunities for practice involves (1) having trainees cognitively rehearse and think about the key behaviors and (2) placing trainees in situations (such as role plays) in which they have to use the key behaviors. Trainees may interact with one other person in the role play or in groups of three or more in which each trainee can practice the key behaviors. The most effective practice sessions allow trainees to practice the behaviors multiple times, involve a small group of trainees where anxiety or evaluation apprehension is reduced, and include other trainees who understand the company and the job.

Practice sessions should include a method for providing trainees with feedback to provide reinforcement for behaviors performed correctly, as well as information needed to improve behaviors. For example, if role play is used, trainees can receive feedback from the other participants who serve as observers when not playing the role. Practice sessions may also be videotaped and played back to the trainees. The use of video objectively captures the trainees' behavior and provides useful, detailed feedback. Having the trainees view the video shows them specifically how they need to improve their behaviors and identifies behaviors that they are successfully replicating.

Behavior modeling helps ensure that transfer of training occurs by using application planning. **Application planning** prepares trainees to use the key behaviors on the job (i.e., enhances transfer of training). Application

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prepares trainees to use the key behaviors on the job (i.e., enhances transfer of training). Application planning involves having all participants prepare a written document identifying specific situations in which they should use the key behaviors. Some training programs actually have trainees complete a "contract" outlining the key behaviors that they agree to use on the job. The trainer may follow up with the trainees to see if they are performing according to the contract. Application planning may also involve preparing trainees to deal with situational factors that may inhibit their use of the key behaviors (similar to relapse prevention, discussed in Chapter Four). As part of the application planning process, a trainee may be paired with another participant, with the stated expectation that the two should periodically communicate with each other to discuss successes and failures in the use of key behaviors.

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GROUP BUILDING METHODS

Group building methods are training methods designed to improve team or group effectiveness. A **team** refers to two or more people with specific roles or functions who work together with shared responsibility to achieve a common goal or mission or complete tasks in a company.[55] In group building methods, trainees share ideas and experiences, build group identity, understand the dynamics of interpersonal relationships, and get to know their own strengths and weaknesses and those of their co-workers. Group techniques focus on helping teams increase their skills for effective teamwork. A number of training techniques are available to improve work group or team performance, to establish a new team, or to improve interactions among different teams. All involve an examination of feelings, perceptions, and beliefs about the functioning of the team; discussion; and development of plans to apply what was learned in training to the team's performance in the work setting. Group building methods include adventure learning, team training, and action learning.

Group building methods often involve experiential learning. **Experiential learning** training programs have four stages: (1) gain conceptual knowledge and theory; (2) take part in a behavioral simulation; (3) analyze the activity; and (4) connect the theory and activity with on-the-job or real-life situations.[56]

For experiential training programs to be successful, several guidelines should be followed. The program needs to tie in to a specific business problem. The trainees need to be moved outside their personal comfort zones, but within limits so as not to reduce trainee motivation or ability to understand the purpose of the program. Multiple learning modes should be used, including audio, visual, and kinesthetic. When preparing activities for an experiential training program, trainers should ask trainees for input on the program goals. Clear expectations about the purpose, expected outcomes, and trainees' role in the program are important. Finally, the training program needs to be evaluated. Training programs that include experiential learning should be linked to changes in employee attitudes, behaviors, and other business results. If training programs that involve experiential learning do not follow these guidelines, they may be questioned. For example, the U.S. Postal Inspector resigned after criticisms surfaced about postal team training activities. Current and former postal employees complained to several U.S. senators about training activities that included having employees wrap each other in toilet paper, dress as cats, and hold signs that spelled "teamwork."[57]

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Adventure Learning

Adventure learning is an experiential learning method that focuses on the development of teamwork and leadership skills through structured activities.[58] Adventure learning includes wilderness training, outdoor training, improvisational activities, drum circles, and even cooking classes. Adventure learning appears to be best suited for developing skills related to group effectiveness, such as self-awareness, problem solving, conflict management, and risk taking. Adventure learning may involve strenuous, challenging physical activities such as dogsledding or mountain climbing. Adventure learning can also use structured individual and group activities, such as wall climbing, rope courses, trust falls, ladder climbing, and traveling from one tower to another using a device attached to a wire that connects the two towers.

For example, "The Beam" requires team members to cross a six-foot-high beam placed between two trees, using help only from the team. Trainees can help by shouting advice and encouragement.[59] Rope-based activities may be held 3 to 4 feet or 25 to 30 feet above the ground. The high-ropes course is an individual-based exercise whose purpose is to help the trainee overcome fear. The low-ropes course requires the entire team of trainees to complete the course successfully. The purpose is to develop team identity, cohesiveness, and communication skills.

At RealScout, 20 coders, marketing executives, and product team members left their office and spent a day in the California mountains learning survival skills such as constructing shelters, purifying water, and starting a fire without matches.[60] The program cost $2,000 in addition to the $7,000 to $10,000 lost by shutting down the business for the day. RealScout executives believe the benefits of the adventure outweigh its costs. They believe it helps develop stronger teams, allows employees to better know each other even if they don't work together on a daily basis, and gives employees a fun experience that will aid in retention.

Adventure learning can also include demanding activities that require coordination but place less of a physical strain on team members. In drum circles, each team member is given a drum, and facilitators work with the team to create a drumming orchestra. Toyota spent $20,000 for drums to accommodate 40 people at its training center in Torrance, California.[61] Drum circles are held twice a week. Toyota believes that the drum circles are metaphors for how high-performance teams should operate: cooperatively and smoothly. Cooking Up Change is one of many team-building courses offered around the United States by chefs, caterers, hotels, and cooking schools.[62] These courses have been used by companies such as Honda and Microsoft. The idea is that cooking classes help strengthen communications and networking skills by requiring team members to work together to create a full-course meal. Each team has to decide who does what kitchen tasks (e.g., cooking, cutting, cleaning) and who prepares the main course, salads, and dessert. Often, team members are required to switch assignments in mid-preparation to see how the team reacts to change.

For adventure learning programs to be successful, exercises should relate to the types of skills that participants are expected to develop. Also, after the exercises, a skilled facilitator should lead a discussion about what happened in the exercise, what was learned, how events in the exercise relate to the job situation, and how to set goals and apply what was learned on the job.[63] DaVita HealthCare Partners provides kidney-related health-care services such as dialysis.[64] DaVita contracted with a training provider to develop a three-hour experiential learning activity that would be collaborative, have a sense of purpose, and reinforce the company's values of teamwork, fulfillment, and fun. The goals of the

program were to understand the importance or why of work, understand how team members relate to patients and to each other, and learn how to address challenges. The training activity started with a discussion of the importance of communicating and collaborating for successful teamwork on the job. Employees were divided into three-member teams and given the task of building prosthetic hands, which would be donated to organizations serving amputees. Building the prostheses provided an opportunity for the achievement of the program goals. The employees built more than 14,000 prostheses during the three-hour activity! The activity concluded with a discussion of ways to apply what they learned to their jobs at DaVita.

This approach does have disadvantages, however. The physical demands of some types of adventure learning and the requirement that trainees often touch each other in the exercises may increase a company's risk for negligence claims due to personal injury, intentional infliction of emotional distress, and invasion of privacy. Also, the Americans with Disabilities Act (ADA) raises questions about requiring disabled employees to participate in physically demanding training experiences.[65]

Given the physically demanding nature of adventure learning, it is important to consider when to use it instead of another training method. Adventure learning allows trainees to interact interpersonally in a situation not governed by formal business rules. This type of environment may be important for employees to mold themselves into a cohesive work team. Also, adventure learning exercises allow trainees to share a strong emotional experience. Significant emotional

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experiences can help trainees break difficult behavior patterns and open trainees to change their behaviors. One of the most important characteristics of adventure learning is that the exercises can serve as metaphors for organizational behavior. That is, trainees will behave in the same way in the exercises that they would when working as a team (e.g., developing a product launch plan). As a result, by analyzing behaviors that occur during the exercise, trainees gain insight into ineffective behaviors.

Does adventure learning work? Rigorous evaluations of its impact on productivity or performance have not been conducted. However, former participants often report that they gained a greater understanding of themselves and how they interact with co-workers.[66] One key to an adventure learning program's success may be the insistence that whole work groups participate together so that group dynamics that inhibit effectiveness can emerge and be discussed.

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Team Training

Team training refers to training that is designed to improve team effectiveness. There are many different types of teams in companies, including production teams, service teams, committees, project teams, and management teams. Teamwork tends to be episodic.[67] That is, teams engage in a cycle of identifying their goals, engaging in interpersonal interactions, and taking actions to achieve their goals. They repeat this cycle as goals are reached and tasks are completed and they move on to new tasks or goals. Regardless of the type of team, successful team performance depends on the knowledge, attitudes, and behaviors of its members. Figure 7.3 shows the three components of team performance: knowledge, attitudes, and behavior.[68] The behavioral requirement means that team members must perform actions that allow them to communicate, coordinate, adapt, and complete complex tasks to accomplish their objective. The knowledge component requires team members to

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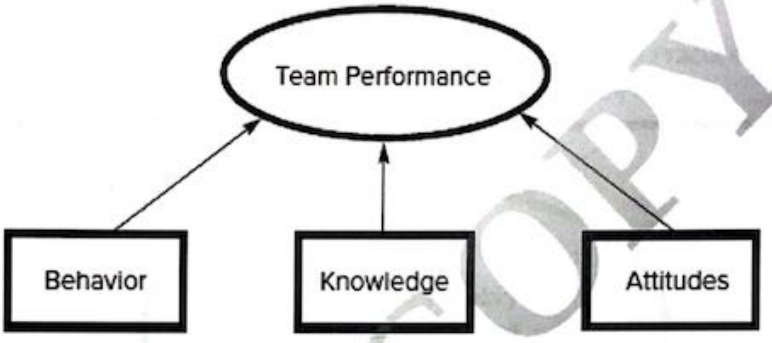
have mental models or memory structures that allow them to function effectively in unanticipated or new situations. Team members' beliefs about the task and feelings toward each other relate to the attitude component. Team morale, cohesion, and identity are related to team performance. For example, in the military, as well as many areas of the private sector (e.g., nuclear power plants and commercial airlines), much work is performed by crews, groups, or teams. Successful performance depends on the coordination of individual activities to make decisions, team performance, and the readiness to deal with potentially dangerous situations (e.g., an overheating nuclear reactor). Research suggests that effectively trained teams develop procedures to identify and resolve errors, coordinate information gathering, and reinforce each other.[69]

FIGURE 7.3 Components of Team Performance



Source: Based on E. Salas and J. A. Cannon-Bowers, "Strategies for Team Training," *in Training for 21st-Century Technology: Applications of Psychological Research,* eds. M. A. Quinones and A. Dutta (Washington, D.C.: American Psychological Association, 1997), pp. 249–281.

Figure 7.4 illustrates the four main elements of the structure of team training (tools, methods, strategies, and team training objectives). Several tools help define and organize the delivery of team training.[70] These tools also provide the environment (e.g., feedback) needed for learning to occur. The tools work in combination with different training methods to help create instructional strategies. These strategies are a combination of the methods, tools, and content required to perform effectively.

FIGURE 7.4 Main Elements of the Structure of Team Training

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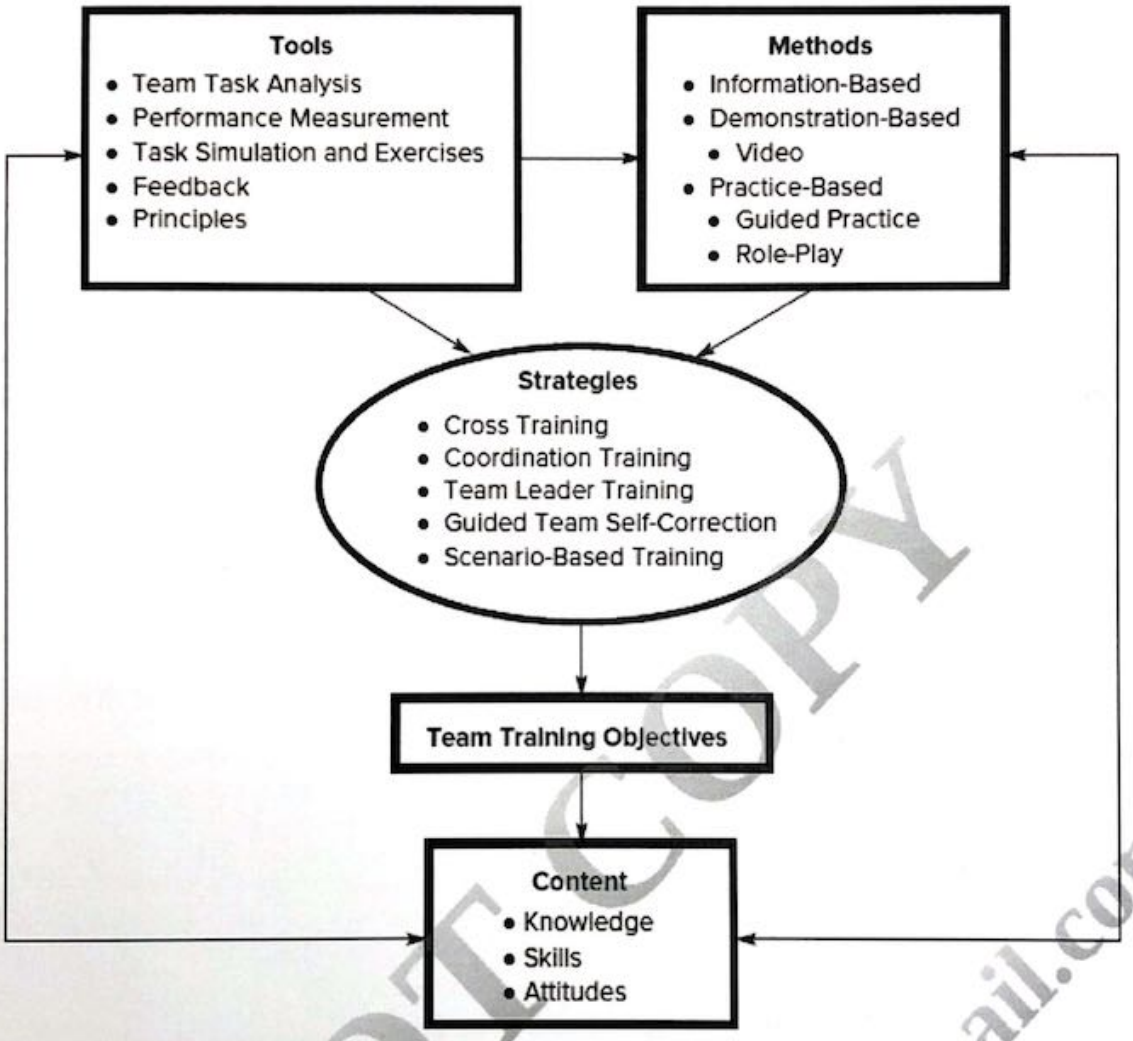

Sources: Based on E. Salas and J. A. Cannon-Bowers, "Strategies for Team Training," in *Training for 21st- Century Technology: Applications of Psychological Research,* eds. M. A. Quinones and A. Dutta (Washington, D.C.: American Psychological Association, 1997), pp. 249–281; J. Cannon-Bowers and C. Bowers, "Team Development and Functioning," in *APA Handbook of Industrial and Organizational Psychology* ed. S. Zedeck (Washington, D.C.: American Psychological Association, 2011), pp. 597–650.

The strategies include cross training, coordination training, team leader training, scenario-based training, and guided team self-correction. **Cross training** has team members understand and practice each other's skills so that members are prepared to step in and take the place of a member who may temporarily or permanently leave the team. Research suggests that most work teams would benefit from providing members with at least enough understanding of teammates' roles to discuss trade-offs of various strategies and behaviors that affect team performance.[71] **Coordination training** instructs the team in how to share information and decision-making responsibilities to maximize team performance. Coordination training is especially important for commercial aviation or surgical teams that are in charge of monitoring different aspects of equipment and the environment but must share information to make the most effective decisions regarding patient care or aircraft safety and performance. **Team leader training** refers to training that the team manager or facilitator receives. This may involve training the manager on how to resolve conflict within the team or helping the team coordinate activities or other team skills. **Scenario-based training** refers to training that places team members in a

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realistic context while learning. This type of team training helps trainees experience the consequences of their actions, make adjustments, accomplish their tasks, and build team self-efficacy (i.e., the feeling that the team can successfully perform tasks). **Guided team self-correction** refers to training that emphasizes continuous learning and knowledge sharing in teams. In this type of training, team members observe each other's behavior and give and receive performance feedback.

Employees obviously need technical skills that can help the team accomplish its task. But team members also need skills in communication, adaptability, conflict resolution, and other teamwork issues.[72] page 324
Team training usually involves multiple methods. For example, a lecture or video may be used to disseminate knowledge regarding communication skills to trainees. Role plays or simulations may be used to give trainees the opportunity to put into practice the communication skills emphasized in the lecture. Regardless of the method chosen, opportunities for practice and feedback need to be included.

For example, Aquarius is an undersea laboratory used during the NASA Extreme Environment Mission Operations (NEEMO). The base, located several miles off the coast of Key Largo, Florida, is owned by the National Oceanic and Atmospheric Administration (NOAA) and managed by the University of North Carolina.[73] The NEEMO experience places astronauts in a challenging environment that parallels the hostile physical and stressful psychological environment experienced in long-duration missions. These challenges can include allowing the crew to experience the effects of gravity in space, on the moon, and Mars; providing a compressed timeline for completing tasks; practicing procedures such as

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spacewalks to repair or replace equipment and emergency procedures used to rescue crew members; and performing tasks with delayed and limited communications with the mission control crew. The NEEMO experience helps crew members develop important team processes, such as communication, coordination, performance monitoring and back-up
page 325

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behaviors, to successfully meet the challenges and perform the tasks they encounter, both in Aquarius and on their space missions. page 325

Team training has helped the pilots in the cockpit of commercial airliners improve their communications with each other, reducing the number of accidents that have occurred. To further enhance passenger safety, United Continental Holdings, Inc., is asking each of its pilots to attend an extra day of training.[74] The extra day of training will focus on reducing the likelihood that generation gaps between more senior captains and younger co-pilots or first officers might lead to poor communications and decision making. The training is intended to encourage veteran captains to mentor junior co-pilots by sharing their knowledge and experiences; teach captains how to request and respond to feedback from junior pilots; and help pilots with less seniority increase their confidence in communicating with more senior captains should they identify problems. The training is especially important because due to the retirement of more senior pilots, flight crews are younger and have less experience. United has hired thousands of new pilots who are being assigned to fly international routes without the same amount of supervised flying they historically would have received.

Action Learning

Action learning gives teams or work groups an actual problem, has them work on solving it and committing to an action plan, and then holds them accountable for carrying out the plan.[75] Companies use action learning to solve important problems, develop leaders, quickly build high-performance teams, and transform the organizational culture. Table 7.10 shows the steps involved in action learning. Several types of problems are addressed in action learning, including how to change the business, better use technology, remove barriers between the customer and company, and develop global leaders. Typically, action learning involves between 6 and 30 employees. It may also include customers and vendors. There are several variations in the composition of the group. One variation is that the group includes a single customer for the problem being dealt with. Sometimes the group includes cross-functional representatives who all have a stake in the problem. Or the group may involve employees from multiple functions, with each employee focusing on their own functional problem and contributing to solving the problem identified. Employees are asked to develop novel ideas and solutions in a short period of time. The teams usually need to gather data for problem solving by visiting customers, employees, academics, and/or industry leaders. Once the teams have gathered data and developed their recommendations, they are required to present them to top-level executives. page 326

TABLE 7.10 Steps in Action Learning

- Identification of the sponsors of action learning, including CEOs and top managers.
- Identification of the problem or issue.
- Identification and selection of the group who can address the problem.
- Identification of coaches who can help the group reframe the problem and improve its problem solving by listening, giving feedback, offering assumptions, and so on.
- Presentation of the problem to the group.
- Group discussion that includes reframing the problem and agreement on what the problem is, what the group should do to solve the problem, and how the group should proceed.
- Data gathering and analysis relevant to solving the problem, done by the group as a whole as well as by individual members.
- Group presentation on how to solve the problem, with the goal of securing a commitment from the sponsors to act on the group's recommendations.
- Self-reflection and debriefing (e.g., What have the group members learned? What might they have done differently?)

Sources: Based on P. Malone, "The Untapped Power of Action Learning," *T+D* (August 2013), pp. 54–59; M. Pedler and C. Abbott, *Facilitating Action Learning* (New York: McGraw-Hill, 2013).

Consider how University Health System and PepsiCo used action learning teams to provide solutions to urgent and complex business problems.[76] At University Health System, nine cross-functional teams of managers who otherwise would not work together worked on separate business problems. Example of these problems included how to increase patient satisfaction; how to reduce billing errors; and how to enhance inventory control. Each team was asked to present its