PART 1

FOUNDATIONS OF HUMAN RESOURCE DEVELOPMENT

1. Introduction to Human Resource Development
2. Influences on Employee Behavior
3. Learning and HRD
INTRODUCTION TO HUMAN RESOURCE DEVELOPMENT

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

1. Define human resource development (HRD)
2. Relate the major historical events leading up to the establishment of HRD as a profession
3. Distinguish between HRD and human resource management (HRM)
4. Identify and describe each of the major HRD functions
5. Describe how HRD can be linked to the goals and strategies of an organization
6. Recognize the various roles and competencies of an HRD professional
7. Cite some of the contemporary challenges facing HRD professionals
8. Identify the major phases of the training and HRD process
INTRODUCTION

Have you ever:

- trained a new employee to do his or her job (either formally or informally)?
- taught another person how to use a new technology, for example, how to conduct an effective PowerPoint presentation, set up a wireless Internet connection, or use a hand-held device such as an iPod?
attended an orientation session for new employees?

taken part in a company-sponsored training program, for example, diversity training, sexual harassment awareness and prevention, or career development?

gone through an experiential training experience, such as a “ropes” course or other outdoor learning experience?

completed some type of career planning project or assessment, for example, a vocational interest inventory?

participated in an organization-wide change effort, for example, your organization was seeking to change its culture and move toward a flatter, more team-oriented structure?

If you said “yes” to any of the previous questions, you’ve been involved in some form of human resource development. It is often said that an organization is only as good as its people. Organizations of all types and sizes, including schools, retail stores, government agencies, restaurants, and manufacturers have at least one thing in common: they must employ competent and motivated workers. This need has become even stronger as organizations grapple with the challenges presented by a fast-paced, highly dynamic, and increasingly global economy. To compete and thrive, many organizations are including employee education, training, and development as an essential part of their organizational strategy. In 2005, U.S. organizations participating in the American Society for Training and Development’s (ASTD) Benchmarking Forum spent an average of 2.2 percent of their payroll on employee training and development, and averaged 41 hours of training per employee.¹ Human resource managers in large organizations ranked training and development as the most important functional area they had to deal with. This was followed in descending order by recruiting and selection, productivity and quality, succession planning, employee job satisfaction, compensation, globalization, and diversity.² Alan Greenspan, former chairman of the U.S. Federal Reserve Board, stated that a “critical aspect of wealth creation in the United States, and doubtless globally, is the level of knowledge and skill of the population. Today, the knowledge required to run the economy, which is far more complex than in the past, is both deeper and broader than ever before. We need to ensure that education in the United States, formal or otherwise, is supplying skills adequate for the effective functioning of our economy.”³

Human resource development (HRD) can be defined as a set of systematic and planned activities designed by an organization to provide its members with the opportunities to learn necessary skills to meet current and future job demands. Learning is at the core of all HRD efforts (and will be the central focus of Chapter 3). Indeed, a major focus today is on workplace learning and performance. Focused most broadly, HRD seeks to develop people’s “knowledge, expertise, productivity, and satisfaction, whether for personal or group/team gain, or for the benefit of an organization, community, nation, or, ultimately, the whole of humanity (p. 322).”⁴ HRD activities should begin when an employee joins an organization and continue throughout his or her career, regardless of whether that employee is an executive or a worker on an assembly line. HRD programs must respond to job changes and integrate the long-term plans and strategies of the organization to ensure the efficient and effective use of resources.

This chapter provides a brief history of the significant events contributing to contemporary thought within the HRD field. We then discuss human resource management and HRD structure, functions, roles, competencies, and process. We also
discuss certification and education for HRD professionals. Next, we describe several critical challenges facing HRD professionals. Finally, we present a systems or process framework that can guide HRD efforts.

THE PROGRESSION TOWARD A FIELD OF HUMAN RESOURCE DEVELOPMENT

Although the term human resource development has only been in common use since the 1980s, the concept has been around a lot longer than that. To understand its modern definition, it is helpful to briefly recount the history of this field.

Early Apprenticeship Training Programs

The origins of HRD can be traced to apprenticeship training programs in the eighteenth century. During this time, small shops operated by skilled artisans produced virtually all household goods, such as furniture, clothing, and shoes. To meet a growing demand for their products, craft-shop owners had to employ additional workers. Without vocational or technical schools, the shopkeepers had to educate and train their own workers. For little or no wages, these trainees, or apprentices, learned the craft of their master, usually working in the shop for several years until they became proficient in their trade. Not limited to the skilled trades, the apprenticeship model was also followed in the training of physicians, educators, and attorneys. Even as late as the 1920s, a person apprenticing in a law office could practice law after passing a state-supervised examination. Apprentices who mastered all the necessary skills were considered “yeomen,” and could leave their master and establish their own craft shops; however, most remained with their masters because they could not afford to buy the tools and equipment needed to start their own craft shops. To address a growing number of yeomen, master craftsmen formed a network of private “franchises” so they could regulate such things as product quality, wages, hours, and apprentice-testing procedures. These craft guilds grew to become powerful political and social forces within their communities, making it even more difficult for yeomen to establish independent craft shops. By forming separate guilds called “yeomanries,” the yeomen counterbalanced the powerful craft guilds and created a collective voice in negotiating higher wages and better working conditions. Yeomanries were the forerunners of modern labor unions.

Early Vocational Education Programs

In 1809, a man named DeWitt Clinton founded the first recognized, privately funded vocational school, also referred to as a manual school, in New York City. The purpose of the manual school was to provide occupational training to unskilled young people who were unemployed or had criminal records. Manual schools grew in popularity, particularly in the midwestern states, because they were a public solution to a social problem: what to do with “misdirected” youths. Regardless of their intent, these early forms of occupational training established a prototype for vocational education. In 1917, Congress passed the Smith-Hughes Act, which recognized the value of vocational education by granting funds (initially $7 million annually) targeted for state programs in agricultural trades, home economics, industry, and teacher training.
Today, vocational instruction is an important part of each state’s public education system. In fact, given the current concerns about a “skills gap” (especially for technical skills), vocational education has become even more critical at the present time.

**Early Factory Schools**

With the advent of the Industrial Revolution during the late 1800s, machines began to replace the hand tools of the artisans. “Scientific” management principles recognized the significant role of machines in better and more efficient production systems. Specifically, semiskilled workers using machines could produce more than the skilled workers in small craft shops. This marked the beginning of factories as we know them today.

Factories made it possible to increase production by using machines and unskilled workers, but they also created a significant demand for the engineers, machinists, and skilled mechanics needed to design, build, and repair the machines. Fueled by the rapid increase in the number of factories, the demand for skilled workers soon outstripped the supply of vocational school graduates. To meet this demand, factories created mechanical and machinist training programs, which were referred to as “factory schools.”

The first documented factory school, in 1872, was located at Hoe and Company, a New York manufacturer of printing presses. This was soon followed by Westinghouse in 1888, General Electric and Baldwin Locomotive in 1901, International Harvester in 1907, and then Ford, Western Electric, Goodyear, and National Cash Register. Factory school programs differed from early apprenticeship programs in that they tended to be shorter in duration and had a narrower focus on the skills needed to do a particular job.

**Early Training Programs for Semiskilled and Unskilled Workers**

Although both apprenticeship programs and factory schools provided training for skilled workers, very few companies during this time offered training programs for unskilled or semiskilled workers. This changed after two significant historical events. The first was the introduction of the Model T by Henry Ford in 1913. The Model T was the first car to be mass-produced using an assembly line, in which production required only the training of semiskilled workers to perform several tasks.

The new assembly lines cut production costs significantly and Ford lowered its prices, making the Model T affordable to a much larger segment of the public. With the increased demand for the Model T, Ford had to design more assembly lines, and this provided more training opportunities. Most of the other automobile manufacturers who entered the market at this time also used assembly line processes, resulting in a proliferation of semiskilled training programs.

Another significant historical event was the outbreak of World War I. To meet the huge demand for military equipment, many factories that produced nonmilitary goods had to retool their machinery and retrain their workers, including the semiskilled. For instance, the U.S. Shipping Board was responsible for coordinating the training of shipbuilders to build warships. To facilitate the training process, Charles Allen, director of training, instituted a four-step instructional method referred to as “show, tell, do, check” for all of the training programs offered by the Shipping
This technique was later named job instruction training (JIT) and is still in use today for training many workers on the basic elements of their job.

The Human Relations Movement

One of the undesirable by-products of the factory system was the frequent abuse of unskilled workers, including children, who were often subjected to unhealthy working conditions, long hours, and low pay. The appalling conditions spurred a national anti-factory campaign. Led by Mary Parker Follett and Lillian Gilbreth, the campaign gave rise to the “human relations” movement advocating more humane working conditions. Among other things, the human relations movement provided a more complex and realistic understanding of workers as people instead of merely cogs in a factory machine.

The human relations movement highlighted the importance of human behavior on the job. This was also addressed by Chester Barnard, the president of New Jersey Bell Telephone, in his influential 1938 book *The Functions of the Executive*. Barnard described the organization as a social structure integrating traditional management and behavioral science applications.

The movement continued into the 1940s, with World War II as a backdrop. Abraham Maslow published his theory on human needs, stating that people can be motivated by both economic and noneconomic incentives. He proposed that human needs are arranged in terms of lesser to greater potency (strength), and distinguished between lower order (basic survival) and higher order (psychological) needs. Theories like Maslow’s serve to reinforce the notion that the varied needs and desires of workers can become important sources of motivation in the workplace.

The Establishment of the Training Profession

With the outbreak of World War II, the industrial sector was once again asked to retool its factories to support the war effort. As with World War I, this initiative led to the establishment of new training programs within larger organizations and unions. The federal government established the Training Within Industry (TWI) Service to coordinate training programs across defense-related industries. The TWI also trained company instructors to teach their programs at each plant. By the end of the war, the TWI had trained over 23,000 instructors, awarding over 2 million certificates to supervisors from 16,000 plants, unions, and services.

Many defense-related companies established their own training departments with instructors trained by TWI. These departments designed, organized, and coordinated training across the organization. In 1942, the American Society for Training Directors (ASTD) was formed to establish some standards within this emerging profession. At the time, the requirements for full membership in ASTD included a college or university degree plus two years of experience in training or a related field, or five years of experience in training. A person working in a training function or attending college qualified for associate membership.

Emergence of Human Resource Development

During the 1960s and 1970s, professional trainers realized that their role extended beyond the training classroom. The move toward employee involvement in many
organizations required trainers to also coach and counsel employees. Training and development (T&D) competencies therefore expanded to include interpersonal skills such as coaching, group process facilitation, and problem solving. This additional emphasis on employee development inspired the ASTD to rename itself as the American Society for Training and Development (ASTD).

The 1980s saw even greater changes affecting the T&D field. At several ASTD national conferences held in the late 1970s and early 1980s, discussions centered on this rapidly expanding profession. As a result, ASTD approved the term human resource development to encompass this growth and change. Influential books by individuals such as Leonard and Zace Nadler appeared in the late 1980s and early 1990s, and these helped to clarify and define the HRD field. Further, in the 1990s and up to today, efforts were made to strengthen the strategic role of HRD, that is, how HRD links to and supports the goals and objectives of the organization. There was also an emphasis within ASTD (and elsewhere) on performance improvement as the particular goal of most training and HRD efforts, and on viewing organizations as high performance work systems. In 2007, ASTD had over 70,000 members in 100 countries, and remains the leading professional organization for HRD professionals. Recent emphases in HRD (and within ASTD) will be discussed more fully in the following section, but first it would be helpful to discuss the relationship between human resource management and HRD.

THE RELATIONSHIP BETWEEN HUMAN RESOURCE MANAGEMENT AND HRD/TRAINING

In some organizations, training is a stand-alone function or department. In most organizations, however, training or human resource development is part of a larger human resource management department. Human resource management (HRM) can be defined as the effective selection and utilization of employees to best achieve the goals and strategies of an organization, as well as the goals and needs of employees. An important point to stress is that the responsibility for HRM is (or, at least, should be) shared by human resource specialists and line management. How the HRM function is carried out varies from organization to organization. Some organizations have a centralized HRM department with highly specialized staff, but in other organizations, the HRM function is decentralized and conducted throughout the organization.

The most comprehensive way to present the HRM function is to examine the activities carried out by a larger department, such as the HRM division headed by a vice president, as depicted in Figure 1-1. HRM can be divided into primary and secondary functions. Primary functions are directly involved with obtaining, maintaining, and developing employees. Secondary functions either provide support for general management activities or are involved in determining or changing the structure of the organization. These functions are detailed below.

- Human resource planning activities are used to predict how changes in management strategy will affect future human resource needs. These activities are critically important with the rapid changes in external market demands. HR planners must continually chart the course of an organization and its plans, programs, and actions.
Equal employment opportunity activities are intended to satisfy both the legal and moral responsibilities of an organization through the prevention of discriminatory policies, procedures, and practices. This includes decisions affecting hiring, training, appraising, and compensating employees.

Staffing (recruitment and selection) activities are designed for the timely identification of potential applicants for current and future openings and for assessing and evaluating applicants in order to make selection and placement decisions.

Compensation and benefits administration is responsible for establishing and maintaining an equitable internal wage structure, a competitive benefits package, as well as incentives tied to individual, team, or organizational performance.

Employee (labor) relations activities include developing a communications system through which employees can address their problems and grievances. In a unionized organization, labor relations will include the development of working relations with each labor union, as well as contract negotiations and administration.

Health, safety, and security activities seek to promote a safe and healthy work environment. This can include actions such as safety training, employee assistance programs, and health and wellness programs.

Human resource development activities are intended to ensure that organizational members have the skills or competencies to meet current and future job demands. This last point, quite obviously, is the focus of this book.

Secondary HRM Functions

Other functions that may be shared by HRM units include the following:

- **Organization/job design** activities are concerned with interdepartmental relations and the organization and definition of jobs.
- **Performance management and performance appraisal systems** are used for establishing and maintaining accountability throughout an organization.
- **Research and information systems** (including Human Resource Information Systems) are necessary to make enlightened human resource decisions.

**Line versus Staff Authority**

One of the primary components of an organization’s structure is the authority delegated to a manager or unit to make decisions and utilize resources. **Line authority** is given to managers and organizational units that are directly responsible for the
production of goods and services. **Staff authority** is given to organizational units that advise and consult line units. Traditionally, HRM functional units, including HRD, have staff authority. In general, line authority supersedes staff authority in matters pertaining to the production of goods and services. For example, suppose several trainees miss training sessions because their supervisor assigned them to duties away from the job site. Can the HRD manager or trainer intervene and force the supervisor to reassign these employees so that they can meet their training responsibilities? The short answer is no. The long answer is that HRD managers and staff must exert as much influence as possible to ensure that organizational members have the competencies to meet current and future job demands. At times this may require some type of intervention (such as organization development) to achieve a greater amount of understanding across an organization of the values and goals of HRD programs and processes.

**HUMAN RESOURCE DEVELOPMENT FUNCTIONS**

Human resource development, as we discussed, can be a stand-alone function, or it can be one of the primary functions within the HRM department. An ASTD-sponsored study by Pat McLagan sought to identify the HRD roles and competencies needed for an effective HRD function.21 This ASTD study documented a shift from the more traditional training and development topics to a function that included career development and organization development issues as well. The study depicted the relationship between HRM and HRD functions as a “human resource wheel.” The original HR wheel from McLagan identified three primary HRD functions: (1) training and development, (2) organization development, and (3) career development. We will discuss these functions in greater detail.

**Training and Development (T&D)**

*Training and development* (often abbreviated as *T&D*) focus on changing or improving the knowledge, skills, and attitudes of individuals. *Training* typically involves providing employees the knowledge and skills needed to do a particular task or job, though attitude change may also be attempted (e.g., in sexual harassment training). *Developmental activities*, in contrast, have a longer-term focus on preparing for future work responsibilities while also increasing the capacities of employees to perform their current jobs.22

T&D activities begin when a new employee enters the organization, usually in the form of employee orientation and skills training. *Employee orientation* (covered in Chapter 8) is the process by which new employees learn important organizational values and norms, establish working relationships, and learn how to function within their jobs. The HRD staff and the hiring supervisor generally share the responsibility for designing the orientation process, conducting general orientation sessions, and beginning the initial skills training. *Skills and technical training* programs then narrow in scope to teach the new employee a particular skill or area of knowledge (see Chapter 9).

Once new employees have become proficient in their jobs, HRD activities should focus more on developmental activities—specifically, coaching and counseling. In the **coaching** process (Chapter 10), individuals are encouraged to accept responsibility for their actions, to address any work-related problems, and to achieve and sustain superior levels of performance. Coaching involves treating employees as
partners in achieving both personal and organizational goals. Counseling techniques are used to help employees deal with personal problems that may interfere with the achievement of these goals. Counseling programs may address such issues as substance abuse, stress management, smoking cessation, or fitness, nutrition, and weight control (see Chapter 11).

HRD professionals are also responsible for coordinating management training and development programs to ensure that managers and supervisors have the knowledge and skills necessary to be effective in their positions. These programs may include supervisory training, job rotation, seminars, or college and university courses.

**Organization Development**

Organization development (OD) is defined as the process of enhancing the effectiveness of an organization and the well-being of its members through planned interventions that apply behavioral science concepts. OD emphasizes both macro and micro organizational changes: macro changes are intended to ultimately improve the effectiveness of the organization as a whole, whereas micro changes are directed at individuals, small groups, and teams. For example, many organizations have sought to improve organizational effectiveness by introducing employee involvement programs that require fundamental changes in work expectations, reward systems, and reporting procedures.

The role of the HRD professional involved in an OD intervention is generally to function as a change agent. Facilitating change often requires consulting with and advising line managers on strategies that can be used to effect the desired change. The HRD professional may also become directly involved in carrying out the intervention strategy by such means as facilitating a meeting of the employees responsible for planning and implementing the actual change process.

**Career Development**

Career development is “an ongoing process by which individuals progress through a series of stages, each of which is characterized by a relatively unique set of issues, themes, and tasks.” Career development involves two distinct processes: career planning and career management. Career planning involves activities performed by an individual, often with the assistance of counselors and others, to assess his or her skills and abilities in order to establish a realistic career plan. Career management involves taking the necessary steps to achieve that plan, and generally focuses more on what an organization can do to foster employee career development. There is a strong relationship between career development and T&D activities. Career plans can be implemented, at least in part, through an organization’s training programs.

**The “New Learning and Performance Wheel”**

In this decade, ASTD sponsored another study of trends affecting HRD and skills or competencies that are required of HRD professionals. As part of this study, Paul Bernthal and his colleagues developed a new learning and performance wheel (see Figure 1-2). Several things should be noted about this wheel. First, as described below, business strategy should be at the hub or center of all HRD efforts. Second, the upper right spokes depict traditional human resource management functions, as
presented earlier in this chapter. Third, the lower right spokes portray how other organizational disciplines, such as sales, production, and finance, also are major drivers of organizational performance. Finally, and most importantly for our purposes, the left side of the diagram depicts an expanded view of human resource development. You can still see the core functions of training and development, career management, and managing organizational change and development, as presented earlier by McLagan. However, there is an increased emphasis on learning and performance, rather than primarily on training and development. Indeed, functions such as managing organizational change and managing organizational knowledge are considerably broader than what has traditionally been viewed as the domain of HRD. We think this expanded wheel provides an excellent picture of what HRD is and how it fits with other organizational functions. It also complements on-going
discussions concerning the parameters of HRD, as well as the value added by
research and practice in this area. Next, we expand upon the notion of business
strategy as the *hub* of the wheel, discussing the critical (though often underde-
veloped) linkage between strategic management and HRD.

**Strategic Management and HRD**

Strategic management involves a set of managerial decisions and actions that are
intended to provide a competitively superior fit with the external environment and
enhance the long-run performance of an organization. It involves several distinct
processes, including strategy formulation, strategy implementation, and control.
At the formation or formulation level, top management must first assess the viability
of the current mission, objectives, strategies, policies, programs, technology, work-
force, and other resources. Then, they must monitor and assess different aspects of the
external environment that may pose a threat or offer potential opportunities. Finally,
in light of these assessments, management must identify strategic factors (for example,
mission, technology, or product mix) that need to be changed or updated.

The past two decades have seen increasing interest, research, and action concern-
ing strategic human resource management. The emphasis has been on more fully
integrating HRM with the strategic needs of an organization. To do this, two types
of alignment are necessary. First, as just described, *external alignment* is necessary
between the strategic plans of the organization and the external environment that it
faces. Second, *internal alignment* is necessary within an organization. That is, the
strategy of the organization must be aligned with the mission, goals, beliefs, and
values that characterize the organization. Further, there needs to be alignment
among the various subsystems that make up an organization. Some areas that need
to be addressed include:

- Management practices—how employees are managed and treated (e.g., how
  much do employees participate in decision making?)
- Organizational structure—how an organization is structured (e.g., how “flat” is
  the organization’s managerial hierarchy?)
- Human resource systems—how employees are selected, trained, compensated,
appraised, and so on (e.g., how closely is pay linked to individual, team, or or-
ganizational performance measures?)
- Other work practices and systems (e.g., to what extent is technology or an infor-
mation system used to facilitate the work process?)

The value of this approach lies in looking at the organization as an entire system.
All of the parts of an organization must work together as a whole to reach the goals
of that organization. Some of the desired outcomes of such a high performance work
system are increased productivity, quality, flexibility, and shorter cycle times, as well
as increased customer and employee satisfaction and quality of work life. As one
example, FedEx uses several different practices that foster high performance. Much
of their employee training is conducted via interactive video instruction. A pay-for-
knowledge system has been implemented that rewards employees who have
completed the video training and passed job-knowledge tests. A performance man-
agement system is in place that allows employees to track service performance, and
an elaborate information system is used to monitor the progress of each item in the
FedEx system. All of this is complemented by a survey feedback process that allows
employees to grade their manager’s leadership skills, as well as provide suggested solutions for any problems they encounter. As you can see, it is the effective synergy of everything working together that defines high performance work systems.

A current challenge (or opportunity) for HRD professionals is to play a more strategic role in the functioning of their organization. Progress has been made in moving toward a more “strategically integrated HRD.” In particular, HRD executives and professionals should demonstrate the strategic capability of HRD in three primary ways: (1) directly participating in their organization’s strategic management process, (2) providing education and training to line managers in the concepts and methods of strategic management and planning, and (3) providing training to all employees that is aligned with the goals and strategies of their organization.

First, HRD executives should contribute information, ideas, and recommendations during strategy formulation and ensure that an organization’s HRD strategy is consistent with its overall strategy. The HRD strategy should offer answers to the following questions: Are the organization’s HRD objectives, strategies, policies, and programs clearly stated? Are all HRD activities consistent with the organization’s mission, objectives, policies, and internal and external environment? How well is the HRD function performing in terms of improving the fit between the individual employee and the job? Are appropriate concepts and techniques being used to evaluate and improve corporate performance? Tom Kelly, director of worldwide training for Cisco Systems in San Jose, California, states that there have been dramatic changes in the HRD field in the past decade. He adds: “This is our chance to actually achieve strategic partnerships within the organization.”

A second strategic role for HRD professionals is to provide education and training programs that support effective strategic management. Training in strategic management concepts and methods help line managers develop a global perspective that is essential for managing in today’s highly competitive environment. These issues are offered as part of the organization’s management development program. One survey of HRD professionals suggested that approximately 50 percent of organizations provide training in strategic planning. Management education efforts (such as university programs, which will be discussed in Chapter 13) also place a heavy emphasis on strategic management issues. Increasingly, separate courses (or portions of courses) are emphasizing strategic HR issues and how these relate to organizational strategies and outcomes.

Finally, HRD professionals must ensure that all training efforts are clearly linked to the goals and strategies of the organization. Although this may seem obvious, it is not uncommon for the link between training programs and organizational strategy to be far from clear. As an extreme example, a medical products manufacturer, Becton, Dickinson and Company, went through a major restructuring in 1983, in response to a downturn in its business. Before that, the company had offered a large number of training and education opportunities, particularly to its managers. After restructuring, these education and training programs were completely eliminated. Some have argued that the reason training is frequently the first thing to be cut or reduced in times of financial stress is that top executives fail to see a link between training and the bottom line.

In contrast, IBM set up a Human Resource Service Center in Raleigh, North Carolina. The goal was to provide information and high quality service to over 500,000 active and retired IBM employees. An array of technology is in place to assist
Service Center employees. This includes a website within the organization’s intranet (called HR INFO), a call tracking system, and an HR Information System, which employees and managers can use to view and retrieve HR-related information, as well as process certain HR transactions (salary changes, address changes, etc.). However, the key factor in the success of this effort has been training. According to Bob Gonzales: “Training Customer Service Representatives well [was] critical to the Center’s success because they are the initial point of contact with the customer.”

Service representatives are carefully selected and then put through three weeks of intensive training, including lectures, role playing, and partnering with an experienced employee. Refresher training is provided throughout the employee’s career, as well as additional training whenever new programs are offered. This example suggests how training can be linked to the strategic goals and strategies of an organization (in this case, a shift to a centralized HR Service Center). As we will discuss in Chapter 7, HRD professionals are increasingly expected to demonstrate that their efforts are contributing to the viability and financial success of their organization. The growing emphasis on strategic HRD is part of this movement to build a stronger business case for HRD programs and interventions. This fully supports the placement of business strategy at the center of the learning and performance wheel, as presented in Figure 1-2.

The Supervisor’s Role in HRD

Supervisors play a critical role in implementing many HRD programs and processes. As we emphasize throughout this book, many organizations rely on line supervisors to implement HRD programs and processes such as orientation, training, coaching, and career development. Especially in smaller organizations, there may be no training department (or even an HR department), so most HRD efforts fall upon supervisors and managers.

Organizational Structure of the HRD Function

The HRD function, like HRM, should be designed to support an organization’s strategy. Using the chart from Figure 1-1, Figure 1-3 further delineates how the HRD function might be organized within an HRM department. Alternatively, Figure 1-4 depicts how the HRD function might be organized in a multiregional sales organization. In this example, the training activities, except for management/executive development, are decentralized and other HRD activities are centralized. There is evidence to suggest that, at least in larger organizations, HR departments are becoming more cross-functional and less specialized in HR topics alone.

Roles and Competencies of an HRD Professional

An HRD professional must perform a wide variety of functional roles. A functional role is a specific set of tasks and expected outputs for a particular job, for example, classroom trainer or instructional designer. To carry out these various roles, HRD professionals need to possess many different skills or competencies. In their “Mapping the Future” study, Bernthal and colleagues describe three areas of “foundational” competencies needed by all HRD professionals (see Figure 1-5). Foundational competencies are depicted as falling into three areas: personal,
interpersonal, and business/management. HRD professionals then make use of these foundational competencies as they develop particular areas of expertise. These areas of expertise are shown in the middle of the pyramid (and correspond to the terms used to describe HRD in the learning and performance wheel shown in Figure 1-2). Finally, the top of the pyramid shows four key roles for HRD professionals: learning strategist, business partner, project manager, and professional specialist. The
learning strategist is involved in the high-level decision making concerning how HRD initiatives will support the goals and strategies of an organization. The business partner works together with managers and others in determining how the HRD initiative will be implemented and evaluated. The project manager is involved with the day-to-day planning, funding, and monitoring of HRD initiatives, whereas the professional specialist adds his or her expertise to particular areas, for example, designing, developing, delivering, and evaluating an HRD initiative. HRD managers and executives are most likely to be involved with the learning
strategist and business partner roles. Next, we will briefly discuss the roles played by two types of HRD professionals: the HRD executive/manager and the HRD practitioner.

The HRD Executive/Manager

The HRD executive/manager has primary responsibility for all HRD activities. In the past, this person was often referred to as the Training Director. Today, such individuals are sometimes referred to as the Chief Learning Officer (or CLO). Regardless of the title, this individual must integrate the HRD programs with the goals and strategies of their organization and normally assumes a leadership role in the executive development program, if one exists. If the organization has both an HRM and an HRD executive, the HRD executive must work closely with the HRM executive as well. The HRD executive often serves as an adviser to the chief executive officer and other executives. The outputs of this role include long-range plans and strategies, policies, and budget allocation schedules.

One of the important tasks of the HRD executive is to promote the value of HRD as a means of ensuring that organizational members have the competencies to meet current and future job demands. If senior managers do not understand the value of HRD, it will be difficult for the HRD executive to get their commitment to HRD efforts and to justify the expenditure of funds during tough times. Historically, during financial difficulties, HRD programs (and HRM in general) have been a major target of cost-cutting efforts. Unless the HRD executive establishes a clear relationship between HRD expenditures and organizational effectiveness (including profits), HRD programs will not receive the support they need. But how does an HRD executive who wants to offer a program on stress management, for example, compete with a line manager who wants to purchase a new piece of equipment? The answer is clear: the executive must demonstrate the benefit their organization receives by offering such a program. Evaluation data are vital to the HRD executive when presenting a case.

The role of the HRD executive has become more important and visible as organizations make the necessary transition to a global economy. The immediate challenge to HRD executives is to redefine a new role for HRD during this period of unprecedented change. According to Jack Bowsher, former director of education for IBM, when HRD executives “delve deeply into reengineering, quality improvement, and strategic planning, they grasp the link between workforce learning and performance on the one hand, and company performance and profitability on the other.” The HRD executive is in an excellent position to establish the credibility of HRD programs and processes as tools for managing in today’s challenging business environment. A 2006 Training magazine survey found that the average salary for U.S. HRD executives was $111,443 (with a range from $79,438 in Great Lakes states to $168,000 in the Pacific states).

Other HRD Roles and Outputs for HRD Professionals

As organizations have adjusted to environmental challenges, the roles played by HRD professionals have changed as well. HRD professionals perform many distinct roles, nine of which are described below. These roles are more likely than not to correspond to the job titles or job descriptions for professional positions in HRD.
The **HR strategic advisor** consults strategic decision-makers on HRD issues that directly affect the articulation of organization strategies and performance goals. Outputs include HR strategic plans and strategic planning education and training programs.

The **HR systems designer and developer** assists HR management in the design and development of HR systems that affect organization performance. Outputs include HR program designs, intervention strategies, and implementation of HR programs.

The **organization change agent** advises management in the design and implementation of change strategies used in transforming organizations. The outputs include more efficient work teams, quality management, intervention strategies, implementation, and change reports.

The **organization design consultant** advises management on work systems design and the efficient use of human resources. Outputs include intervention strategies, alternative work designs, and implementation.

The **learning program specialist (or instructional designer)** identifies needs of the learner, develops and designs appropriate learning programs, and prepares materials and other learning aids. Outputs include program objectives, lesson plans, and intervention strategies.

The **instructor/facilitator** presents materials and leads and facilitates structured learning experiences. Outputs include the selection of appropriate instructional methods and techniques and the actual HRD program itself.

The **individual development and career counselor** assists individual employees in assessing their competencies and goals in order to develop a realistic career plan. Outputs include individual assessment sessions, workshop facilitation, and career guidance.

The **performance consultant (or coach)** advises line management on appropriate interventions designed to improve individual and group performance. Outputs include intervention strategies, coaching design, and implementation.

The **researcher** assesses HRD practices and programs using appropriate statistical procedures to determine their overall effectiveness and communicates the results to their organization. Outputs include research designs, research findings and recommendations, and reports.

Some popular HRD jobs of late include instructional designer, change agent, executive coach, and “multimedia master.” For more information on this last position, see the “Master of Multimedia” box on the following page.

**Certification and Education for HRD Professionals**

One indication of the growth of the HRD field is the push for professional certification. To increase the credibility of the HRD field, ASTD began a certification program in 2006, based upon the competencies identified in its recent “Mapping the Future” study (and shown in Figure 1-5). This certification is called the Certified Professional in Learning and Performance™ (or CPLP™), and is offered by the ASTD Certification Institute. It includes both a 150-item multiple choice test, as well as the submission of a “work product.” Further information can be found at the ASTD website.

For the field of human resource management in general, there are three certification examinations offered by the Human Resource Certification Institute (HRCI) (in conjunction with the Society for Human Resource Management). They are called the
Professional in Human Resources (PHR), Senior Professional in Human Resources (SPHR), and Global Professional in Human Resources (GPHR) examinations. The PHR and SPHR examinations both consist of 225 multiple-choice items that cover various HRM topics. Seventeen percent of both PHR and SPHR examinations cover human resource development. The GPHR examination consists of 165 items, with 14 percent of them devoted to “organizational effectiveness and employee development.” To be certified for any of these three examinations, individuals must pass the test and have two years of HR exempt-level work experience. Students who pass the test, but lack the work experience, are certified once they have obtained the

relevant work experience. As of January, 2007, over 87,000 HR professionals have been certified with either the PHR, SPHR, or GPHR designations (PHR: 48,921; SPHR: 37,501; GPHR: 682).\textsuperscript{49}

Over the past twenty years, the HRD profession has become better connected to and involved with the academic community. Three developments illustrate this relationship: (1) ASTD changed its governance structure to include a Professor’s Network and an Academic Relations Committee; (2) The Human Resource Development Quarterly, a research journal focusing on HRD issues, began publishing in 1990; (3) Another organization has been formed, the Academy of Human Resource Development, to further advance scholarly research concerning human resource development issues.\textsuperscript{50} This has led to the subsequent publication of three additional HRD journals: Advances in Human Resource Development, Human Resource Development International, and Human Resource Development Review.\textsuperscript{51}

HRD programs at colleges and universities are most often found in one of three academic departments: business/management, psychology, and education. The content and philosophy of these programs tend to reflect that of the founding professors. Certain schools of business (or management) offer majors or minors in HRD, with courses in training and development, organization development, and career development. The SHRM Foundation has published a directory of graduate HR programs and posted it on the SHRM website.\textsuperscript{52} Some psychology departments offer degree programs and courses in industrial and organizational (I/O) psychology and personnel psychology, with specific courses in HRD. In addition to HRD classes, schools of education may also offer degrees and courses in fields related to HRD, such as educational technology, curriculum development, adult education, and organization development.

Another way HRD professionals can keep current is to examine the practices of leading organizations. ASTD has established a Benchmarking Forum for the purpose of identifying and learning about best practices among member organizations so that they can be adopted by other organizations. The benchmarking process involves a questionnaire that “helps to define the focus, criteria, and context for practices, and provides information about the incidents that led to adopting the practices.” The best practices organizations are selected at a biannual meeting of ASTD and members of the Benchmarking Forum. These organizations and a description of their practices are published in ASTD reports and highlighted in the professional journal T&D (formerly Training & Development).\textsuperscript{53}

**CHALLENGES TO ORGANIZATIONS AND TO HRD PROFESSIONALS**

Many challenges face organizations as we move into this new century. The recent ASTD-sponsored study mentioned earlier presents eight emerging workplace trends that impact HRD.\textsuperscript{54} These trends are depicted in Figure 1-6. Along the same lines, Michael Hitt and his colleagues have identified increasing globalization and the technological revolution (in particular, the Internet) as two primary factors that make for a new competitive landscape.\textsuperscript{55} They suggest a number of actions that organizations can take to address the uncertainty and turbulence in the external environment. These actions include developing employee skills, effectively using new technology, developing new organizational structures, and building cultures that
foster learning and innovation. These methods obviously have a great deal to do with human resource development. We will add to and build upon these two lists to present six challenges currently facing the field of HRD. These challenges include (1) increasing workforce diversity, (2) competing in a global economy, (3) eliminating the skills gap, (4) meeting the need for lifelong individual learning, (5) facilitating organizational learning, and (6) addressing ethical issues and dilemmas in a proactive and effective manner. Each of these challenges and their potential impact on HRD will be discussed briefly in the following sections and further amplified in later chapters.

Increasing Workforce Diversity

The workforce has become increasingly more diverse, and this trend toward diversity will continue. This includes increasing diversity along racial, ethnic, and gender lines, as well as an increasing percentage of the workforce that is over age fifty-five. Effectively managing diversity has been identified as one of five distinguishing features of organizations that make it onto Fortune magazine’s list of 100 Best Companies. Diversity issues have several implications for HRD professionals. First, organizations need to address racial, ethnic, and other prejudices that may persist, as well as cultural insensitivity and language differences (this will be discussed in more detail in Chapter 15). Second, with the increasing numbers of women in the workforce, organizations should continue to provide developmental opportunities that will prepare women for advancement into the senior ranks and provide safeguards against sexual harassment. Third, the aging of the workforce highlights the importance of creating HRD programs that recognize and address the learning-related needs of both younger and older workers (this will be discussed in Chapter 3). Diversity can be a catalyst for improved organizational performance—though this is far from a sure thing!

Figure 1-6

Emerging Workplace Trends

1. Drastic times, drastic measures: Uncertain economic conditions force organizations to reconsider how they can grow and be profitable.
2. Blurred lines—life or work? New organizational structures are changing the nature of work for employees and HRD professionals.
3. Small world and shrinking: Global communication technology is changing the way people connect and communicate.
4. New faces, new expectations: Diversity in the workplace continues to rise.
5. Work be nimble, work be quick: The accelerated pace of change requires more adaptable employees and nimbler organizations.
6. Security alert! Concerns about security and the ability of governments to provide protection have increased individual anxiety levels worldwide.
7. Life and work in the E-lane: Technology, especially the Internet, is transforming the way people work and live.
8. A higher ethical bar: Ethical lapses at the highest levels in large organizations have shaken employees’ loyalty, trust, and sense of security.

Competing in a Global Economy

As U.S. companies compete in a global economy, many are introducing new technologies that require better educated and trained workers. In fact, in the United States today, over one-half of all jobs require education beyond high school. Thus, successful organizations must hire employees with the knowledge to compete in an increasingly sophisticated market. Competing in the global economy requires more than educating and training workers to meet new challenges. In addition to retraining the workforce, successful companies will institute quality improvement processes and introduce change efforts (for example, high involvement programs). The workforce must learn cultural sensitivity to better communicate and conduct business among different cultures and in other countries. Developing managers into global leaders has been identified as a major challenge for organizations in this decade. Developing globally competent managers will be discussed in more detail in Chapter 13 (and is the topic of the Opening Case in this chapter). Additionally, employers are implementing new ways of managing their employees. Approaches to managing change will be discussed in Chapter 14.

Eliminating the Skills Gap

As we discussed, for companies to compete successfully in a global economy, they must hire educated workers; however, at least in the United States, portions of the public education system are in need of considerable reform. Almost 30 percent of today’s high school students fail to graduate, and employers must confront the fact that many young adults entering the workforce are unable to meet current job requirements. Even though the United States has one of the highest standards of living in the world, the Upjohn Institute for Employment Research reports that between 25 and 40 percent of hourly employees have some basic skills deficiency. This skills gap poses serious consequences for American companies. How can trainees learn how to operate new equipment if they cannot read and comprehend operating manuals? Furthermore, how can new employees be taught to manipulate computer-controlled machines if they do not understand basic math? Obviously, the business community has a vested interest in education reform. There are some encouraging signs, however. For example, the Los Angeles public school system is offering a guarantee to employers, stating that if any high school graduate is found to be deficient in basic skills, such as computation and writing, the school system will retrain the graduate at no cost to the employer.

Other industrialized nations have made systematic changes in order to bridge the skills gap. For example, Japan and Germany, two of the United States’ biggest competitors, have educational systems that do a better job of teaching students the basic skills needed by most employers. Among other things, Germany emphasizes vocational education and school-to-work transition programs so that school-age children can begin apprenticeship programs as part of their formal education. These and other approaches will be discussed in more detail in Chapter 9.

The Need for Lifelong Learning

Given the rapid changes that all organizations face, it is clear that employees must continue the learning process throughout their careers in order to meet these challenges.
This need for lifelong learning will require organizations (as well as governments and society as a whole) to make an ongoing investment in HRD.\textsuperscript{64} Lifelong learning can mean different things to different employees. For example, for semiskilled workers, it may involve more rudimentary skills training to help them build their competencies. To professional employees, this learning may mean taking advantage of continuing education opportunities. This is particularly important for certified professionals who are required to complete a certain number of continuing education courses to maintain their certification. To managers, lifelong learning may include attending management seminars that address new management approaches.

The challenge to HRD professionals is to provide a full range of learning opportunities for all kinds of employees. One way that organizations are meeting this challenge is by establishing multimedia learning centers (sometimes on the organization’s intranet). These centers offer a variety of instructional technologies that can be matched to each trainee’s unique learning needs. Individual assessments can determine deficiencies or gaps in employees’ performance capabilities while also pointing out their preferred learning styles. For instance, self-motivated employees found to be deficient in arithmetic might be trained in an interactive video program allowing them to set their own pace. A multimedia learning center could also provide teleconferencing facilities for technical and professional employees to participate in a seminar that is being conducted thousands of miles away. These and other different approaches to learning will be discussed in future chapters. What is clear, however, is that whether they use multimedia or other training approaches, organizations must find a way to provide lifelong learning opportunities for all of their employees.

### Facilitating Organizational Learning

Organization development scholars such as Chris Argyris, Richard Beckhard, and Peter Senge, author of the book \textit{The Fifth Discipline}, have recognized that if organizations are going to make fundamental changes, they must be able to learn, adapt, and change.\textsuperscript{65} A survey of HRD executives reported that 94 percent of the respondents felt that it is important for an organization to become a \textit{learning organization}.\textsuperscript{66} Chapter 14 includes a discussion of how macro-level organization transformation approaches can be used to help an organization adopt the principles of a learning organization.

Although such principles emphasize the organizational level, they also have implications at the group and individual levels. One challenge for HRD professionals is facilitating a transition from traditional training programs to emphasizing three things: learning principles and tactics; how learning relates to performance; and more importantly, the relationship between learning and fundamental change.\textsuperscript{67} To do this, HRD professionals must develop a solid understanding of learning theory and be able to devise learning tools that enhance \textit{individual development}. These concepts and tools will be discussed in more detail in Chapters 3, 9, and 12.

### Addressing Ethical Dilemmas

The recent flood of business scandals pose troubling questions for organizations, government, society, and business education.\textsuperscript{68} How could schemes such as those at Enron, WorldCom, Tyco, and other companies go on for so long? What are the
possibilities and limitations of legal and governmental actions (such as the Sarbanes-Oxley Act)?

69 What can business education do to promote an understanding of ethics and ethical behavior among students and graduates?

Ethical issues and dilemmas also arise for human resource development. For example, suppose you were asked to provide consulting services for an organization, and in the process of the work, you suspected that the primary intention of the manager(s) who hired you was to provide a rationale for closing the facility in which you did your consulting work. 71 How would you respond? Are there ethical principles or guidelines to assist HRD professionals in handling such situations? Efforts have been made to address these issues, particularly in the past decade. These include a seventeen-page report, “Standards on Ethics and Integrity,” produced by a sub-committee of the Academy of Human Resource Development. 72 There are useful writings on the subject by Timothy Hatcher, as well as other work addressing difficult issues concerning the possibility of a global HRD Code of Ethics. 73 We will be returning to these ethical issues at various points throughout the book.

ASTD Code of Ethics

The Code of Ethics provides guidance to individuals to be self-managed, workplace learning and performance professionals. Clients and employers should expect the highest possible standards of personal integrity, professional competence, sound judgment, and discretion. Developed by the profession for the profession, the Code of Ethics is the public declaration of workplace learning and performance professionals’ obligations to themselves, their profession, and society.

I strive to:

- Recognize the rights and dignities of each individual
- Develop human potential
- Provide my employer, clients, and learners with the highest level quality education, training, and development
- Comply with all copyright laws and the laws and regulations governing my position
- Keep informed of pertinent knowledge and competence in the workplace learning and performance field
- Maintain confidentiality and integrity in the practice of my profession
- Support my peers and avoid conduct which impedes their practicing their profession
- Conduct myself in an ethical and honest manner
- Improve the public understanding of workplace learning and performance
- Fairly and accurately represent my workplace learning and performance credentials, qualifications, experience, and ability
- Contribute to the continuing growth of the profession

A FRAMEWORK FOR THE HRD PROCESS

HRD programs and interventions can be used to address a wide range of issues and problems in an organization. They are used to orient and socialize new employees into the organization, provide skills and knowledge, and help individuals and groups become more effective. To ensure that these goals are achieved, care must be taken when designing and delivering HRD programs.

Following from system theory, we argue that HRD interventions should be designed using a four-step process or sequence: needs assessment, design, implementation, and evaluation. For ease of memory, this can be referred to as the “A DiMe” framework (assess, design, implement, and evaluate). In this book, we will use this four-phase process approach to describe HRD efforts: needs assessment, design, implementation, and evaluation (see Figure 1-7).

Needs Assessment Phase

HRD interventions are used to address some need or gap within an organization. A need can be either a current deficiency, such as poor employee performance, or a new challenge that demands a change in the way the organization operates (e.g., new legislation or increased competition). For example, in 2004, the Equal Employment Opportunity Commission (EEOC) sued Cracker Barrel Restaurants, alleging sexual and racial harassment at three of their stores. The suit ended with the company...
signing a consent decree in 2006 in which they agreed to pay $2 million to fifty-one current and former employees, provide harassment training at the three stores in question, and monitor harassment and discrimination issues in the future. Identifying needs involves examining an organization, its environment, job tasks, and employee performance. This information can be used to:

- Establish priorities for expending HRD efforts
- Define specific training and HRD objectives
- Establish evaluation criteria

**Design Phase**

The second phase of the training and HRD process involves designing the HRD program or intervention. If the intervention involves some type of training or development program, the following activities are typically carried out during this phase:

- Selecting the specific objectives of the program
- Developing an appropriate lesson plan for the program
- Developing or acquiring the appropriate materials for the trainees to use
- Determining who will deliver the program
- Selecting the most appropriate method or methods to conduct the program
- Scheduling the program

Once the assessment phase has been completed, it is important to translate the issues identified in that phase into clear objectives for HRD programs. This should also facilitate the development of clear lesson plans concerning what should be done in the HRD program. Selecting the proper person to deliver the HRD program is also an important decision, and it can be difficult, depending on the resources available. If the organization employs a group of full-time HRD professionals, the choice will depend largely on the expertise and work schedules of those professionals. However, if the organization does not have an HRD staff, it will have to rely on other people, including managers, supervisors, coworkers, or outside consultants. Using such individuals raises a host of issues, from costs to their willingness, ability, and availability to train.

The design phase also involves selecting and developing the content of the program. This means choosing the most appropriate setting for the program (e.g., on the job, in a classroom, online, or some combination), the techniques used to facilitate learning (such as lecture, discussion, role play, simulation), and the materials to be used in delivering the program (such as workbooks, job aids, web-based or web-enhanced materials, films, videos, Microsoft® PowerPoint® presentations, etc.) Inherent in these decisions is the issue of whether to develop the program in-house or purchase it (or parts of it) from an outside vendor.

Scheduling the program may not be as easy as it appears. Issues to be resolved include lead time to notify potential participants, program length and location, covering participants’ regular job duties, and potential conflicts (such as vacations, busy periods, and facility availability).

The needs assessment may also reveal that training is not the ideal solution for the issues or problems facing an organization. It may be that some management practice needs to be changed, or that changes need to be made in another human resource practice (such as staffing or compensation). It may also be the case that a different type of HRD intervention is called for besides training, for example, a change...
in the organization of work, or a change in the focus on total quality or process reengineering. Such HRD interventions would not require a lesson plan. However, other design issues occur with career management and organizational development interventions (and these will be discussed in later chapters of the text).

**Implementation Phase**

The goal of the assessment and design phases is to implement effective HRD programs or interventions. This means that the program or intervention must be delivered or implemented using the most appropriate means or methods (as determined in the design phase). Delivering any HRD program generally presents numerous challenges, such as executing the program as planned, creating an environment that enhances learning, and resolving problems that may arise (missing equipment, conflicts between participants, etc.).

**Evaluation Phase**

Program evaluation is the final phase in the training and HRD process. This is where the effectiveness of the HRD intervention is measured. This is an important but often underemphasized activity. Careful evaluation provides information on participants’ reaction to the program, how much they learned, whether they use what they learned back on the job, and whether the program improved the organization’s effectiveness. HRD professionals are increasingly being asked to provide evidence of the success of their efforts using a variety of “hard” and “soft” measures, that is, both bottom line impact, as well as employee reaction. This information allows managers to make better decisions about various aspects of the HRD effort, such as:

- Continuing to use a particular technique or vendor in future programs
- Offering a particular program in the future
- Budgeting and resource allocation
- Using some other HR or managerial approach (like employee selection or changing work rules) to solve the problem

It is important that HRD professionals provide evidence that HRD programs improve individual and organizational effectiveness. Armed with this information, HRD managers can better compete with managers from other areas of the organization when discussing the effectiveness of their actions and vying for organizational resources.

**ORGANIZATION OF THE TEXT**

This text is organized into three parts: foundation, framework, and applications. The picture we would convey is that of building a new home or other structure. First, Part 1 of the book, which includes Chapters 1 through 3, presents foundational material. Part 1 is meant to ensure that the reader has a strong base of foundational concepts before exploring the HRD process and the various ways that HRD is practiced in organizations. As you have just seen, Chapter 1 presents an overview of HRD, including three of its major areas of emphasis: training and development, career development, and organizational development. Because all HRD efforts involve trying to bring about changes in learning and behavior, it is important for you to understand why people in the workplace behave the way they do and how people learn. These issues
are the focus of Chapters 2 and 3. Chapter 2 explores the major factors that affect workplace behavior, and Chapter 3 focuses on how people learn, the factors that affect learning, and ways to maximize learning.

Part 2 of the book includes Chapters 4 through 7. In these chapters, we describe the HRD and training process, focusing on the activities described earlier, namely needs assessment, design, implementation, and evaluation. These chapters are anchored in the framework shown in Figure 1-7 and provide the heart or main story line of the book. Chapter 4 details the importance of assessing the need for HRD and the approaches that can be used to perform a needs assessment. Chapter 5 focuses on designing HRD interventions based on the information obtained from the needs assessment. Activities discussed in this chapter include establishing program objectives and content, selecting a trainer, HRD methods and media, and the practical issues involved in delivering the program. Chapter 6 emphasizes implementation issues and highlights the different types of training methods available to deliver training content, both in the traditional training classroom and via technology. Chapter 7 completes our discussion of the HRD process by explaining the importance of evaluating HRD efforts and demonstrating ways an evaluation can be done to ensure decisions made about HRD programs are based on meaningful and accurate information. Because of the increased importance of technology to all phases of the HRD process, we have added new material in each of the chapters in Part 2 to highlight how technology is impacting and changing the way HRD is conducted.

The remainder of the book, Part 3, focuses on particular topic areas within human resource development, that is, HRD applications. With so many methods
available to choose from, one can feel like Alice in Wonderland; that is, having fallen down a rabbit hole, Alice finds many doors available, with little idea of which one to choose! We have selected what we think are the most important HRD topics and methods to address in Part 3 of the book. These topics line up well with both the old and new learning wheels described earlier in the chapter.

Chapters 8 through 12 focus more on individual-level employee development issues, from orientation to career development. Chapter 8 discusses the socialization process, its importance to employee and organizational effectiveness, and how orientation programs can be used to facilitate successful socialization. Chapter 9 describes skills training programs, including ways to ensure that employees possess the specific skills (such as literacy, technological, and interpersonal skills) that they need to perform effectively and contribute to an organization’s success. Chapter 10 discusses the importance of coaching as an employee development process and explains how supervisors and line managers can successfully fulfill their critical coaching responsibilities. Chapter 11 provides an overview of employee counseling as a way to help employees overcome personal and other problems (such as substance abuse or stress) and remain effective in the workplace. Finally, Chapter 12 focuses on career development as a way to ensure an organization’s members can be prepared to meet their own and the organization’s needs over the course of their working lives.

The final three chapters in the book focus on more macro issues in HRD. Chapter 13 discusses how individuals can be developed to fulfill the multifaceted challenge of becoming effective managers. Chapter 14 explores how HRD can be used to prepare organizations for change, including ways to diagnose organizational problems and how to create and implement intervention strategies to improve individual, group, and organizational effectiveness. Chapter 15 closes the book with a discussion of the challenges organizations face as the workforce becomes increasingly diverse, and the role HRD can play in meeting these challenges and achieving the goal of full participation by all members of an organization.

We think you will find this to be an exciting and dynamic field. Everyone working in an organization of any size is impacted by human resource development. Whether you currently work in the field, some day hope to do so, or simply want to learn more about HRD, you will be impacted by the topics discussed in this book. Our hope is that you will study and learn the content of this book, enjoy the process (really!), and then apply what you learn to your own work experiences. The concepts and models in this book can make you a more effective employee, manager, or trainer/HRD professional. The text before you (along with the materials available on the Cengage website) are our part. Your professor or instructor will add her or his part. But the last piece of the equation is yours—what will you put into and get out of your study of the field of human resource development? Enjoy the journey!

**OPENING CASE**

TRW faced a number of challenging issues as it restructured its leadership training to form the Global Leadership Program. Many of the issues it faced have been mentioned in this chapter. Your instructor has additional information concerning what was done at TRW to develop greater global competence among its top managers.
SUMMARY

This chapter traced several historical events that contributed to the establishment of human resource development. Early training programs (such as apprenticeships) focused on skilled training. At the turn of the twentieth century, more emphasis was placed on training semiskilled workers. Training departments as we know them today were introduced in many large companies during World War II. The establishment of the professional trainer led to the formation of a professional society (ASTD). This culminated in the 1980s when ASTD, in partnership with the academic community, officially recognized the professional designation of human resource development (HRD).

HRD, as part of a larger human resource management system, includes training and development, career development, and organization development programs and processes. HRD managers and staff must establish working relationships with line managers to coordinate HRD programs and processes throughout the organization. To be effective, HRD professionals must possess a number of competencies and must be able to serve in a number of roles. These roles will help the HRD professional meet the challenges facing organizations in this new century. These challenges include increasing workforce diversity, competing in a global economy, eliminating the skills gap, meeting the need for lifelong learning, becoming a learning organization, and addressing ethical dilemmas. The systems or HRD process framework (A DlMe—assess, design, implement, evaluate) was presented as the major framework for promoting effective HRD efforts. The remainder of the book expands upon the concepts introduced in this chapter.

KEY TERMS AND CONCEPTS

american society for training and development (ASTD)  human resource development (HRD)
apprenticeship training  human resource management (HRM)
career development  individual development
career management  individual development and career
counselor  coach
coaching  instructor/facilitator
competencies  learning organization
learning program specialist  (or instructional designer)
counseling  management training and development
craft guilds  organization change agent
employee orientation  organization design consultant
high performance work systems  organization development (OD)
HR strategic advisor  performance consultant (or coach)
HR systems designer and developer  researcher
human relations  skills and technical training
human resource certification institute  training and development (HRCI)
QUESTIONS FOR DISCUSSION

1. Do supervisors have HRD responsibilities? If so, how do they coordinate these with HRD professionals?
2. In your opinion, what HRD skills or competencies does an HRD manager need? How are these skills and competencies learned?
3. What qualities do you think an HRD professional must possess to be effective in an organization of approximately 1,000 employees? How might your answer be different for an organization with 10,000 employees? Support your answers.
4. Briefly describe an HRD effort in a familiar organization. Was it successful? If so, why? If not, what contributed to its failure?
5. A manager states that “HRD must become more strategic.” What does this statement mean, and what can HRD professionals do to practice “strategic HRD?”
6. Which challenges to HRD professionals discussed in this chapter will directly affect your present or future working environment? What additional challenges do you foresee affecting HRD?

EXERCISE: INTERVIEW AN HRD PROFESSIONAL

Conduct an informational interview with an HRD professional. This could be someone working in the areas of training and development, career development, or organizational development. Some of the questions you might ask include (1) what do they do in their job? (2) what has changed in their job over the past five to ten years? and (3) where do they see the HRD field going in the next five to ten years? Your instructor will give you guidelines as to the appropriate length and format for the written document you turn in for this assignment.

Visit academic.cengage.com/management/werner for links to informative websites for this Chapter.
LEARNING OBJECTIVES

After reading this chapter, you should be able to:

1. Identify the major external and internal factors that influence employee behavior
2. Describe two primary types of outcomes that may result from behavior and tell how they may influence future behavior
3. State how a supervisor’s leadership and expectations can affect employee behavior
4. Recognize the impact that coworkers and organizations themselves have on employee behavior
5. Define motivation and describe the main approaches to understanding motivation at work
6. Discuss how knowledge, skill, ability, and attitude influences employee behavior
INTRODUCTION

Have you ever wondered:

- why a coworker behaves the way he or she does?
- why people so often live up (or down) to the expectations that others have for them?
- why managers seem to develop relationships of different quality with different subordinates?
- why some work teams develop more trust and cohesiveness than others?
- how motivation influences employee behavior?
- whether there are some general frameworks or models that can help in understanding the various influences on employee behavior?

United Technologies Corporation (UTC) is a Fortune 100 conglomerate with headquarters in Hartford, Connecticut. In 2006, it had a worldwide workforce of over 214,000 employees. Some of its major subsidiaries include Pratt & Whitney (jet engines), Carrier (air-conditioning systems), Otis (elevators), Hamilton Sundstrand (aerospace and industrial equipment), Sikorsky (helicopters), and the recently acquired Chubb security group. Since 1990, it has undergone several major reductions of its U.S. workforce, with a substantial increase in its workforce outside the United States. George David, CEO of UTC, stated: “We and others create jobs overseas fundamentally for market access, to extend our global market leadership and thereby to make our company stronger and to assure employment at home.” Later, he stated that “we cannot guarantee anyone a job, but we are nonetheless obliged to provide employees reasonable opportunities to reestablish themselves, ideally on more favorable conditions, in the event of job loss.” One of the commitments made by UTC was to provide tuition reimbursement for undergraduate or graduate courses taken by their employees.

The Pratt & Whitney subsidiary had been hit hard by the overall decline in the world aerospace markets. In 2000, it had approximately 31,000 employees worldwide, with roughly 40 percent of these employees working in Connecticut, when it announced the elimination of up to 1,700 jobs, primarily in Connecticut. This was in addition to the 3,500 jobs cut since 1998 as part of its restructuring. An obvious challenge in the midst of such changes is the maintenance of employee skills and morale.

Questions: What happens to employee training and development efforts in the midst of a downsizing of this magnitude? Will employees take advantage of such a tuition reimbursement program during restructuring? What happens to employees who are laid off at the time they are taking college classes? Can Pratt & Whitney (and UTC) maintain their commitment to tuition reimbursement in such an environment?

The overarching goal of Human Resource Development interventions is to assist employees and organizations in attaining their goals. While this might, at first glance, seem relatively straightforward and uncontroversial, the working out of a multiple stakeholder approach is not easy, and it is definitely not without controversy. HRD professionals can help employees meet their personal goals by providing programs and interventions that promote individual development, for example, career development activities, mentoring, and formal training and educational opportunities. Concerning organizational goals, the ultimate objective of most, if not all, HRD programs is to improve organizational performance. HRD efforts are certainly not the only contributors to organizational performance; however, they are increasingly recognized as a critical component of organizational success. Further, a major focus of most HRD interventions is an effort to change employee behavior. That is, the hope is that providing employees with the skills and behaviors they need to perform successfully should lead to the greatest accomplishment of both employee and organizational goals. Thus, the field of HRD has always had a strong focus on employee behavior. However, to change any behavior, we must first understand the factors that cause employees to behave the way they do. Armed with this knowledge, we can more accurately diagnose performance problems, understand what makes effective performance possible, and design HRD programs to foster the behavior we want.

Identifying the causes of employee behavior is no easy task. The factors contributing to any behavior are numerous, complex, and difficult to ascertain. But, however difficult this may be, a thorough understanding of employee behavior and its causes is critical for any HRD program to be effective. The purpose of this chapter is to introduce readers to the major factors influencing employee behavior and their implications for HRD. Students with backgrounds in organizational behavior or applied psychology will find that this chapter provides an important review and an opportunity to relate these topics to issues within HRD.

**MODEL OF EMPLOYEE BEHAVIOR**

The model of employee behavior shown in Figure 2-1 presents what we consider to be the key factors affecting employee behavior and their corresponding relationships. It includes two main categories: (1) external forces—that is, those found in the external environment (outside the organization), as well as in the work environment (inside the organization), including leadership, aspects of the organization itself, coworkers, and the outcomes of performance (such as praise); and (2) internal forces—that is, those within the employee, including motivation, attitudes, and KSAs (knowledge, skills, and abilities). This model assumes that external and internal forces interact or combine to produce a given behavior, and that employee behavior has a direct relationship to the personal and organizational outcomes that are obtained. Although it may be possible in some cases to trace the cause of a behavior to one or two dominant forces, we believe that overall patterns of behavior can best be explained by the combination of many factors.

Regarding clarity and relevance, this model is relatively simple to apply to HRD concerns. Our goal is not to cover all possible causes for employee behavior, but to include only those most critical to designing, delivering, and using HRD programs. Additional concepts will be presented in later chapters. The remainder of this chapter focuses on the elements contained within the model.
Major Categories of Employee Behavior

If HRD efforts are primarily intended to change employee behavior, then it is useful to first ask what types of behavior they are intended to change. Recent research strongly suggests that individual performance is multidimensional. Although many different aspects of individual performance have been identified, one vital distinction exists between those behaviors central to performing one’s job (often called task performance), and other behaviors less central yet still valuable for the effective functioning of a team, department, or organization as a whole. Many training efforts focus on the first group of behaviors, namely those relating to performing the critical tasks associated with a given job. But the second category of behaviors is also important. Behaviors in this category have been given different labels (such as organizational citizenship behaviors or contextual performance). A central aspect of such behaviors (we term them organizational citizenship behaviors) is that in the aggregate, they contribute to organizational effectiveness. For example, HRD efforts to inculcate a culture of innovation and initiative-taking would focus more on this second category of behaviors. Similarly, team-building efforts that promote cooperation and teamwork emphasize such citizenship behaviors. Alternately,
coaching or mentoring efforts often seek to promote behaviors that, while helpful to the organization as a whole, are not enforceable requirements of a given job. The motivational issues discussed later in this chapter are particularly critical in determining the extent to which employees engage in behaviors that are above and beyond their formal job requirements. As Daniel Katz wrote many years ago: “An organization [that] depends solely upon its blueprints of prescribed behavior is a very fragile social system.” As we present a systems perspective on human resource development throughout the book, we begin our discussion by highlighting these two critical aspects of individual employee behavior. Next, we describe the major factors that influence such behavior.

EXTERNAL INFLUENCES ON EMPLOYEE BEHAVIOR

Factors in the External Environment

Influences from outside the organization, that is, the external environment, clearly influence employee behavior. Factors from the external environment include the general state of the economy (e.g., the rate of inflation, level of unemployment); the various governmental laws, regulations, and regulatory agencies; the activities of other organizations or competitors plus the many global and technological issues mentioned in Chapter 1. Our model in Figure 2-1 depicts these as general forces that influence the organization and all parts within it. Even organizations with strong internal work environments and high levels of employee behaviors can be negatively impacted by external factors such as a downturn in the economy or a sudden technological change. External forces often lead organizations to reduce their workforce. For example, downsizing refers to voluntary actions on the part of organizations to reduce the overall size of their workforce, generally to reduce costs. A huge number of companies have reduced their workforces over the past twenty-five years, including AT&T, Boeing, DuPont, IBM, Xerox, and United Technologies (the organization highlighted in the Opening Case). Despite the widespread nature of downsizing, there is little solid evidence concerning its effectiveness as a business practice. A study by Wayne Cascio of companies that downsized more than 3 percent in a given year between 1982 and 2000 found “no significant, consistent evidence that employment downsizing led to improved financial performance, as measured by return on assets or industry-adjusted return on assets” (p. 40). Similarly, an ASTD survey found that downsized organizations reported lower organizational performance, lower quality products or services, and lower employee satisfaction compared to organizations that had not downsized. Another study by Kenneth DeMeuse and colleagues found that it took several years for downsized companies to return to financial health.

For organizations to ensure their future success, they must maintain their investment in their workforce, even when they are restructuring or downsizing. This includes training the survivors of downsizing on how to carry out their responsibilities after downsizing has occurred, but it can also include decisions to retrain rather than lay off employees. For example, Digital Equipment, Eastman Kodak, Hallmark, Pacific Bell, and Raychem have all been lauded for their efforts to retrain workers who would otherwise be laid off. The ASTD study cited earlier found that organizations did best when they emphasized both organizational and individual performance. In particular, three individual-level practices were more common in
companies designated as “high performance work systems,” namely coaching and mentoring, individual development, and multirater feedback. Further, companies with the most extensive high performance work systems were nearly three times less likely to cut their workforces than were companies with less extensive usage of such practices. It should be clear from this brief discussion that downsizing has enormous implications for human resource development, and conversely, that HRD efforts can have a significant impact on the effectiveness of organizational downsizing. A leading HRD scholar, Warner Burke, has argued that HRD professionals should play a more active role in challenging or redirecting corporate downsizing efforts. This is certainly an area where it can be challenging to meet the goals of various stakeholders in an organization, presenting ethical dilemmas to organizational leaders and HRD professionals alike.

Factors in the Work Environment

In addition to factors in the external environment, there are also factors within the organization that influence employee behavior. We emphasize four sets of forces within the work environment that affect employee behavior: outcomes, supervisors, characteristics of the organization itself, and coworkers. Table 2-1 presents a list of these forces and some of the issues stemming from each.

**Outcomes.** Outcomes occur as a result of a given employee behavior. Outcomes can be personal or organizational in nature. Personal outcomes are those that have value to the individual, such as pay, recognition, and emotions. Organizational outcomes are things valued by an organization, such as teamwork, productivity, and product quality. These outcomes are what an organization would ultimately hope to achieve by the collective efforts of all organizational members. The word value in

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this context should not imply that outcomes are always positive or desirable. Behavior can also result in outcomes that employees fear or dislike. Embarrassment, disciplinary actions, transfers, loss of pay or privileges, and ostracism are all possible unpleasant outcomes of employee behavior.

Figure 2-1 presents these outcomes as following from employee behaviors. Although there are clearly other factors that influence individual and organizational outcomes, we limit our discussion to those things that influence employee behaviors and the subsequent influence these behaviors have on personal and organizational outcomes. However, it is also important to note the likely influence that organizational outcomes have on employee behaviors (this is actually the reverse of the ordering presented in Figure 2-1). For example, several of the motivation theories presented later in the chapter propose that employee perceptions of outcomes are important determinants of behavior. Here are two examples:

1. **Expectancy theory** states that people will perform behaviors that they perceive will bring valued outcomes. If employees fulfill certain obligations to an organization but do not receive promised outcomes (such as promotions or pay raises), they may reduce their expectations about the link between their performance and the desired outcomes and thus choose to behave differently. Further, if outcomes are not as rewarding as anticipated, the employees may revise their judgments about the value of such outcomes and perform different behaviors.17

2. **Equity theory** states that outcomes are evaluated by comparing them to the outcomes received by others. If employees perceive an inequity, they may change their performance or cognitions, or both, to reduce the inequity. In addition, outcomes can serve as a form of feedback to employees. Bonuses and recognition, for example, let employees know they have performed appropriately and that their performance is valued by an organization.18

Consider for a moment why outcomes and outcome perceptions are so important to HRD. If employees do not believe that attending a training program will lead to valued outcomes, they may choose not to attend the program, or may devote little effort to learning and using the skills being taught. If an employee perceives that company training will require increased individual effort with no greater personal outcomes than what other employees receive, the training may be seen as unfair. As a result, the employee may resist participating in the program.

It is often the outcomes of performance (such as embarrassment or a poor evaluation) that serve as attention getters, convincing an employee that training or development is needed. For example, if a nurse who treats patients rudely never experiences any unpleasant outcomes as a result (such as complaints to the supervisor or disciplinary actions), it is unlikely that the nurse will perceive any need to change this behavior. Similarly, if college professors who have not kept current in their field continue to receive support and recognition for their work in the classroom, they may perceive that their behavior is acceptable and see no reason to attend professional seminars or engage in other developmental actions.

Thus, it is important that managers remain aware of the outcomes of their subordinates’ performance, as well as how their subordinates view these outcomes. This knowledge can be useful in detecting needs for training, motivating employees to participate in training, and in ensuring that what employees learn in training is applied to their jobs.
Supervision and Leadership. An immediate supervisor plays an important role in the employee’s work life, delegating tasks and responsibilities, setting expectations, evaluating performance, and providing (or failing to provide) feedback, rewards, and discipline. Even with the shift toward greater use of teams, including more self-directed work teams, supervisors continue to play a critical role in the success of most organizations. Although the influences supervisors have on subordinates are numerous and sometimes complex, two factors deserve comment: self-fulfilling prophecy and leadership.

Research on self-fulfilling prophecy, or the Pygmalion effect, shows how the expectations a supervisor establishes can influence a subordinate’s behavior. First demonstrated in classroom settings, self-fulfilling prophecy states that expectations of performance can become reality because people strive to behave consistently with their perceptions of reality. If supervisors (or trainers) expect good performance, their behavior may aid and encourage their subordinates (or trainees) to raise their own self-expectations, increase their efforts, and ultimately perform well. The opposite can happen if supervisors or trainers expect poor performance. Dov Eden and his colleagues demonstrate in a variety of work settings that raising managers’ performance expectations leads to higher levels of performance in their employees. The implications for supervisors and HRD professionals who conduct training programs are clear: they must be aware of their own expectations and what they communicate to others, while taking advantage of the benefits resulting from high but realistic expectations. This effect has also been demonstrated in team member expectations for new members. In addition, supervisory expectations play a key role in the coaching process, which will be discussed in greater detail in Chapter 10.

The supervisor’s approach to leadership can influence employee performance as well. Leadership is the use of noncoercive influence to direct and coordinate the activities of a group toward accomplishing a goal. There are almost as many definitions of leadership and theories about it as there are leadership researchers! Two examples serve to demonstrate the effect a supervisor’s leadership may have on employee behavior.

First, Robert House argued in his path-goal theory that a leader’s role is to identify goals and clarify paths employees may take to reach these goals. If this is done, then motivation, job satisfaction, and employee performance are predicted to increase. Subsequent research has provided support for the theory’s predictions regarding job satisfaction.

Second, George Graen’s Leader-Member-Exchange (or LMX) model of leadership (earlier called the vertical-dyad linkage approach) observes that supervisors tend to develop different quality relationships with different subordinates. In early research, this was depicted in terms of two extremes, that is, those employees with high quality relationships with a supervisor (the in-group), and those with low quality relationships (the less favored out-group). In-group members have relationships with their supervisors characterized by respect, liking, mutual trust, and influence; the opposite is true of relationships for out-group members. In-group members tend to have higher performance and satisfaction, lower turnover, and more positive career outcomes than out-group members. Subsequent writing on LMX focuses on improving the leadership-exchange relationship managers have with all employees. As Graen and Uhl-Bien write, the emphasis is now placed “not on how managers discriminate among their people but rather on how they may work with each person...
on a one-on-one basis to develop a partnership with each of them.” Supervisors should work to develop effective dyadic relationships with each employee under their supervision. Recent research on LMX also studies the extent to which supervisors perceive support from their organizations. Erdogen and Enders found that “LMX is more strongly related to job satisfaction and job performance to the degree to which supervisors feel they are supported by the organization” (p. 328). Thus, it would seem that a supportive organizational culture (as discussed below) is also important for developing healthy relationships between supervisors and employees.

These and other leadership theories highlight the effect an immediate supervisor has on employee behavior. Subordinates look to their managers for cues about appropriate and inappropriate behavior. If a manager or supervisor speaks and behaves in ways that indicate training and development are unimportant, employees will likely have little enthusiasm for these activities. Alternatively, if managers and supervisors take these activities seriously and reward employees for learning and using new skills, techniques, and attitudes, HRD efforts will be more effective, and ultimately the employee, manager, and organization will benefit. Leadership is also a key aspect of management development. Many organizations use management development programs (discussed in Chapter 13) as a way to improve the leadership skills of managerial employees.

In organizations that use teams as the primary means to accomplish tasks, some of the influences supervisors ordinarily control can be controlled by team members or a team leader (if one exists), or by both. There is evidence that the differential quality of exchange relationship among team members can influence a team’s cohesiveness, internal satisfaction with coworkers, and general job satisfaction. Although the dynamics of a self-managed team are more complex than the traditional supervisor-subordinate relationship, the impact of expectations and leadership will likely be similar. More will be said about teams in Chapter 14.

The Organization. The organization itself can influence employee behavior through its reward structure, culture, and job design. Reward structure focuses on

- the types of rewards an organization uses (material, social);
- how rewards are distributed (e.g., equally to all, relative to each individual’s contribution, or on the basis of need); and
- the criteria for reward distribution (results, behavior, or nonperformance issues, such as seniority or tenure).

Further, rewards include not only tangible things, such as financial bonuses and plaques, but also intangible things, such as recognition and acceptance. Reward systems should ideally provide the outcomes desired by members of the organization. Similar to our previous discussion of outcomes, motivation theories can serve as the foundation for organizational reward systems as well. That is, motivation theories can help explain why reward systems sometimes fail. As both expectancy and reinforcement theory predict, employees are more likely to do things for which they are rewarded. If management does not carefully design and implement a reward system, then it may unintentionally reinforce undesirable behavior in employees (such as lack of initiative, non-acceptance of the status quo, and low participation rates in HRD programs). Also, when reward systems are
perceived too strongly as control mechanisms, this can serve to reduce employee motivation and performance.\textsuperscript{33}

Therefore, it is important for supervisors and HRD professionals to understand what an organization’s reward system is intended to do, how it is put into practice, and how employees respond to it. Some performance problems may be solved simply by adjusting the reward system. It must also be understood that a major reason why many employees become involved in HRD programs is to obtain valued rewards, such as promotions, pay increases, and more desirable work assignments. As mentioned earlier, some organizations choose to highlight the linkages between desired rewards and HRD as a way to pique employee interest in HRD programs. Rewards and their effective distribution can also be a topic of training, particularly in management development programs. In some instances, access to HRD programs can be used as a reward, or access may be perceived as one.

An organization’s culture can also have a strong effect on individual behavior. \textit{Organizational culture} is a set of values, beliefs, norms, and patterns of behavior that are shared by organization members and that guide their behavior.\textsuperscript{34} Individuals who understand an organization’s culture are better able to accurately interpret organizational events, know what is expected of them, and behave in appropriate ways in new or unfamiliar situations. Organizations that have a strong culture try to perpetuate that culture by selecting individuals who already share the culture (as Southwest Airlines does in its efforts to recruit people who have a fun, team-oriented attitude) and by socializing new members so that they accept these norms and values.

Two examples can illustrate the impact of organizational culture on individual behavior. If an organization firmly embraces the idea of continuous improvement as the way to ensure high levels of quality (as in total quality management efforts), employees should be motivated to find ways to improve quality, engage in HRD programs to improve knowledge and skills, and focus their efforts on satisfying customer needs and expectations. Similarly, in organizations committed to diversity (where individuals from all cultural backgrounds are viewed and treated as full organizational members and participate fully within the organization), employees will behave in ways that encourage acceptance and the active participation of all members in achieving the organization’s goals. One clear implication of organizational culture for HRD is that HRD can be a means through which an organization’s culture is perpetuated or changed, and HRD can also be influenced by the organization’s culture (in terms of HRD content, importance, and acceptance).

\textit{Job design} is the development and alteration of the components of a job (such as the tasks one performs, and the scope of one’s responsibilities) to improve productivity and the quality of the employee’s work life. As proposed by Richard Hackman and Greg Oldham, when jobs contain factors that satisfy employees’ personal growth needs or provide elements that generate feelings of responsibility, meaningfulness, and knowledge of results, employees will be more satisfied and more productive. Job design has received considerable attention and research support.\textsuperscript{35} The implication of job design for HRD is twofold. First, the way an organization chooses to construct its jobs can affect an employee’s behavior and attitudes. Second, to improve an employee’s performance and attitudes, the focus can be on altering the job rather than the employee. Job design will receive more attention in our discussion of organizational development in Chapter 14.
Coworkers and Teams. Coworkers, and especially team members, can exert a strong influence on an employee’s behavior in at least three ways. First, coworkers control some of the outcomes valued by an employee and can use those outcomes to influence the employee’s behavior. For example, if an employee behaves in a way coworkers value, they may reward or reinforce that behavior by offering friendship and recognition. Similarly, coworkers may choose to react to behavior they disapprove of by withholding desired outcomes or punishing the employee through insults, ostracism, or threats. This is especially true in team situations, where members hold each other accountable for behaviors and performance, and where access to rewards is based on team performance.

Second, norms, or informal rules for appropriate behavior established within work groups, can serve as guidelines for appropriate behavior, if the employee chooses to comply. Norms send a clear message about what behavior is expected and may lead employees to behave in ways that differ from typical patterns.

Third, because HRD programs are often administered to groups of employees and employees must perform newly-learned behaviors in group settings, HRD professionals need to understand the effect of group dynamics on behavior. Group dynamics influence the way an employee may behave when interacting in a group. Dynamics such as groupthink and social loafing show that the performance of individuals within groups can differ from how they behave alone. Groupthink occurs when group members are primarily concerned with unanimity and make poor decisions by failing to realistically assess alternatives. Social loafing is the tendency for group members to reduce their effort as the size of the group increases. The implication of dynamics such as social loafing and groupthink is that consideration must be given to how employees will behave when they are in group settings. Care should be taken when designing and implementing HRD programs to ensure that group dynamics do not undermine the learning process. Teamwork both amplifies the importance of coworkers’ influences on individual behavior and brings other dynamics to the forefront. Two teamwork issues are trust and cohesiveness. Trust has to do with expectations that another person (or group of people) will act benevolently toward you. There is a certain vulnerability or riskiness to trust, in that the other party may not fulfill your expectations. But research demonstrates strong links between interpersonal trust and employee performance (including citizenship behaviors), problem solving, and cooperation. Cohesiveness is the members’ sense of togetherness and willingness to remain part of the group. Given team members’ high level of interdependence, they must trust one another and feel a sense of cohesiveness if the team is to work together and be successful.

Similarly, group and team dynamics should be taken into account when planning actions designed to ensure that what is learned is transferred back to the job. Managers and team leaders can monitor potentially destructive dynamics, as well as the level of trust and cohesiveness, and act to address them to maximize the chances that employees will use what they learn from training and development activities. Involving coworkers and team members in the learning process, as participants or trainers, can increase their acceptance of newly learned skills and the likelihood that they’ll use them on the job. Likewise, managers should pay attention to employee attitudes toward training and using new methods and skills.
MOTIVATION: A FUNDAMENTAL INTERNAL INFLUENCE ON EMPLOYEE BEHAVIOR

Motivation is one of the most basic elements of human behavior. Motivational theories attempt to explain how effort is generated and channeled. Terry Mitchell synthesizes many definitions of work motivation as “the psychological processes that cause the arousal, direction, and persistence of voluntary actions that are goal directed.”

This definition makes several important points. First, the motivation to work stems from the same impetuses that direct nearly all behaviors performed in the workplace—that is, voluntary behavior? Even in situations where employees feel they do not have a choice, their behavior reflects consideration of the perceived consequences of their actions.

Second, motivation focuses on several processes affecting behavior:

- **Energizing**—the generation or mobilization of effort
- **Direction**—applying effort to one behavior over another
- **Persistence**—continuing (or ceasing) to perform a behavior

Third, motivation at work is usually seen as an individual phenomenon because all people have unique needs, desires, attitudes, and goals. Most motivational theories recognize these differences among individuals and often include components that describe how they affect the motivational process.

Understanding motivation is critical to HRD. The success of many HRD programs and processes depends in part on whether the individual is motivated to participate, learn, and use what is learned to improve performance. The reason a person chooses to attend a training class, but then fails to use the learned skills back on the job may be rooted in motivation. Programs designed with an eye toward motivation can explicitly address these issues. In addition, motivation theories are useful in diagnosing the cause of performance problems and often serve as the basis for designing or choosing HRD programs to remedy those problems.

Theories of work motivation abound. Although some theories share common processes and constructs, there is no single, inclusive, widely accepted explanation of work motivation. In general, approaches to explaining motivation can be grouped into the three categories displayed in Table 2-2: need-based, cognitive, and noncognitive. After we present various prominent motivational theories, we will use a diagnostic model of motivation to synthesize these various theories.

**Need-Based Theories of Motivation**

Several motivational theories are rooted in the concept of needs. Needs are deficiency states or imbalances, either physiological or psychological, that energize and direct behavior. Henry Murray proposed that humans experience a large number of needs, such as aggression, affiliation, autonomy, and achievement. Although needs are internal states, they can be influenced by forces in the environment. The opening case, for example, suggests that forces in the global economy and the potential for layoffs within an organization may heighten an employee’s need for security, thereby reducing motivation to learn or engage in educational opportunities.

Needs are said to drive behavior through the combination of need activation and need satisfaction, a process depicted in Figure 2-2. A need becomes activated when a
person lacks something necessary for maintaining psychological or physiological equilibrium. The activated need is felt as tension. The tension may be a recognizable feeling, such as loneliness, or it may be more general, such as anxiety. Because tension is unpleasant, the person will look for ways to reduce the tension by eliminating the deficiency causing it. That person will continue to perform different behaviors until one effectively reduces the tension and, thus, satisfies that need. Only activated needs can be motivational, because only an activated need produces the tension the person is motivated to eliminate. Once the need is satisfied, the tension is gone, and the need is no longer felt.

Two widely cited need-based theories of motivation, Maslow’s need hierarchy theory and Alderfer’s existence, relatedness, and growth (ERG) theory, suggest that needs are arranged in a hierarchy. They propose that needs emerge in a particular pattern whereby certain groups of needs (those important to physical survival) emerge first and must be satisfied before other needs (psychological and social, like affiliation and esteem) can emerge and affect behavior. Once currently activated needs are satisfied, the next most powerful group of needs is felt and will then drive behavior.

Maslow’s need hierarchy lists five categories (or levels) of needs: physiological, safety and security, love, status and esteem, and self-actualization. Alderfer’s ERG theory reduces Maslow’s hierarchy to three levels of needs: existence, relatedness, and growth. More importantly, ERG theory proposes that if a person becomes frustrated trying to satisfy currently activated needs, this frustration causes previously satisfied needs to activate and drive behavior.

Another widely discussed need-based theory is Herzberg’s two-factor theory. Herzberg claims that people have two sets of basic needs, one focusing on survival
and another focusing on personal growth. He argues that factors in the workplace that satisfy survival needs, or *hygiene factors*, cannot provide job satisfaction—they only prevent dissatisfaction. Alternatively, *motivator factors*, which satisfy the growth needs, can create feelings of job satisfaction, but their absence will not necessarily lead to dissatisfaction. Following the two-factor theory, workers can be motivated by ensuring hygiene factors are present, thereby preventing dissatisfaction, and then adding motivator factors to create job satisfaction. This strategy is referred to as *job enrichment*.

Need-hierarchy theories have been popular with managers and students in part because they are easy to understand and intuitively appealing. They seem to make sense. Unfortunately, need theories are difficult to test rigorously, in that they
require measuring internal states that people find difficult to accurately identify and explain. Although most of the studies of Maslow’s theory have failed to support it, much of this research has not been conducted properly. Some research has been conducted to test the ERG theory, but there is insufficient evidence to strongly support it. Needs exist, but a generalizable hierarchy explaining the relationships among them is not yet available.

Similar problems exist with the two-factor theory. Herzberg’s initial studies supported the notion that there are two separate sets of factors that affect job satisfaction differently. However, other researchers could not replicate these results using other methods. The theory became embroiled in controversy. Although there is some support for job enrichment as a way to motivate employees, the validity of the two-factor theory remains unclear.

So although need-based theories of motivation provide some insight into one category of possible forces that drive behavior, they have proven difficult to test and apply and are insufficient as an explanation of motivation. Even so, HRD programs based on need-based theories, such as job enrichment and achievement motivation training, have been used in organizations with some success.

Cognitive Process Theories of Motivation

Few of us would deny that our conscious thoughts play a role in how we behave. A second group of motivation theories, called cognitive process theories, recognizes this and argues that motivation is based on a person’s thoughts and beliefs (or cognitions). These theories are sometimes referred to as process theories because they attempt to explain the sequence of thoughts and decisions that energize, direct, and control behavior.

Cognitive motivation theories have direct relevance to HRD. Most HRD programs include attempts to change employee behavior by influencing their thoughts, beliefs, and attitudes. Learning, which lies at the heart of HRD, is often seen as a cognitive process (learning will be discussed in Chapter 3). We can do a better job of designing and implementing HRD programs if we understand how employees’ thoughts and beliefs affect their behavior. In the following section, we briefly review four cognitive theories of motivation: expectancy theory, goal-setting theory, social learning theory, and equity theory. Each theory has relevance for the practice of HRD.

Expectancy Theory. Expectancy theory, first proposed by Victor Vroom, assumes that motivation is a conscious choice process. According to this theory, people choose to put their effort into activities they believe they can perform that will produce desired outcomes. Expectancy theory argues that decisions about which activities to engage in are based on the combination of three sets of beliefs: expectancy, instrumentality, and valence.

Expectancy beliefs reflect an individual’s judgment of whether applying (or increasing) effort to a task will result in its successful accomplishment. Stated another way, people with high expectancy believe that increased effort will lead to better performance, but people with low expectancy do not believe that their efforts, no matter how great, will affect their performance. All things being equal, people should engage in tasks for which they have high expectancy beliefs.

The second belief, instrumentality, is a judgment about the connection the individual perceives (if any) between task performance and possible outcomes.
Making an instrumentality judgment entails asking the question, “If I perform this task successfully, is it likely to get me something I want (or something I don’t want)?” Instrumentality ranges from strongly positive (the individual is certain that performing a task will lead to a particular outcome), through zero (the individual is certain there is no relationship between performing the task and the occurrence of a particular outcome), to strongly negative (the individual is certain that performing a certain task will prevent a particular outcome from occurring).

The third belief important to expectancy theory is valence. Valence refers to the value the person places on a particular outcome. Valence judgments range from strongly positive (for highly valued outcomes), through zero (for outcomes the person doesn’t care about), to strongly negative (for outcomes the person finds aversive).

Expectancy theory posits that employees will make these three sets of judgments when deciding which behaviors and tasks to engage in. Specifically, the theory predicts that employees will choose to put effort into behaviors they

- believe they can perform successfully (high expectancy) and
- believe are connected (high instrumentality) to outcomes they desire (high valence) or
- believe will prevent (negative instrumentality) outcomes they want to avoid (negative valence).

Figure 2-3 graphically depicts this process. For example, suppose the manager of a bus company tries to motivate drivers to drive more safely by offering safe drivers additional vacation days. Whether this will motivate a driver to drive more safely depends on whether
1. the driver thinks he or she can improve his or her safety record to the level desired by the manager (expectancy),
2. the driver believes the manager will give more vacation days if his or her safety record is improved to the desired level (instrumentality), and
3. the driver values having more vacation days (valence).

Do people behave in the way expectancy theory predicts? Empirical studies testing the theory have shown support for its predictions. However, methodological problems in some of these studies may have led to underestimates of the theory’s predictive ability. Expectancy theory may seem complex, and more research is needed to understand whether the theory accurately represents the behavioral choices we make. Expectancy theory is, however, clearly relevant to HRD. It offers a way to diagnose performance problems and then suggests how these problems can be overcome. In addition, expectancy theory has implications for the design and

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**FIGURE 2-3**

A Graphic Representation of Expectancy Theory

<table>
<thead>
<tr>
<th>Should I exert effort?</th>
<th>Expectancy</th>
<th>How likely is it that I will reach my performance goal?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumentality</td>
<td>Will I receive various outcomes if I reach my performance goal?</td>
<td></td>
</tr>
<tr>
<td>Valence</td>
<td>How desirable or undesirable are these outcomes?</td>
<td></td>
</tr>
</tbody>
</table>
effectiveness of HRD programs. For example, according to expectancy theory, employees will not be motivated to attend HRD programs and try to learn from them unless they believe

1. their efforts will result in learning the new skills or information presented in the program,
2. attending the program and learning new skills will increase their job performance, and
3. doing so will help them obtain desired outcomes or prevent unwanted outcomes.

Viewing employee behavior from an expectancy theory perspective, supervisors and HRD professionals can design and market programs in ways to ensure that employees make the appropriate judgments and, as a result, will be motivated to attend, learn, and apply what they have learned back on the job. Some ways to do this include offering incentives such as holding HRD programs in attractive locations, offering paid time off from work to attend, designing a program that is interesting and enjoyable, providing proof that the program is effective, and making success in the program a prerequisite for promotion and other desirable outcomes.53

Goal-Setting Theory. A second cognitive theory of motivation is goal-setting theory. Goal-setting theory contends that performance goals play a key role in motivation. The theory proposes that goals can mobilize employee effort, direct attention, increase persistence, and affect the strategies employees use to accomplish tasks.54 Goals influence an individual’s intentions, which are defined as the “cognitive representations of goals to which the person is committed.”55 This commitment will continue to direct employee behavior until the goal is achieved or until a decision is made to change or reject the goal.

Goal setting is probably the best-supported theory of work motivation, and one of the best-supported management theories overall.56 Research convincingly shows that specific, difficult, and employee-accepted goals will lead to higher levels of performance than easy, vague (such as “do your best”), or nonexistent ones. This research also demonstrates that the presence of feedback enhances the effectiveness of goal setting.57

Further research is needed to understand how and under what conditions goal setting works best.58 For example, a study on the effectiveness of assertiveness training tracked assigned goals given to half the trainees at the end of a training program. These trainees were told to use key points taught in training in two settings per week for four weeks. Checklists were provided to assist these trainees in tracking their goal attainment. Interestingly, trainees who had been assigned goals liked the training significantly less right after training than those in the no goal-setting condition. However, in a follow-up session four weeks later, reactions from trainees in the goal-setting condition had improved. More importantly, they could reproduce from memory a significantly larger portion of the training content than could the trainees without assigned goals, and they also demonstrated more assertive behaviors in a role-playing experience than did the no-goal trainees. A basic point of this research is that adding a goal-setting condition to an already effective training program makes it more effective.59

Goal setting has become an integral part of many HRD programs, particularly in helping participants understand the desired result of each program and to motivate
them to achieve these results. Goals can then be discussed with their supervisors back on the job to ensure that the employees use what they have learned during the HRD program to improve their performance. For example, a key component of the career development process is setting career goals. According to goal-setting theory, an employee who establishes career goals is more likely to advance his or her career, especially if the goals are specific, challenging, and accompanied by regular feedback on progress toward the goals. Career development programs should ensure that employees set such goals and help employees and the organization establish mechanisms for regular feedback.

Social Learning Theory. Albert Bandura developed a third cognitive theory of motivation known as social learning theory. Bandura proposes that outcome and self-efficacy expectations affect individual performance (see Figure 2-4). An outcome expectation (similar to the concept of “instrumentality” in expectancy theory) is a person’s belief that performing a given behavior will lead to a given outcome. Self-efficacy can be defined as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses.”

A shorthand definition of self-efficacy might be that it is a person’s judgment of the likelihood that he or she can successfully perform a particular task or activity. Self-efficacy beliefs are malleable and can be influenced by one’s accomplishments, observations of others, verbal persuasion, and physiological states.

The major prediction of the social learning theory is that a person’s self-efficacy expectations will determine

1. whether a behavior will be performed,
2. how much effort will be spent, and
3. how long the person will continue to perform the behavior.

Bandura argues that people who have high self-efficacy for a particular task focus their attention on the challenges of a situation and use greater effort in mastering them, thus increasing the chances of successful task performance. Conversely, people who

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**FIGURE 2-4**

A Model of the Relationship Between Self-Efficacy and Performance

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have low self-efficacy for a particular task focus their thoughts on obstacles and shortcomings, and as a result, reduce their chances of successful task performance. Research shows that self-efficacy is strongly related to task performance. Furthermore, research also shows that self-efficacy can predict performance in training programs. Clearly, self-efficacy has direct relevance for success in HRD. If employees have low self-efficacy expectations, it is unlikely that they will attempt to improve performance. If they do try to improve performance, they will not put forth the same effort as persons with high self-efficacy. Therefore, trainers and supervisors should behave in ways that increase the trainees’ positive judgments of their self-efficacy.

Of particular relevance to HRD, social learning theory also proposes that most behavior is learned by observing others, a process called modeling. Research suggests that through observing behavior and its consequences in others, individuals learn new behaviors and make decisions about whether to perform a particular behavior themselves. Modeling has also been applied to HRD with great success in a training approach known as behavior modeling. In behavior modeling training, a trainee is told the components of the behavior to be learned (for instance, firing a poor performer) and shown a film or videotape in which an actor (the model) demonstrates how to perform the behavior. Then the trainee practices the behavior with feedback from others and finally receives social reinforcement for performing the behavior.

**Equity Theory.** A fourth cognitive theory of motivation, equity theory, suggests that motivation is strongly influenced by the desire to be treated fairly and by people’s perceptions about whether they have been treated fairly. As a theory of work motivation, it is based on three assumptions:

1. People develop beliefs about what is fair for them to receive in exchange for the contributions that they make to an organization
2. People determine fairness by comparing their relevant returns and contributions to those of others
3. People who believe they have been treated unfairly (called inequity) will experience tension, and they will be motivated to find ways to reduce it

Equity theory predicts that employees who believe they are being treated fairly (a judgment called equity) will be motivated to continue their present performance and behavior patterns, whereas employees who believe they are victims of inequity will search for ways to reduce their feelings of unfairness. There are at least five ways in which individuals reduce their feelings of inequity:

1. Cognitively **distorting** views of contributions or rewards (“She must be smarter than I thought.”)
2. Influencing the **perceived rival to change** his or her contributions or rewards (e.g., convincing the person to be less productive)
3. **Changing** one’s own contributions or rewards (either working harder or contributing less)
4. **Comparing** oneself to a different person
5. **Leaving** the situation (requesting a transfer or quitting)

Typically, people choose the way to reduce inequity that appears to be the least costly to them. Figure 2-5 depicts this process.
Are the predictions made by equity theory supported by research? In general, there is support for the predictions made about what people do when they believe they are under-rewarded. There is less support for predictions about what people do when they believe they are over-rewarded. A growing body of research suggests that there are important individual differences in the extent to which people perceive over- versus under-reward.

Equity theory has clear implications for HRD, particularly in understanding how employees perceive HRD programs and their response to them. In some organizations, participation in HRD programs is used (or perceived) as a reward for good performance or a punishment for poor performance. Also, the decisions concerning which employees will be included in HRD programs are not without consequences. Equity theory suggests, for example, that employees who consider themselves unjustly left out of an HRD program (such as a management development seminar) will experience inequity. As a result, those employees may attempt to reduce their perceived inequity by lowering their job performance or becoming less committed to the organization. Employees may even leave the organization for someplace where they feel their talents will be more appreciated. To prevent this from occurring, managers should make the selection criteria for attending HRD programs clear and provide employees with feedback so they can see that participation judgments are made fairly.

Equity theory can also help us determine whether employees use the skills or knowledge they have learned back on the job. For example, if employees view the application of their new skills or knowledge as an input in their exchange with an employer, they may expect their organization to provide them with certain outcomes in return. If the employees see other employees who lack the newly acquired skills...
receiving the same outcomes as themselves, they may choose not to use the new skills on the job as a way to restore a feeling of equity.

**Reinforcement Theory: A Noncognitive Theory of Motivation**

The last motivation theory we will discuss, reinforcement theory, is rooted in behaviorism, which attempts to explain behavior without referring to unobservable internal forces such as needs or thoughts. Behaviorists seek to explain behavior by focusing only on things they can directly observe: the behavior itself and environmental events that precede and follow the behavior. In short, reinforcement theory argues that behavior is a function of its consequences. This is based on the law of effect, which states that behavior that is followed by a pleasurable consequence will occur more frequently (a process called reinforcement), and behavior that is followed by an adverse consequence will occur less frequently. According to reinforcement theory, a manager or trainer can control an employee’s behavior by controlling the consequences that follow the employee’s behavior.

Reinforcement theory can be applied using a set of techniques known as behavior modification. Behavior modification suggests four choices for controlling an employee’s behavior:

1. **Positive reinforcement** refers to increasing the frequency of a behavior by following the behavior with a pleasurable consequence
2. **Negative reinforcement** increases the frequency of a behavior by removing something displeasureable after the behavior is performed
3. **Extinction** seeks to decrease the frequency of a behavior by removing the consequence that is reinforcing it
4. **Punishment** seeks to decrease the frequency of a behavior by introducing an adverse consequence immediately after the behavior

In addition to the type of consequence that follows a behavior, the way that consequences are paired with behaviors, called a schedule of reinforcement, is an important part of how behavior modification can be effectively applied.

Reinforcement theory has received strong support in a large body of research and has helped increase our understanding of work-related behavior. Reinforcement theory has also had a strong influence on HRD. Methods of instruction, such as programmed instruction and some approaches to computer-based training, draw heavily from reinforcement theory (this will be discussed more in Chapter 6). Trainers and managers can also motivate employees to learn and use what they have learned back on the job by using aspects of behavior modification techniques. Although a strict behaviorist would reject any emphasis on thoughts or needs (i.e., all the methods covered earlier), we feel that such an approach is too narrow, and that an effective HRD professional should consider a more holistic or integrated approach to motivation.

**Summary of Motivation**

As we have seen, there are many approaches to explaining and understanding motivation. Each theory we have discussed enhances our understanding of employee behavior and has at least some research support (with the strongest support going to
goal setting, reinforcement theory, social learning theory, and expectancy theory). In addition, each approach offers valuable insight into the design and implementation of HRD programs.

This brief discussion of different approaches to understanding work motivation is not exhaustive and does not explain the complexity of and interrelationships among theories. Some theories, such as expectancy theory and reinforcement theory, make many similar predictions. In addition, researchers have attempted to integrate several theories into a larger, more inclusive model (for example, the Porter-Lawler model, which combines expectancy and equity theories). One attempt to synthesize multiple motivational models was proposed by John Wagner and John Hollenbeck. Their model can be seen in Figure 2-6. In this model, four employee work outcomes are of particular interest (these are the rectangles in the center of the model): employee desire to perform, the effort employees put forth, employee performance, and employee satisfaction. Expectancy theory is used as an overarching framework to depict influences on employee motivation and performance. However, the other theories described earlier are also used to increase our understanding of how this process unfolds.

For example, we previously described valence, instrumentality, and expectancy during our discussion of expectancy theory. However, the various need theories can assist us in understanding *valences*, that is, what it is that people value or want.

**FIGURE 2-6**

The Wagner-Hollenbeck Model of Motivation and Performance

![Diagram showing the Wagner-Hollenbeck Model of Motivation and Performance](image)

Similarly, both reinforcement theory and social learning theory can provide guidance in understanding what employees believe will lead to the attainment of what they want, that is, their instrumentality beliefs. The various forms of reinforcement, as well as the vicarious learning via modeling (suggested by social learning theory), lead to such instrumentality beliefs. These combine to produce a given desire to perform on the part of employees. As suggested by expectancy theory, this then interacts with expectancy (the judgment that one’s efforts will lead to a successful outcome) to produce a high level of effort. Effort, in turn, must be accompanied by a sufficient level of ability (described later), as well as accurate role perceptions. Goal-setting theory is useful here in providing guidance to employees concerning what needs to be done, at what performance level, and who has responsibility for doing it. When effort, ability, and accurate role perceptions are all present, then high levels of individual performance are predicted to occur. The final variable in this model, satisfaction, is predicted to follow from performance, as well as from a perception that rewards have been given out fairly. Equity theory provides a helpful framework for understanding employees’ perceptions of the equity of rewards. Finally, the model portrays return arrows back to valence, instrumentality, and expectancy. This is meant to portray the dynamic nature of employee motivation and performance, that is, that motivation and performance can change over time. A highly motivated person can lose motivation when valence, instrumentality, or expectancy decline. On the other hand, when one of the aspects of this model improves or increases, then higher levels of motivation, performance, and satisfaction are predicted to occur. We view this model as a useful diagnostic tool to understand employee motivation, since it effectively synthesizes and summarizes our discussion of the various motivational theories.

We hope this discussion encourages the reader to appreciate both the importance of motivation in determining employee behavior as well as the richness of potential applications that motivation theories have for HRD. We hope you share our conviction that motivation is a foundational topic for HRD. For an interesting motivational challenge faced by corporate trainers many years ago, see the nearby box: “An HRD Classic: ‘On the Effectiveness of Not Holding a Formal Training Course.’”

OTHER INTERNAL FACTORS THAT INFLUENCE EMPLOYEE BEHAVIOR

Internal factors, in addition to motivation, that influence employee behavior include attitudes and knowledge, skills, and abilities (KSAs). Each of these factors is discussed in the following sections.

Attitudes

Attitudes are the second major internal influence depicted in our model of work behavior (refer again to Figure 2-1 on page 35). Attitudes add to our understanding of employee behavior by showing another way that thoughts can influence behavior. Many HRD interventions, including training evaluation, management development, and organizational development, either focus on modifying employee attitudes or
An HRD Classic: “On the Effectiveness of Not Holding a Formal Training Course”

Have you ever wondered if maybe training isn’t the answer to an organization’s performance problems? Industrial psychologists Paul Thayer and William McGehee faced this question many years ago when they worked for Fieldcrest Mills in North Carolina. The plants were unionized, and the managers were urging McGehee, the training director at the time, to hold training courses for the supervisors on the contents of the company’s contract with the union. It seems that the union stewards (who spoke on behalf of the employees in the various plants) knew the contract in great detail, and were frequently challenging the authority of the supervisors to assign jobs, discipline employees, or conduct other supervisory responsibilities. Thayer and McGehee write that a supervisor’s request “that a loom filler fill in for an operator for a brief time, for example, might be challenged by an unsupported reference to certain clauses in the union contract. Stewards capitalized on [supervisor] ignorance. Many managers suspected that stewards frequently ran bluffs just for sport” (p. 455).

Although these trainers felt they could provide competent instruction, they were concerned that a course on the contract would not be well received by the supervisors. Their concern was that the stewards’ actions were more frustrating to the managers than they were to the supervisors, and that an “essential condition for learning was missing,” namely, motivation. Their suggestion was that, before conducting training, some baseline data should be collected to see what the supervisors already knew and avoid covering unnecessary materials. Because each supervisor could make use of a pocket edition of the contract on the job, the test should be open book.

As an incentive, the company president agreed to host a steak dinner for the supervisor with the best score on the test. That individual’s manager would also be invited. While preparations were being made for the supervisors to take the test, suggestions that certain supervisors would do better than others were made among the managers. This led quickly to bets “being placed at all levels among plants, from [supervisor] to manager” (p. 456). A very difficult, “hair-splitting” examination was prepared, and then delivered to all mills on the same morning. Supervisors began taking the examination “before work, during breaks, at lunch, after work, at home, etc.” (p. 456). Thayer and McGehee comment that Thayer’s phone did not stop ringing for a week, with supervisors claiming that there were two, three, or even four correct answers to various questions.

Within a week, all examinations were turned in, and all were perfect or near perfect. Two weeks later, the president hosted a steak dinner for 75 supervisors and their managers. Thayer and McGehee raise the question of whether supervisors learned something from this “nontraining course.” Throughout the course of the dinner, “Thayer was surrounded by indignant [supervisors] who quoted sections of the contract verbatim to support contentions as to the
use attitudes as a central component. For example, one common way HRD programs are evaluated is by means of assessing employee attitudes toward the program and its content.

What is an attitude? An attitude “represents a person’s general feeling of favorableness or unfavorableness toward some stimulus object.” Attitudes are always held with respect to a particular object—whether the object is a person, place, event, or idea—and indicate one’s feelings or affect toward that object. Attitudes also tend to be stable over time and are difficult to change.

Of particular interest to HRD is the relationship between attitudes and behavior. Although common sense tells us that attitudes often cause behavior, the reality is more complex. If attitudes did directly affect our behavior, without any other intervening factors, our behavior should be consistent with those attitudes. Unfortunately, this is not always the case. Attitudes can be used to predict behavior, but the predictions are at best only moderately accurate. Researchers attempting to prove a direct relationship between attitudes and behavior have experienced considerable frustration.

Research conducted over the past thirty-plus years suggests that the relationship between attitudes and behavior is not simple or direct. One widely discussed model that explains this relationship is the behavioral intentions model. This model states that it is the combination of attitudes with perceived social pressure to behave in a given way (called subjective norms) that influences an individual’s intentions. These intentions, in turn, more directly influence behavior (see Figure 2-7). When attitudes and subjective norms conflict, the stronger of the two plays the dominant role in determining what the individual’s intentions will be. According to the behavioral intentions model, then, attitudes appear to affect behavior only to the extent that they influence one’s intentions.

Measuring a program’s effectiveness is one example of when the behavioral intentions model of attitudes can inform HRD practice (see Chapter 7). Relying solely on measuring attitudes to determine whether employees will apply what they have learned in an HRD program will likely produce only moderately accurate results. The behavioral intentions model suggests that it may be more useful to measure trainees’ intentions to use what they have learned, because intentions incorporate attitudes and more directly influence behavior. Although this is no substitute for assessing an actual change in job behavior, the behavioral intentions model implies
that intentions, rather than attitudes alone, may be a better indicator of program effectiveness.

Attitudes are an important factor in HRD programs. Ray Noe proposed that two types of attitudes, reaction to skills assessment feedback and career/job attitudes, can have a direct effect on the motivation to learn.\(^8^2\) An empirical test of the model suggested that these factors do in fact influence motivation and learning in a training program.\(^8^3\) We believe that explicitly considering and understanding the effects that trainees’ attitudes can have on training effectiveness, as suggested here, is a promising avenue of research—one that will likely yield new insights into ways HRD programs can be made more effective.\(^8^4\)

**Knowledge, Skills, and Abilities (KSAs)**

The third and final internal factor included in our model of employee behavior (Figure 2-1) is the employee’s knowledge, skills, and abilities (KSAs). It is clear that KSAs have a significant impact on employee performance. All things being equal, if employees lack the KSAs to perform a task or behavior, they will likely fail. Almost all HRD programs focus on improving or renewing the KSAs of employees.

Despite the ubiquitous nature of KSAs, these factors can be difficult to define with precision. Definitions differ according to the person defining them. Edwin Fleishman, a leading researcher of human abilities, defines *abilities* as general capacities related to the performance of a set of tasks.\(^8^5\) Abilities develop over time through the interaction of heredity and experience and are long-lasting. *Skills* are similar to abilities, but differ in that they combine abilities with capabilities that are developed as a result of training and experience.\(^8^6\) Skills are often categorized as psychomotor activities (whereas abilities tend to be more cognitive) and skills are typically measured in terms of the ease and precision evident in the performance of
some task.\textsuperscript{87} Finally, \textit{knowledge} is defined as an understanding of factors or principles related to a particular subject.

Over 100 different types of abilities have been identified, including general intelligence, verbal comprehension, numerical ability, and inductive reasoning.\textsuperscript{88} Some types of abilities, like general strength, have even been partitioned into subcategories (including explosive, dynamic, and static abilities).\textsuperscript{89} Researchers have developed taxonomies to describe the abilities needed to perform particular tasks. Taxonomies help HRD professionals select and assign employees for training, choose appropriate learning strategies for individuals of differing skill levels, and specify training needs and content when designing training programs. Fleishman and colleagues have developed one such taxonomy that has been applied to HRD.\textsuperscript{90} We will discuss needs assessment in Chapter 4.

It should be clear from the preceding discussion that motivation, attitudes, and ability are critical to explaining employee behavior and to understanding and applying HRD. It is the combination of these influences with the external influences described earlier that affect employee behavior.

**SUMMARY**

Because HRD interventions are attempts to change employee behavior, it is important to understand the factors that influence employee behavior. This chapter presented a number of such factors that have direct relevance to HRD, using a simple model of employee behavior to guide the discussion. The model contains two sets of factors that interact to influence employee behavior: (1) external factors, which include factors in the external environment (economic, governmental, and competitive issues), as well as those in the work environment (e.g., outcomes, the supervisor, the organization, and coworkers); and (2) internal factors, which include motivation, ability, and attitudes.

Outcomes—the results from performing a behavior in a particular way—are an external influence on employee behavior. Both personal outcomes (relevant to the individual, like pay or recognition) and organizational outcomes (relevant to the organization, like productivity or profits) can be used to diagnose and motivate...
employees to attend HRD programs and apply what they learn to their jobs. Theories of motivation, such as equity theory, expectancy theory, and reinforcement theory, attempt to explain whether and how outcomes affect employee behavior.

Supervisors, through their leadership and expectations, also influence employee behavior. A supervisor can use leadership (noncoercive influence) to affect a subordinate’s performance, attitudes, and motivation. According to the leader-member exchange theory, employees who are treated by their supervisor with trust, respect, and friendship are more satisfied and perform better than those who are not. Research on self-fulfilling prophecy has shown that a supervisor’s expectations of an employee can affect the way the supervisor interacts with the employee, with the employee’s performance tending to live up or down to those expectations.

Two additional factors in the work environment that influence employee behavior are coworkers and the organization itself. Coworkers provide influence through group norms, group dynamics, and teamwork, and by controlling valued outcomes. The organization can also affect employee behavior in several ways, including its culture, reward structure, and the way it designs the employee’s job.

One of the key internal factors that influence employee behavior is motivation. Motivation is defined as the psychological processes that energize, direct, and lead to the persistence of voluntary behavior. Theories of motivation use different sources to explain behavior, including needs (Maslow’s need hierarchy, Alderfer’s ERG theory, and Herzberg’s two-factor theory); cognitions (expectancy theory, goal-setting theory, social learning theory, and equity theory); and the consequences of behavior (reinforcement theory). Each of these theories has implications for developing and conducting HRD programs. The Wagner-Hollenbeck model of motivation and performance was presented as a useful means of combining the various theories to diagnose motivational and performance issues.

Attitudes and the employee’s knowledge, skills, and abilities (KSAs) are also important internal factors of behavior. Without ability (the capability one has to perform a set of tasks), a person will be unable to perform a given behavior, regardless of motivation. Attitudes, which are made up of beliefs, feelings, and behavioral tendencies, affect behavior indirectly through intentions. According to the behavior intentions model, attitudes combine with perceptions of social pressure to form intentions, which in turn directly affect behavior. Research shows that both employee attitudes and ability play a role in the effectiveness of HRD programs.

HRD professionals and managers are in the business of understanding and influencing employee behavior. As the sampling of concepts and theories in this chapter shows, there are many possible explanations for employee behavior, though fewer unequivocal facts. The techniques discussed in the chapters that follow draw upon the foundations laid by researchers of work motivation and behavior. Obviously, applying these theories to a given situation requires judgment and modification. In this sense, designing and delivering HRD interventions is an art as well as a science.

**KEY TERMS AND CONCEPTS**

- abilities
- attitudes
- behavior modeling
- behavior modification
- behavioral intentions model
- cohesiveness
QUESTIONS FOR DISCUSSION

1. Describe at least three ways that factors in the external environment influence employee behavior. If you were an HRD professional involved with an action team that was charged with evaluating the likely success of a proposed downsizing of your organization, what factors would you want to consider in making this recommendation? That is, based on what you know of HRD to this point, how can HRD professionals impact the likely success or failure of this action?

2. Select a familiar problem that you have encountered in the workplace. Use the model of employee behavior presented in this chapter to seek to explain why this problem exists. Be specific.

3. Suppose that you are the recruitment manager for a medium-sized bank. One of your best recruiters appears to be unmotivated lately. The number of recruits the recruiter brings in is normally above the average for effective performance but has fallen below the standard for the past two weeks. What might expectancy theory suggest is causing the drop in the employee’s performance? What might equity theory suggest? Based on your knowledge of the equity and expectancy theories, develop two recommendations for helping to improve the recruiter’s performance.

4. Suppose you are the HRD manager for a large electric/utility company. The quarterly report shows a 25 percent decrease in participation in management development programs over the same quarter last year. The number of managers employed by the company has not changed, and the company’s profits have remained stable. You already hold these programs in desirable locations off-site (conference centers) and participating in these programs counts toward the employees’ annual performance evaluation. Using your knowledge of motivation theory, suggest three possible reasons that could explain why participation rates are down. If, after investigation, those reasons turned out to be the true causes, what might you be able to do to improve participation rates?

5. Compare and contrast the need-based and cognitive-based approaches to understanding motivation.
6. The HRD manager for a chicken processing plant has come to you for advice. Even though all employees in the plant recently completed a safety training program, the accident rate has not improved. In particular, the manager has found that employees are not wearing safety gear (goggles, shoes with nonskid soles, etc.) consistently and are not following safety procedures. Using your knowledge of attitudes and supervisory expectations, develop two possible reasons to explain the employees’ behavior. If your hypotheses are true, how could the HRD manager improve the situation?

7. Why do people with low self-efficacy perform more poorly in training programs than those with high self-efficacy? What might be done to address problems with low self-efficacy?

8. Briefly describe three ways that coworkers can affect an employee’s behavior at work.

9. Recall a time at work or school when you found it difficult to motivate yourself to complete a required task (like start a report or study for an examination). Using two different motivation theories, explain why this lack of motivation may have occurred.

EXERCISE: INCREASING EMPLOYEE MOTIVATION

Assume that you have been asked to design a portion of the orientation program that your organization is using for new employees. How might the three concepts from expectancy theory (expectancies, instrumentality, and valence; see Figure 2-3) be used to increase the motivation of these new employees? That is, what activities or discussions might be conducted that would increase the likelihood that employees will exert high levels of effort toward achieving work-related goals?

Visit academic.cengage.com/management/werner for links to informative websites for this Chapter.
LEARNING OBJECTIVES

After reading this chapter, you should be able to:

1. Define learning and list at least three learning principles
2. Describe the three broad categories of issues that should be considered to maximize learning
3. Identify and discuss several personal characteristics (such as ability, personality) that affect trainee learning
4. Identify and discuss the training design issues that can be used to maximize learning
5. Identify and discuss the factors that affect the transfer of training, and how these can be used to maximize learning
6. Discuss how various individual differences affect the learning process
7. Discuss the value of adult learning theory to HRD interventions
8. Describe the role that learning styles, learning strategies, and perceptual preferences play in learning
9. Cite recent perspectives from instructional and cognitive psychology that have importance for HRD
Until recently, one of the hallmarks of the utility industry in the United States has been its stability. Gas and electric companies have been highly regulated, and generally must go through a lengthy government approval process before they can increase the rates they charge for their services. However, over the past decade or more, the prospects of deregulation have promised (threatened?) substantial changes in how utility companies do business. All the turmoil surrounding the collapse of Enron Corporation caused tremendous instability in this industry.* Today, we remain in a kind of in-between period, with both regulated and unregulated portions of the energy industry. Often, regulated utilities branch out into unregulated areas in an effort to deal with the challenges they expect to face in an increasingly deregulated industry.

Wisconsin Public Service Corporation (WPSC) is a regulated electric and natural gas utility serving northeastern and central Wisconsin. With headquarters in Green Bay, WPSC serves over 425,000 customers in twenty-four counties and has approximately 2,300 employees. Because of the expected changes brought about by deregulation, “We are entering a time when we will be offering a lot more products and services, not just electricity and gas,” says Kathy Now, a WPSC learning systems leader. “And we are looking at training as a way to retool our employees and get them ready for the transition so the company can take advantage of all these new opportunities that now exist” (p. 43)."

Since 1996, Wisconsin Public Service has operated what it calls Learning Centers at multiple locations. Four central issues needed addressing as they established these centers:

1. What should be the primary areas of learning, that is, what skills, knowledge, or attitudes did employees need to develop further?
2. What types of training media would be used to make these resources available to employees, for example, print, video, computer, and/or classroom training?
3. Who should be involved in providing the training and educational assistance to employees, that is, should this be done by WPSC staff, outside providers, or some combination of the two?
4. What could be done to ensure that employees had the time and opportunity to take advantage of these Learning Centers once they were operating?

If you were part of the learning team tasked with opening the Learning Centers at WPSC, what recommendations would you make?


INTRODUCTION

Quiz—Do you agree or disagree with the following statements?

• For learning to take place, the most important variable to consider is whether the individual learner has sufficient ability to learn what is being taught.
In general, people learn best and remember the most when they can spread out the time spent learning new material. Overlearning something is generally a waste of time and should be avoided. If training has been effective, then it really doesn’t matter whether there is support in the work environment or not. Trainers should always seek to match the type of training delivery methods to the characteristics of the individuals being trained. Adult learners typically respond best to a lecture-style approach to training.

(We encourage you to look for the answers to these questions as you read through this chapter.)

Learning is a vital aspect of all HRD efforts. Whether you are training a carpenter’s apprentice to use a power saw, conducting a workshop to teach managers how to use discipline more effectively, trying to get meatpackers to understand and follow new safety procedures, or promoting career development among your employees, your goal is to change behavior, knowledge, or attitudes through learning. Supervisors and HRD professionals who understand the learning process and how to create an environment that facilitates learning can design and implement more effective HRD interventions. In fact, with the recent growth of corporate universities and other learning centers, there is a new position within the top leadership of many large organizations, namely, chief learning officer. This is more than a renaming of the training director’s position. Such an individual must emphasize both individual and organizational (strategic) objectives, and be able to make effective use of different forms of learning delivery (not just a classroom approach). As mentioned in Chapter 1, there is a new certification for HRD professionals, the “Certified Professional in Learning and Performance” (or CPLP™). It is clear that ASTD wishes to place learning at front and center in terms of what to emphasize as a profession.

The purpose of this chapter is to define learning and present the learning-related issues important to HRD. The topics we will cover include the relationship between learning and instruction, methods of maximizing learning, and the importance of recognizing and dealing with various individual differences in the learning process. The issues concerning technology and e-learning will also be discussed at the end of the chapter.

**LEARNING AND INSTRUCTION**

Learning is defined as a relatively permanent change in behavior, cognition, or affect that occurs as a result of one’s interaction with the environment. Several aspects of this definition are important. First, the focus of learning is change, either by acquiring something new (like skill in conducting meetings) or modifying something that already exists (like a soldier becoming more accurate in shooting a rifle). Second, the change must be long-lasting before we can say learning has really occurred. If an administrative assistant can recall the commands needed to create a macro operation in a word processing program on the second day of a training course but cannot remember them four days later back on the job, learning has not occurred. Third, the focus of learning can include behavior, cognitions, affect, or any combination of the three. Learning outcomes can be skill based (climbing a utility pole), cognitive (procedures for applying for a research grant), or affective (becoming more safety
conscious). Finally, learning results from an individual's interaction with the environment. Learning does not include behavior changes attributable to physical maturation or a temporary condition (such as fatigue or drugs).

Researchers have studied learning from a variety of perspectives, such as behaviorism and cognitivism, using both humans and animals in their experiments. Two main approaches have been used. One approach is to study how people learn simple tasks, like identifying symbols or associating pairs of meaningless syllables (such as bix, rik, and moc). The goal of this line of research is to identify basic principles that apply to learning any kind of content. The other approach focuses on how people learn complex tasks, including school subjects, like reading and math. Although some researchers who use this approach seek generalizable principles, many believe that learning cannot be separated from what is being learned, and therefore different principles may apply to different learning outcomes.3

The Search for Basic Learning Principles

Concerning the first approach, research over the past 100 years has yielded a number of principles thought to govern learning. The cornerstone of learning theory is the concept of association. Association is the process by which two cognitions become paired (e.g., “dozen” and “twelve items”), so that thinking about one evokes thoughts about the other.4 Three principles that influence the learning of associations include:

1. **Contiguity**—Objects that are experienced together tend to become associated with each other.5 For example, learning vocabulary in a foreign language usually involves pairing a new word with an object or picture of an object (like the German word *Katze* and a picture of a cat).

2. **The Law of Effect**—As discussed in Chapter 2, the law of effect states that a behavior followed by a pleasurable consequence is likely to be repeated.6 For example, when a superior compliments a police officer who values recognition for the way he or she handled a difficult arrest, the officer associates the compliment with the arrest method and will likely use that method to make difficult arrests in the future.

3. **Practice**—Repeating the events in an association will increase the strength of the association. For example, the more times someone rappels down a cliff or wall, the more adept he or she becomes at rappelling. But practice alone is not enough to guarantee a strong association. The effect of practice is strengthened with reinforcement, such as receiving a pleasurable consequence.

A group of researchers known as Gestalt psychologists offer an alternative to the association view of learning. These researchers propose that learning does not occur by trial and error or by associating facts and ideas, but rather happens suddenly in the form of an insight (sometimes called an epiphany or an Aha! experience).7 Insight is seen as a sudden reconceptualization of one’s experiences that results in a new idea or in discovering the solution to a problem. For example, learning to solve a puzzle may occur in the form of a series of sudden flashes in which new ideas bring one closer and closer to solving the puzzle.

Sudden insight as a mechanism for learning has been questioned. Some critics seek to explain “insight” by stating that people simply transfer what they have learned in one set of situations to another setting.8 If this is true, then insight may not be a particularly useful model for how people learn. That is, although considerable learning
may indeed occur through sudden insights, knowledge of this may not be very helpful
in designing effective learning experiences. Many of the behaviors of interest to HRD
program designers (such as learning a new set of regulations or procedures) are likely
to be learned in other, probably more structured ways. On the other hand, proponents
of experiential learning (such as David Kolb, whose views on learning styles are
presented later in this chapter) argue that many experiential exercises and simulations
do a good job of promoting insight or Aha! experiences.9 Thus, as we will discuss
further in Chapters 5 and 6, the value of this approach to learning may depend upon
the particular objectives to be obtained, as well as the particular HRD methods
employed.

Limits of Learning Principles in Improving Training Design

Unfortunately, when it comes to improving training design, these general principles
are not as helpful as one might expect. Since much of the research that demonstrates
these principles was conducted in tightly-controlled laboratory settings using artificial
tasks, the findings do not apply to many real-world settings.

Robert Gagné convincingly demonstrated the limited benefit of learning principles
to increase training effectiveness in the landmark article: “Military Training and Princi-
pies of Learning.”10 Gagné showed that practice and reinforcement failed to improve
performance of three representative military tasks: gunnery (a motor skill), turning on
a radar set (a procedural task), and diagnosing malfunctions in complex electronic
equipment (troubleshooting). Rather than relying on the prevailing learning principles,
Gagné argued that training could be improved by using three principles:

1. **Task Analysis**—Any task can be analyzed into a set of distinct component tasks.
2. **Component Task Achievement**—Each component task must be fully achieved
   before the entire task may be performed correctly.
3. **Task Sequencing**—The learning situation should be arranged so that each of the
   component tasks is learned in the appropriate order before the total task is
   attempted.11

The Impact of Instructional and Cognitive Psychology
on Learning Research

Beginning in the 1960s, the field of instructional psychology developed, and it has
since become an active field of theorizing and research on how the learning environ-
ment may be structured to maximize learning. Whereas traditional learning theorists
focused on describing what happens in learning situations, instructional theorists fo-
cus on what must be done before learning can take place.12 Robert Glaser characterized
instructional psychology as “focusing on the acquisition of human competence”
(p. 299) with the following four components:

1. Describe the **learning goal** to be obtained
2. Analyze the **initial state** of the learner (what the learner knows or can perform
   prior to learning)
3. Identify the **conditions** (instructional techniques, procedures, and materials) that
   allow the learner to gain competence
4. Assess and monitor the learning process to determine progress and whether
   alternative techniques should be used13
Since the 1970s, instructional psychology (and much of psychology in general) has been heavily influenced by developments in cognitive psychology, adopting the language, methods, and models that portray humans as information processors. A major goal of cognitive psychology is to develop models and theories that explain how people function. These methodologies and theories can help create an “integrated understanding of how cognitive processes produce intelligent behavior,” such as learning. One of the foundational ideas of cognitive psychology is that of cognitive architecture, which is defined as “a fixed system of mechanisms that underlies and produces cognitive behavior.” The structures described by a cognitive architecture will determine in part how humans process information and come to learn and understand the world around them.

Two main views of cognitive architectures dominate the field, each of which focuses on a different level of analysis. Symbolic architectures rely heavily on the notion that humans process information in the form of symbols and language (e.g., schema that are stored in memory structures, such as long-term memory). This approach draws many of its ideas from computer science. On the other hand, connectionist architectures focus on the way information is processed on the neural level (e.g., information exists within interconnected groups or neurons and is processed by the spread of activation or inhibition among the groups) and draw ideas from brain research and neurobiology. Explaining information processing using a computer metaphor (the symbolic approach) versus using a brain metaphor (the connectionist approach) constitutes a basic distinction between the two views.

Although symbolic and connectionist architectures specify different structures and have different assumptions about how humans process information, they should not be seen as mutually exclusive. It is likely that information processing occurs at both levels, and that phenomena that is not explained by one approach may be explained by the other. Therefore, both views can provide useful ideas about learning and how we can create situations that increase the chances learning will occur. One implication for HRD is that HRD interventions should be based on the cognitive architecture that best explains how a particular task or skill operates and is learned. Relying on an inappropriate architecture may lead to poorer performance both during the HRD intervention and back on the job.

Various reviews of research in instructional psychology, cognitive psychology, and adult learning provide a good place for the reader to investigate the developments in these fields and how they will shape HRD and training methods in the future. Instructional psychology and cognitive psychology hold promise for maximizing learning from HRD programs. As the nature of work continues to shift from manual skill to more complex mental processes, the findings from these fields will help pave the way for effective HRD efforts in the future. Researchers William Howell and Nancy Cooke show how information processing models and instructional psychology concepts can be applied to training. We will consider some of these applications at the end of this chapter.

**MAXIMIZING LEARNING**

Our definition of learning makes it clear that people acquire and develop skills and knowledge, and change behavior, as a result of an interaction between forces within
the learner and in the environment. In this section of the chapter, we present factors that have been shown to affect learning and discuss their outcomes. We discuss three primary areas as we emphasize ways to maximize learning, namely trainee characteristics, training design, and the transfer of training (see Table 3-1).

Trainee Characteristics
A learner or trainee’s personal characteristics will influence how he or she learns new tasks and new information. Three such characteristics are trainability, personality, and attitudes.

Trainability. Trainability focuses on the trainee’s readiness to learn and combines the trainee’s level of ability and motivation with his or her perceptions of the work environment. A simple formula to convey this is:

Trainability = f(Motivation × Ability × Perceptions of the Work Environment)

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<th>Trainee Characteristics</th>
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<td>Trainability</td>
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<tr>
<td>Motivation</td>
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<td>Ability</td>
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<td>Perception of the work environment</td>
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<td>Personality and attitudes</td>
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<th>Training Design</th>
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<td>Conditions of practice</td>
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<td>Active practice</td>
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<td>Massed versus spaced practice sessions</td>
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<td>Whole versus part learning</td>
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<td>Overlearning</td>
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<td>Knowledge of results (feedback)</td>
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<td>Task sequencing</td>
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<tr>
<td>Retention of what is learned</td>
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<td>Meaningfulness of material</td>
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<td>Degree of original learning</td>
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<td>Interference</td>
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<th>Transfer of Training</th>
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<td>Identical elements</td>
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<td>General principles</td>
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<td>Stimulus variability</td>
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<td>Support in the work environment</td>
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<td>Opportunity to perform</td>
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<td>Transfer-of-training climate</td>
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This formula illustrates that a trainee must have both the motivation and the ability to learn; if either is lacking, learning will not occur. The equation also shows that a very high level of one cannot completely overcome a very low level of the other. In addition, if employees perceive little support in the work environment for learning new knowledge or skills, they will be less likely to learn and use them. Thus, it is important to note that trainability is not just a function of the individual trainee, but also of the work environment in which the learner will be asked to use what is presented in an HRD intervention.

Trainability is extremely important in HRD. Placing employees in programs they are not motivated to attend or are not prepared to do well in wastes time and resources. Trainees with less ability take longer to learn, which can increase the length of the training period and the expense involved in conducting training. In fact, it is possible that such trainees may never learn to the levels desired by the organization.

To illustrate this, suppose a service technician for an office equipment company is in a training program designed to teach selling skills for the equipment being serviced. Selling requires skills in oral communication and interpersonal relations. If the technician lacks either skill, it is likely that learning to sell effectively will be difficult. The technician may want to learn and try hard to do so, but this low level of ability will hinder learning. Similarly, if the technician has excellent communication skills but sees selling as unpleasant or distasteful, or does not think learning to sell will help to achieve his or her own personal goals, no effort may be made to learn the sales skills. A number of studies have shown the clear links between ability and learning. The same is true for motivation, as well as for perceptions of the work environment.

Over the past several years, researchers have studied the notion of pretraining motivation. Findings of recent research include:

- The way trainees perceive training (e.g., as remedial versus advanced, or as an unpleasant task versus an opportunity) affects levels of learning, perceptions of efficacy, anxiety, and perceptions of fairness.
- The way in which individuals view their own ability (as a fixed entity or an acquirable skill) affects anxiety level, efficacy perceptions, and the learning of declarative (factual) knowledge.
- Experiencing negative events on the job prior to training can increase trainees’ motivation to learn and their performance in training.
- A number of other factors have been found to increase individuals’ motivation to participate in and learn from training. Factors investigated include involvement in decisions about training, perceptions that participation in training will lead to benefits (e.g., increased job performance and career advancement opportunities), and perceptions of support (or a lack of obstacles that might hinder using learned training in the work environment).
- Characteristics of the organization (e.g., policies and guidelines regarding training participation) have been linked to participation in developmental activities.

These findings are useful in that they suggest ways in which organizations can increase the motivation to participate in and learn from HRD interventions. For example, to ensure that trainees perceive the value of what is being presented, they must see training as an opportunity, as a way to address a need they have, and as a way to
The Perils of Participation

Picture the following: you’ve agreed to attend a two-hour, skill-based training session. When you enter the room, packets are handed out that list four choices for possible training topics for this session. One of the topics is “performance appraisal and feedback.” You either select this topic as your most preferred option—or you don’t. The question is: will your pretraining motivation and post-training learning be any different depending upon whether you received your top choice or whether you didn’t? Further, would results differ for other trainees who were given no choice, that is, were told when they entered the room that they would be taking part in a training session on performance appraisal and feedback?

Researchers at Indiana University addressed these questions. Through a pretest of other similar trainees, they discovered that performance appraisal was rated as average among trainee preferences for potential training content. Through a clever manipulation, some trainees saw other options on their sheet (besides appraisal), which the results from the pretest suggested most trainees would view more favorably than performance appraisal (hence, trainees would be less likely to select appraisal as their preferred training topic). Other trainees received packets where all the other options had been rated considerably lower than appraisal (making it more likely that appraisal would be selected as the preferred training choice). Through a true majority vote (no deception here), the performance appraisal topic was always selected as the “choice” for training content.

What the researchers found was that pretraining motivation was highest for those who received the training of their choice and lowest for those who didn’t (the mean for those given no choice was in between). As far as learning the material taught in training, those in the “choice-received” condition learned more than those in the “choice-not received” condition. Somewhat surprisingly, however, learning was greatest for those who had been given no choice concerning training content. Given the natural expectation that providing trainees some choice would be a good thing, this study raises the question of whether there may be potential risks in allowing choices in a training context. That is, it may not be practically or physically possible for every trainee to receive the training of his or her choice. If that is the case, then there could indeed be some “perils of participation.” Not receiving one’s choice of training topics could result in lower training motivation and worse outcomes than having been provided no choice at all. Trainee motivation is such a vital aspect of trainability (in this study, trainee cognitive ability was measured and statistically controlled, so as to emphasize the effects of the three choice manipulations on pretraining motivation). Although choice and participation are generally good things in a training context, this project demonstrates the potential dangers of raising trainee expectations and not meeting them. The same training program
achieve valued outcomes. Further, trainees must perceive the organization and their immediate work environment as supporting participation in training and using what has been learned. However, for an interesting study of the potential downfall of allowing trainees some choice in what training they receive, see the boxed insert nearby entitled “The Perils of Participation.”

An experiment on the impact of ability and prior job knowledge on learning finds that general cognitive ability (i.e., intelligence) has a direct impact on “the acquisition of” job knowledge, but prior job knowledge has almost no effect on the acquisition of subsequent job knowledge. This finding suggests that cognitive ability rather than prior job knowledge should be used to select trainees into programs designed to teach complex tasks.

Trainability testing is one approach that can be used to ensure that trainees have both the motivation and the ability to learn. This approach focuses on measuring the motivation and relevant abilities of candidates for training and selecting for training only those who show a sufficient level of trainability. For example, military researchers developed a questionnaire that measured motivational and personality factors to predict success in combat training. The questionnaire measured such things as independence, sociability, and motivation to serve in a combat unit. The combination of questionnaire responses and other predictors was strongly related to training success.

Another approach to trainee testing is to allow candidates to complete part of the training program and use their performance on that section as a predictor of how well they will perform during the remainder of training. For example, Arthur Siegel described a method called miniature training and evaluation testing, in which U.S. Navy recruits were trained on a sample of important tasks and tested on their ability to perform these tasks. Using eleven training and evaluation modules, the approach yielded better predictions of success for several jobs than the test normally conducted by the Navy. In a manufacturing setting, BMW took a similar approach when it opened its first U.S. auto manufacturing facility in Greer, South Carolina. To lure the company to South Carolina, state government officials offered generous tax incentives. The state also agreed to create training facilities to BMW’s specifications and worked with them to recruit and train potential BMW employees. Once trainees completed their training, BMW selected only those they wanted to hire to be among the initial 1,500 associates in its new plant. BMW stated that it was looking for associates with a strong commitment to quality and teamwork, and this procedure allowed the company to select the very best among those who had completed the rigorous training program administered by the state’s technical college system. The quality and success of the cars made at this plant (including the Z3 roadster), as well as subsequent expansions of the plant and workforce, indicate that this “train, and then select” strategy was successful. Similarly, from the research literature, a meta-analysis of research studies examining the use of work sample tests of trainability resulted in different learning and motivational outcomes, depending upon how it was presented to trainees. That’s rather thought provoking, don’t you think?

concluded that such tests predict success in training and job performance for untrained job applicants. Trainability testing has also been effective in predicting the training success of older workers.\textsuperscript{35}

**Personality and Attitudes.** Although not explicitly mentioned in the definition of trainability, a trainee’s personality and attitudes can also have an effect on learning (see Chapter 2). Ray Noe suggested that an employee’s attitudes toward career exploration and job involvement impact learning and its applications to the job.\textsuperscript{36} Other research has shown that job involvement, expectations for training, and trainee confidence are all related to success in training.\textsuperscript{37}

**Personality** is the stable set of personal characteristics that account for consistent patterns of behavior. Personality traits that are related to employee learning include locus of control, the need for achievement, activity, independence, and sociability.\textsuperscript{38} Murray Barrick and Michael Mount reported the results of a meta-analysis showing that two personality dimensions—extraversion and openness to experience—are valid predictors of success in training.\textsuperscript{39} Joseph Martocchio and Jane Webster found that an individual’s level of *cognitive playfulness* (which is in part the spontaneity, imagination, and exploratory approach a person brings to task performance and learning) affects learning, mood, and satisfaction with training.\textsuperscript{40} They also found that individuals with low levels of cognitive playfulness are affected more by positive feedback than individuals with higher levels of cognitive playfulness. As further research is conducted on the impact of personality characteristics on success in training, it may be useful to include measures of relevant traits in the selection process before trainees are sent to expensive or lengthy training and other HRD programs.\textsuperscript{41}

To summarize, assessing employee’s relevant abilities, motivation, and personality prior to HRD programs can be important in maximizing the chances that learning will occur. This approach to maximizing learning fits with Glaser’s notion that knowing the initial state of the learner is an important part of effective training.\textsuperscript{42}

**Training Design**

*Training design* involves adapting the learning environment to maximize learning. Training design issues include (1) the conditions of practice that influence learning and (2) the factors that impact retention of what is learned.

Although much of the research on this topic was conducted before 1970, new research in instructional psychology has revived interest. While the information presented in the following sections can be helpful in designing an effective training program, not all the findings will work in all situations. Recall Gagné’s arguments cited earlier about traditional learning principles. There is no substitute for conducting a thorough task analysis and clearly specifying what is to be learned (task analysis will be discussed in detail in Chapter 4).

**Conditions of Practice.** At least six issues have been studied that relate to practice and learning. They include active practice, massed versus spaced practice sessions, whole versus part learning, overlearning, knowledge of results, and task sequencing.

*Active practice* suggests that learners should be given an opportunity to repeatedly perform the task or use the knowledge being learned.\textsuperscript{43} For example, if a paramedic is learning how to operate the “jaws of life” (to extract passengers from vehicles damaged in accidents), the training sessions should include multiple opportunities for the paramedic to operate the “jaws.”
Researchers have also been interested in whether mental practice, the “cognitive rehearsal of a task in the absence of overt physical movement,” can improve task performance. A meta-analysis of many studies concluded that mental practice is effective for both cognitive and physical tasks (though more so for cognitive tasks). This study also showed that the effect of mental practice on performance decreases as the time interval between practice and performance increases. These findings suggest that trainees should be encouraged to mentally rehearse the tasks they are learning to perform outside of the training environment as one way to enhance their performance.

Massed versus spaced practice sessions involve whether to conduct training in one session or divide it into segments separated by a period of time. For example, is it better to study for an examination over a period of several days (spaced practice) or in one cram session (massed practice)? In general, information and skills can be learned either way, but spaced practice sessions with a reasonable rest period between them lead to better performance and longer retention of what is learned than a massed practice session. For difficult, complex tasks, an initial massed session followed by spaced practice sessions has led to improved performance.

Using a massed rather than a spaced practice session is often a matter of practicality winning out over science. Time and resource constraints may influence organizational decision-makers to schedule a single training session, even though a series of spaced sessions would be more effective. However, HRD professionals should realize that under these conditions retention can suffer. It may be necessary to schedule follow-up sessions to boost retention. Furthermore, the effectiveness of approaches used to motivate trainees during training may be affected by whether massed or spaced sessions are used. One research study found that trainees assigned specific, difficult goals in massed practice performed more poorly than those told simply to do their best, whereas those in spaced sessions assigned specific, difficult goals performed slightly better than those told to do their best.

Whole versus part learning concerns the size of the unit to be learned, that is, should trainees practice an entire task (or study certain material as a whole), or should the task or material be learned in separate parts or chunks? Gagné argued that procedural material (material organized into a series of steps) should be analyzed and divided into subunits, with the trainees mastering each subunit before performing the entire procedure.

Actually, the answer to which method is most effective appears to depend on the nature of the task to be learned. When the subtasks are relatively easy to perform and are well organized (interrelated), the whole method is superior. Otherwise, the part method has proven to be more effective. For example, operating a chain saw involves adding fuel, holding it properly, starting it, making various cuts, and turning it off. Given that these subtasks are interrelated, it makes sense that they be learned together. The task of supervising others, however, includes subtasks such as scheduling, evaluating employee performance, disciplining, planning, and delegating work. These subtasks are less closely related and would best be learned by focusing on each subtask separately. To teach someone how to drive a stick shift automobile, which approach would you use?

Overlearning is defined as practice beyond the point at which the material or task is mastered. For example, an instructor teaching cardiopulmonary resuscitation (CPR) in a first-aid course would be using overlearning if trainees were required to repeatedly practice the CPR procedure even after they had successfully “revived” a training dummy.
The rationale in favor of overlearning is threefold. First, overlearning may improve performance in a variety of different situations. By developing stronger associations between the parts of a task (or unit of knowledge), it is less likely that situational changes will interfere with learning. Second, overlearning provides additional practice in using a skill or knowledge when there is little opportunity for doing so in the job setting. For example, overlearning the procedure to handle an engine flameout would be useful in pilot training because pilots don’t often face this situation when flying. Third, overlearning should make what is learned more automatic, thereby improving performance in stressful or emergency situations. For instance, soldiers repeatedly practice their maneuvers and tasks, so when orders come to attack, these tasks will be second nature and can be performed quickly and correctly.

Research indicates that overlearning does, in fact, increase retention of what is learned. Quite obviously, its major drawback is that overlearning can increase the time and expense of training.

Knowledge of results, or feedback, provides objective information regarding the adequacy of one’s performance, and it can come from observers, the performer, or the task itself. A sizable body of research suggests that feedback enhances learning and retention. Trainers and educators generally agree that feedback improves learning. However, a meta-analysis of research on feedback interventions found that feedback actually decreased performance in one-third of the studies examined. Avraham Kluger and Angelo DeNisi theorize that this has to do with the level of control individuals go through when learning and performing tasks. They argue that individuals proceed through three hierarchical levels of control (task learning, task motivation, and metatasks or self-regulatory actions), and that feedback changes the individual’s locus of attention to a particular level of control. They suggest that the effectiveness of feedback decreases as the individual moves through the levels from task learning to task motivation to metatasks. Kluger and DeNisi’s theory supports the use of feedback during skill and knowledge acquisition, but suggests that feedback is less effective (and may even harm performance) when individuals perform back on the job.

Other researchers suggest that feedback is both informational—when it helps learners determine whether they’ve performed something correctly, and motivational—when it is valued by the learner or indicates valued outcomes. The effectiveness of feedback also seems to depend on how it is provided, especially in regard to timing and specificity. To ensure that the learner clearly understands the relationship between the feedback and the behavior, it should be provided as soon as possible after the behavior occurs. Furthermore, the judgments individuals make about feedback (whether it is connected to factors inside or outside the trainee’s control) can affect efficacy beliefs, with feedback attributed to factors within the trainee’s control increasing perceptions of efficacy. In addition, recall the research cited earlier that found that the impact of feedback may be moderated by elements of the individual’s personality (i.e., cognitive playfulness).

Finally, task sequencing suggests that tasks and knowledge can be learned more effectively if what is to be learned is divided into subtasks that are arranged and taught in an appropriate sequence. Gagné and colleagues provide guidelines for how task sequencing can help in learning intellectual skills, motor skills, and attitudes. The success of an intelligent medical diagnosis-tutoring program called GUIDON supports this approach, as does the research of Philip Decker and others on behavior-modeling training. However, more research is needed before definitive conclusions are reached about the effectiveness of task sequencing.
To summarize, research on the various conditions of practice offers some practical guidelines for designing more effective HRD interventions. In general, overlearning, feedback, and practice sessions spaced over time tend to increase learning.

**Retention of What Is Learned**

The goal of training goes beyond ensuring that the trainee learns the task or material being presented. It is equally important that newly learned material is retained. Three additional issues that influence retention are the meaningfulness of material, the degree of original learning, and interference.

The *meaningfulness of material* is the extent to which it is rich in associations for the individual learner. For example, a new way of soldering circuits might be quite significant to an electronics enthusiast, yet absolutely meaningless to a professional athlete or hair stylist.

Simply put, the more meaningful factual material is, the easier it is to learn and remember. For example, college humanities students were asked to rate the meaningfulness of three Bible passages. Later in that same period, they were given a pop quiz, and asked to recall as much of each passage as possible. For two of the three readings, greater meaningfulness significantly related to greater recall of the content of the passages. In general, then, training should be designed to be more meaningful to employees to encourage learning retention. Overviews of topics at the beginning of training sessions can help trainees understand the course content as a whole. Using examples and terminology familiar to trainees and mnemonic devices (such as creating a word out of the first letters of items in a list) also increase meaningfulness by providing more associations. Textbook writers (as included) often seek to use this principle when introducing and presenting material in each chapter.

The *degree of original learning* also influences learning retention. The more effectively information is initially learned, the more likely it will be retained—after all, you can’t retain something you never had to begin with. Though this is not surprising, it does reinforce the research on overlearning, massed versus spaced practice, and whole versus part learning as ways to ensure initial learning.

**Interference** can also affect the extent to which learning is retained. Interference can be of two types. First, material or skills learned before the training session can inhibit recall of the newly learned material. For example, an accountant who is an expert on the New York tax code may have difficulty remembering recent instruction regarding the tax code and procedures for Florida. The accountant’s prior knowledge is so well learned that he or she may automatically follow New York procedures when helping a client who must file in Florida.

Second, information learned after a training session may also interfere with retention. For example, a firefighter trained to operate the power ladder on the city’s older fire trucks may have difficulty retaining that knowledge if a different sequence of steps must be learned for the same operation on a newer fire truck.

Both types of interference are similar in that the learner is required to make different responses to the same situation. The more responses one learns, the greater the chances for interference in learning to occur.

**Transfer of Training**

*Transfer of training* is an important and recurring theme in HRD literature. A main goal of HRD is to ensure that employees perform their jobs effectively. In
addition to learning and retaining new material, employees must also use it on the job to improve performance. The transfer of training to the job situation is critically important to the success of HRD efforts.

Transfer can take different forms. Positive transfer occurs when job performance improves as a result of training. Zero transfer occurs when there is no change in job performance as a result of training. Negative transfer occurs when job performance worsens as a result of training. Negative transfer may seem unlikely, but recall the detrimental effects interference can have on learning and performance. Tennis players, for example, may find that their tennis shots become less accurate after learning how to play racquetball. Although the two sports seem similar, an accurate tennis shot requires a locked wrist, yet racquetball players use their wrists during the swing. Therefore, the player’s tennis stroke may become more “wristy” after learning racquetball, leading to less accurate shots in tennis.

Another distinction that should be made is near transfer versus far transfer. Near transfer involves the ability to directly apply on the job what has been learned in training, with little adjustment or modification; far transfer has to do with expanding upon or using what was learned in training in new or creative ways.66 Other writers have referred to this as a distinction between skill reproduction and skill generalization.67 For example, in a study of assertiveness training, a negative relationship was observed between near and far transfer: trainees who had done well demonstrating their mastery of the training content did less well in a surprise test of their ability to demonstrate transfer outside of training, and vice versa.68 Context obviously plays a part in whether an organization should be more concerned with near transfer, far transfer, or both, but in most cases, far transfer is the best indicator that training has been successful.

Timothy Baldwin and Kevin Ford developed a model of the training transfer process (see Figure 3-1).69 The model suggests that training inputs—including trainee characteristics, training design, and the work environment—affect learning, retention, and transfer, with trainee characteristics and the work environment affecting transfer directly. Baldwin and Ford were critical of the lack of a strong theoretical framework and the limited number of research studies in this area, because this limited their ability to generalize findings from studies of transfer of training to organizational settings. Despite these concerns, these principles and the results of recent research offer many ideas for maximizing training transfer. These include the use of identical elements, general principles, stimulus variability, and the degree of support for transfer in the work environment.

**Identical Elements.** The principle of identical elements, first proposed by Thorndike and Woodworth in 1901, suggests that the more similar the training and the performance situations are in terms of the stimuli present and responses required, the more likely it is that training transfer will occur.70 For example, if customer service representatives are expected to handle complaints from angry, impatient customers, practice with such customers (possibly via role playing) can improve the transfer of training. But if the only examples used in training are customers who are polite, reasonable, and patient, training transfer to the job is less likely.

Similarity has two dimensions: physical and psychological fidelity. Physical fidelity is the extent to which the conditions of the training program, such as equipment, tasks, and surroundings, mirror those in the performance situation. Building a highly realistic airline cockpit simulator, with the same controls, appearance, and physical sensations as experienced in true flight, would be an attempt to achieve a high level of physical fidelity. Psychological fidelity is the extent to which trainees attach
similar meanings to both the training and performance situations. Psychological fidelity is encouraged in a learning experience that imposes training task time limits that are similar to those on the job. There is some evidence that psychological fidelity is more important to training transfer than physical fidelity, but more research is needed to support this claim.\textsuperscript{71}

The principle of identical elements is particularly relevant to simulation training, such as with the use of case studies, business games, or role plays. However, increasing fidelity often involves increasing complexity and costs, which can strain HRD budgets. So, once again, there are frequently trade-offs between what is desired and what can actually be carried out in terms of fidelity and identical elements.

**General Principles.** Rather than focusing on identical elements, the *general principles theory* suggests that learning fundamental elements of a task will ensure transfer from training. This is demonstrated in a project that taught trainees to accurately hit an underwater target by learning the principle of refraction of light.\textsuperscript{72} Since light bends when crossing the air-water boundary, the target is not exactly where it visually appears to be. Understanding this principle allowed trainees to correctly judge where the target really was and adjust their aim accordingly.

However, it is often difficult to identify and include in training those principles that maximize positive transfer. It is still not clear whether training programs that apply the general principles theory will result in skilled performance on specific tasks, though recent research in higher education suggests that general principles should be valuable in training settings.\textsuperscript{73}
**Stimulus Variability.** Transfer can be enhanced when training contains a variety of stimuli, such as using multiple examples of a concept or involving the trainee in several different practice situations.\(^74\) For example, stimulus variability is increased when clothing trainees are required to practice making buttonholes in a variety of fabrics, rather than in only one or two types of fabric. Stimulus variability has been found to increase training transfer.\(^75\)

**Support in the Work Environment.** The extent to which trainees perceive support for using newly learned behavior or knowledge on the job affects transfer of training. For example, if a supervisor who is trying to become more participative is ridiculed by peers and receives the cold shoulder from subordinates, it is unlikely that this person will continue to use these skills.

Supervisory support is an important aspect of work environment support. Supervisory support is a multidimensional concept. Components such as encouragement to attend training, goal setting, reinforcement, and behavior modeling have all been shown to increase transfer.\(^76\)

Support at the organizational level is also important. Janice Rouiller and Irwin Goldstein studied employee perceptions of the transfer of training climate, which is defined as “those situations and consequences which either inhibit or help to facilitate the transfer of what has been learned in training into the job situation.”\(^77\) Climate perceptions affected learning and behavior back on the job. Bruce Tracey, Scott Tannenbaum, and Michael Kavanagh investigated the effect of both transfer of training climate and the presence of a continuous-learning work environment (where “organizational members share perceptions and expectations that learning is an important part of everyday work life” p. 241) on employee behavior after training. They found that the presence of both transfer of training climate and a continuous-learning work environment affected behavior after training. This research suggests that the organizational climate should be examined to determine the supportiveness of the work environment during needs assessment, and that areas found wanting should be modified to increase the chances training will transfer back to the workplace. Also, organizations that promote a continuous-learning environment stand a better chance of having what is learned transfer back to the job.\(^78\)

Robert Marx proposed a model of improving training transfer based on counseling techniques used to prevent relapse by substance abusers. The approach teaches trainees and supervisors to anticipate and prevent regressions to old behavior patterns. By developing strategies to cope with and overcome foreseen obstacles, the trainee will feel a greater sense of control and self-efficacy, thereby reducing the chances of relapse.\(^79\) A field study of research scientists who went through a coaching skills training program found that relapse prevention tactics had the greatest effect when individual scientists also reported a strong transfer climate in their department.\(^80\) A recent review of eight studies of relapse prevention strategies by Holly Hutchins and Lisa Burke found only partial support for this approach to promoting positive transfer.\(^81\) However, these authors argue that a number of methodological issues in these studies have prevented relapse prevention from getting a fair shake in the studies done to date.

Overall, supervisory support can increase transfer by clarifying the manager’s and trainee’s expectations prior to training, and by making managers aware of their role in the transfer process so they can develop ways to encourage transfer.\(^82\)
The opportunity to perform what has been learned back on the job is an important element of the work environment. Work by Kevin Ford and colleagues is useful here. They define the opportunity to perform as “the extent to which a trainee is provided with or actively obtains work experiences relevant to tasks for which he or she was trained.” The opportunity to perform is influenced by both the organization and the individual. Ford and colleagues investigated the effects of three groups of variables (organizational level, work level, and individual characteristics) on the opportunity to perform. They found that subjects did have different opportunities to perform trained tasks on the job and that the variables that most influenced their opportunities to do so included supervisors’ attitudes toward training, work group support, and the trainees’ self-efficacy and cognitive ability.

A study by Lim and Johnson asked trainees to list reasons for the lack of transfer from an organizational training program. The number one reason cited for low transfer (listed by over 64 percent of trainees!) was “lack of opportunity to apply on the job.” More research is needed to specify the factors that influence the opportunity to perform. However, it is clear that effective strategies should ensure that trainees have opportunities to use their new knowledge and skills if real organizational benefit is to be expected from HRD interventions.

Research on transfer of training offers a number of recommendations for designing, training, and HRD programs, eight of which are listed in Table 3-2. We view these as practical lessons learned from our discussion of training transfer.

**TABLE 3-2**

**Recommendations for Increasing the Likelihood that Training Will Transfer Back to the Job**

1. Develop (and follow) clearly stated learning objectives for the training
2. Maximize the similarity between the training situation and the job situation
3. Provide ample opportunity during training to practice the task
4. Use a variety of situations and examples, including both positive and negative models of the intended behavior
5. Identify and label important features of a task
6. Make sure trainees understand general principles
7. Provide support back in the work environment, including clear goals, checklists, measurement, feedback, and rewards for using the new behaviors on the job
8. Provide ample opportunity to perform what is learned back on the job

INDIVIDUAL DIFFERENCES IN THE LEARNING PROCESS

As discussed earlier, trainee characteristics play a role in the learning, retention, and transfer of skills and factual material. We now identify three additional factors that account for differences in individual learning processes: differing rates of trainee progress, interactions between attributes and treatment, and the training of adults and older workers.

Rate of Progress

People learn at different rates. Some people progress more quickly than others, and individual learners may even progress at different rates during the same training program. For example, a new employee learning to operate a punch press may show little progress at first, making many mistakes, and then suddenly master the procedure and quickly progress to competence.

A useful way to show rates of learning is by drawing learning curves. A learning curve is plotted on a graph with learning proficiency indicated vertically on the y-axis and elapsed time indicated horizontally on the x-axis. Five types of learning curves are shown in Figure 3-2.

The learning curve for Trainee 1 shows a fast rate of learning, taking little time to achieve high performance. The curve for Trainee 2 shows a slower rate of learning, with training ending at a lower level of final performance than for Trainee 1. Trainee 3 reaches a moderate level of performance quickly, but then makes little further progress despite continued practice. This contrasts to the progress of Trainee 4, who learns slowly at first but steadily improves to a high level of performance. Finally, the S-shaped learning curve for Trainee 5 shows rapid progress at first, followed by a period of little progress during the middle of training, and then rapid progress in the latter part of training.

Learning curves can provide useful feedback to both trainers and trainees. For instance, if a trainer notices a plateau (the flat part of a curve indicating no progress being made), different approaches, encouragement, or other intervention may be needed for the trainee to improve. When implementing a new HRD program, learning curves can be used as baselines for communicating expectations of progress to future trainees and trainers and as aids in scheduling and planning future sessions.

Attribute-Treatment Interaction (ATI)

Interest in the effect of trainee intelligence on learning has led some researchers to hypothesize that the effectiveness of training methods may be influenced by various trainee characteristics. Stated simply, some methods of training may be better suited to certain types of people. Thus, research on attribute-treatment interactions (ATI) has sought to develop training systems that can be adapted to differences between individual learners.

Two variables that have received considerable attention in ATI research are cognitive ability and motivation. The expectancy theory of motivation (discussed in Chapter 2) suggests that when motivation is low, both high- and low-ability individuals will perform at low levels, but when motivation is high, differences in performance can be expected between them. To date, research has found little conclusive evidence of an
interaction between motivation and ability. Jeff Terborg argues that mixed evidence regarding the existence of a motivation-ability ATI may be the result of differences in complexity of the tasks studied. Terborg suggests that tasks of moderate difficulty will be the place where ATIs will most likely occur.88

An illustration of a well-developed ATI theory is the cognitive resource allocation theory proposed by Ruth Kanfer and Philip Ackerman.89 Their theory uses an information processing perspective to explain the existence of a cognitive ability-motivation ATI for both skill acquisition and task performance of moderately difficult tasks. We will discuss this theory in some detail to illustrate the ATI approach, and also to give the reader a sense of the contributions being made to HRD by cognitive psychology.

Cognitive resource allocation theory is based on several propositions, which are explained below:90
1. The attentional demands made by a task will determine the contribution of both ability and motivation to task performance.

2. The attentional demands required to acquire a skill change during the skill acquisition process. Skill acquisition occurs in three phases: declarative knowledge (forming a mental representation of the task), knowledge compilation (integration of cognitive and motor processes needed to perform a task), and procedural knowledge (knowing how to perform cognitive processes and being able to perform the task automatically, with little attention). Attentional demands are highest during the declarative knowledge phase, but are reduced significantly during knowledge compilation and proceduralization.

3. Cognitive ability is related to the amount of attentional resources an individual has: the higher the level of cognitive ability (e.g., general intelligence), the more attentional resources the individual has. For example, research shows that intelligence predicts performance best during the declarative knowledge phase (when attentional demands are high) and predicts performance less well during the procedural knowledge phase (when attentional demands are low).

4. Motivational processes place a limit on the amount of available cognitive resources (e.g., attention) that an individual will apply to a task (e.g., the more motivation, the more available attention the individual will apply to a task). In addition, motivational processes that determine how the individual allocates cognitive resources (e.g., self-regulation, goal-setting) require cognitive resources themselves, thereby using resources that could be used to learn or perform the task. Therefore, to the extent that motivational processes use cognitive resources that can only be taken from the resources needed to perform a task, task performance will be hindered rather than facilitated by a motivational attempt.

Cognitive resource allocation theory predicts that:

1. Individuals with higher levels of cognitive ability perform better than those with lower levels of cognitive ability during the declarative knowledge phase (because they have more attentional resources available), but this differential decreases as knowledge becomes proceduralized (because attentional demands are reduced during this phase).

2. Motivational efforts reduce performance during the declarative knowledge phase because such efforts use part of the limited attentional resources available to learn a task; but these same efforts enhance performance during the compilation and proceduralization phases because the attentional demands of these phase are less, which frees up resources for motivational processes; this is especially true for low-ability individuals.

3. The negative impact of using attentional resources for motivation during the declarative knowledge phase is less on high-cognitive-ability individuals (because they have a greater amount of resources to draw upon).

The research conducted to date generally supports these predictions. It appears as though ability and self-efficacy are better predictors of performance in the early stages of skill acquisition, whereas motivation is a better predictor of performance during later stages. Perhaps the most direct implication of this research is that saving motivational efforts until later phases of training for moderately complex tasks may yield better results because they are less likely to harm performance and more likely to lead to higher levels of performance. Further research of this type will help us better understand attributes that influence training design effectiveness in organizational settings.
Training Adult and Older Workers

Given the graying of the workforce and the rate at which jobs have been changing, some theorists question whether training older workers requires a different approach than training younger people. This subject has been approached from several directions, including adult learning theory and gerontology.

**Adult Learning Theory.** Researchers such as Malcolm Knowles note that many instructional methods and principles of learning have been developed with and for children, and they argue that teaching adults requires a different set of techniques.\(^94\) *Pedagogy* (PED a go gee) is the term traditionally used for instructional methodology, and it has most often emphasized educating children and teenagers through high school. Knowles proposes an adult-oriented approach to learning that he calls *andragogy* (AN dra go gee). Table 3-3 lists important differences between pedagogical and andragogical approaches to learning.

Andragogy is based on four hypotheses concerning differences between adults and children:

1. Adults are *self-directed*.
2. Adults have acquired a large amount of *knowledge and experience* that can be tapped as a resource for learning.
3. Adults show a greater *readiness to learn tasks that are relevant* to the roles they have assumed in life.
4. Adults are *motivated to learn* in order to solve problems or address needs, and they *expect to immediately apply* what they learn to these problems and needs.\(^95\)

Andragogical instructional techniques are designed with these factors in mind. These techniques include joint planning, self-diagnosis, formulation of learning objectives, a collaborative teaching process, and involvement of students in the evaluation of success.\(^96\) Two examples illustrate how this approach has been applied. First, an andragogical approach was used to teach writing to adults. The program used fifteen strategies including the following:

- Consider the audience (for instance, conduct a needs assessment)
- Remember that adults need to be self-determining
- Use peer collaboration
- Include assessment to enhance course content
- Find clear applications for writing
- Rely on students’ experiences
- Include students in evaluating writing\(^97\)

A second example comes from an article discussing the differences between “how learners learn” and “how trainers teach.” Shari Caudron spells out a number of differences between traditional (student) and nontraditional (adult) learners.\(^98\) These ideas are presented in Table 3-4 and may generate some discussion among class members.

Although andragogy has intuitive appeal, there are also some major concerns. Critics argue that separating the learning process into two stages—child and adult learning—makes little sense. Rather, they see learning as a continuous process.\(^99\) In addition, other significant problems and weaknesses of the andragogical approach have been noted. Some of the issues raised include the rigidity of the paradigm, the extent to which learners are viewed as either children or adults in their approach to
## TABLE 3-3
Comparing Pedagogy and Andragogy on Seven Issues

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Pedagogy</th>
<th>Andragogy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
<td>Based on aging process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rigid format</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subject/curriculum-centered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rules, procedures, laws</td>
<td></td>
</tr>
<tr>
<td><strong>Atmosphere</strong></td>
<td>Authority-oriented</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Formal, low trust</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Competitive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Win-lose</td>
<td></td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Teacher dominant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High task, low relationship</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controlling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Does not value experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assumes student immaturity and dependency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
<td></td>
</tr>
<tr>
<td><strong>Planning</strong></td>
<td>Administration and teacher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emphasizes rationale, legal mechanisms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Policies, plans, and decisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Highly political</td>
<td></td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td>External rewards and punishments</td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>One-way downward</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transmittal techniques</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feelings repressed</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Teacher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norm-referenced (curve)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grades</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subjective</td>
<td></td>
</tr>
</tbody>
</table>

**Andragogy**

- Flexible, open, broad
- Responsive
- Interdisciplinary
- Developmental
- Relaxed, trusting, mutually respectful
- Informal, warm
- Collaborative, supportive
- Win-win
- Innovative, creative
- High task, high relationship
- Interdependent, mature relationship
- Mentoring, modeling
- Experiential
- High risk
- Administration, faculty, and students
- Mutual assessment
- Collaborative needs assessment
- Mutual negotiation
- Problem centered
- Internal incentives (curiosity)
- Self-directed
- Learning contracts
- Two-way
- Mutually respectful
- Feelings expressed
- Supportive
- Criterion-based
- Objective and subjective
- Jointly chosen standards by students, peers, and teachers

### Some Proposed Differences Between Traditional and Nontraditional Learners

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Nontraditional</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Need motivation; not always sure why they are in training</td>
<td>Highly motivated; want to learn</td>
</tr>
<tr>
<td>2. Raise few questions; often have little real-world experience to connect to the training content</td>
<td>Raise many questions in class and seek opportunities to analyze training content in terms of own experiences; Need to connect class materials to real-world experiences</td>
</tr>
<tr>
<td>3. Developed tolerance for bureaucracy</td>
<td>Have low tolerance for bureaucracy</td>
</tr>
<tr>
<td>4. Resist participation; expect to be told what to do and how to do it</td>
<td>Want to participate. Dislike being talked at; value discussions and projects</td>
</tr>
<tr>
<td>5. More future-oriented. Don’t expect to immediately apply what they learn in training</td>
<td>Concerned with immediate problems and their solutions</td>
</tr>
<tr>
<td>6. Major focus on good grades</td>
<td>Primarily interested in content and its relevance to career and personal life</td>
</tr>
<tr>
<td>7. Tend to be idealistic</td>
<td>Tend to be practical</td>
</tr>
<tr>
<td>8. Have a restricted worldview</td>
<td>Have considerable knowledge to bring to training</td>
</tr>
<tr>
<td>9. Want to know “the answer,” and tend to see things one way</td>
<td>Look at problems as having several possible alternatives worth evaluating</td>
</tr>
<tr>
<td>10. Impatient; want things to happen “overnight”</td>
<td>Have patience with the world; understand that change takes time</td>
</tr>
<tr>
<td>11. Likely to accept information they are given</td>
<td>Can and will verify information given in training</td>
</tr>
<tr>
<td>12. Have few specific expectations</td>
<td>Often have preconceived expectations of training that the instructor should try to identify, if possible. If the training isn’t what participants expect, they are likely to consider it a failure</td>
</tr>
</tbody>
</table>

learning, the approach’s lack of recognition of the differences among adult learners, and the reluctance of many HRD professionals to criticize the approach because it presents a socially desirable view of adults as learners. 100

Although Knowles moderated some of his original claims, he continued to argue that andragogical techniques can be used to teach both adults and more traditional, school-aged students. 101 Indeed, many of the recent trends in elementary and secondary education (e.g., group learning, writing based on students’ experiences) look remarkably similar to Knowles’ suggestions for adult learning.

What seems necessary at this point is to move beyond andragogy by offering a more complex (and more realistic) view of adults as learners. 102 As several recent reviews make clear, a significant amount of progress has been made recently in understanding adult learning. 103 For example, Sharan Merriam and Rosemary Caffarella present andragogy as but one approach to adult learning among others they present as well. In a different vein, John Newstrom and Mark Lengnick-Hall developed a contingency model that assumes that “adult learners are a heterogeneous group requiring different approaches to training and development depending on individual differences across important characteristics.” 104 Based on this approach, trainee differences should be actively considered in designing HRD programs, leading to programs adapted to fit the characteristics of the participants. 105 Newstrom and Lengnick-Hall propose assessing groups on ten dimensions, including attention span, self-confidence, and locus of control (see Table 3-5). This very much supports our emphasis on individual differences in this chapter.

This contingency approach to adult learning shares some similarities with the notion of ATIs discussed earlier; but, as with andragogy, research has yet to determine its superiority to other adult learning approaches. As Merriam and Caffarella state in concluding their discussion of various theories of adult learning, “The process of model and theory building does . . . stimulate inquiry and reflection, all of which may eventually provide some of the answers to our questions about adult learning.” 106 Recent efforts linking various adult learning orientations to action learning (an applied problem-solving approach mentioned in Chapter 1) appear promising. 107

Gerontology. A second approach to the question of whether older adults need to be trained differently is rooted in gerontology and industrial gerontology. Gerontology is the scientific study of old age and aging. Recent research suggests some differences between older and younger adults in certain learning situations. For example, several studies have reported that older trainees performed worse on tests of declarative knowledge in computer training, although it is not clear whether these results are due to ability or motivation. 108 Also, in an open learning situation (i.e., self-directed participation in training activities such as video viewing, computer-based training, or interactive video), older trainees exhibited lower learning scores (i.e., ratings of learning by a tutor) than did younger trainees. 109 However, research increasingly challenges common stereotypes concerning older adults’ ability to learn. 110 A consistent finding is that, although older adults can take longer to learn new knowledge and skills and tend to make more errors during learning, they can and do attain performance levels equal to those achieved by younger adults. In addition, individual expertise can be maintained throughout one’s lifetime.
Five principles can be used for the effective training and development of older adults:

1. Older workers can and do develop.
2. Supervisors need to realize that they may consciously or unconsciously exclude older workers from training opportunities because of unwarranted negative attitudes.
3. For a training program to be effective for older workers, attention must be paid to motivation, structure, familiarity, organization, and time.
4. The organizational climate must reward entry into training and transfer of skills back to the job.
5. Training must be considered within an integrated career perspective.111

With respect to motivation, older adults may need more encouragement to attend training programs because of the negative attitudes others have about their ability to learn. Because older adults tend to take longer to reach proficiency, sufficient time should be scheduled to allow them to do so. And, because older adults may have a fear of failure or competition, and may feel alienated in traditional
training settings, active participation in the training program should be encouraged. For a thoughtful discussion of the progress made in educating older adults, as well as the challenges still to be faced by the swelling numbers of such individuals, see a review by Ronald Manheimer.\textsuperscript{112} A recent book by James Moseley and Joan Desinger provides practical guidance concerning training issues for older workers (they label them OWLs, for older workers and learners).\textsuperscript{113}

**LEARNING STRATEGIES AND STYLES**

Another perspective on the learning process and how to maximize learning examines what people do when they learn. Learning styles and strategies can be important in determining learning outcomes. In this section, we briefly relate a sampling of ideas from the research studies regarding this aspect of learning.

**Kolb’s Learning Styles**

David Kolb, a leading theorist on experiential learning, argues that the learning process is not the same for all people. Because of the complex nature of the learning process, there are opportunities for individual differences and preferences to emerge. A *learning style* represents how individual choices made during the learning process affect what information is selected and how it is processed. Kolb illustrates the notion of learning styles by observing how people learn to play pool:

Some people just step up and hit the ball without bothering to look very carefully at where their shot went unless it went in the pocket. Others seem to go through a great deal of analysis and measurement but seem a bit hesitant on the execution. Thus, there seem to be distinctive styles or strategies for learning and playing the game.\textsuperscript{114}

Differences in learning styles can explain why some individuals are more comfortable and successful with some training approaches (e.g., role playing, lectures, and videotapes) than others. Similarly, learning style differences among trainers can also contribute to their preferences for certain training approaches over others.

Kolb theorizes that an individual’s learning style is based on that person’s preferred modes of learning. A *mode of learning* is the individual’s orientation toward gathering and processing information during learning. Kolb proposed four basic modes of experiential learning:

1. **Concrete Experience (CE)**—an intuitive preference for learning through direct experience, emphasizing interpersonal relations and feeling as opposed to thinking. For example, someone using this mode to learn about job politics would personally use various political tactics in different group situations to get a sense of how each one feels, while also gauging others’ responses during each interaction.

2. **Abstract Conceptualization (AC)**—a preference for learning by thinking about an issue in theoretical terms. For example, a person using this mode to learn about job politics analyzes political tactics and their implications, perhaps consulting or constructing a model that includes abstract representations of the components of political activities.

3. **Reflective Observation (RO)**—a preference to learn by watching and examining different points of view to achieve an understanding. For example, people using
the RO mode to learn about job politics observe others involved in political activities and reflect on what they’ve seen from a variety of perspectives.

4. **Active Experimentation (AE)**—a preference for learning something by actually doing it and judging its practical value. For example, someone using this mode to learn about job politics might experiment with various political tactics, determining their effectiveness by the amount of influence they had on other people.

Kolb argues that an individual’s learning style often combines two modes of learning, such as abstract conceptualization and active experimentation (thinking and doing). Each learning style emphasizes some learning abilities and deemphasizes others. Based on his own work and the work of earlier theorists (including Lewin, Dewey, and Piaget), Kolb identifies four learning styles:

1. **Divergent**—a combination of concrete experience and reflective observation (*feeling and watching*), emphasizing imagination, an awareness of values, and the ability to generate alternative courses of action.

2. **Assimilation**—a combination of abstract conceptualization and reflective observation (*thinking and watching*) that stresses inductive reasoning, the integration of disparate observations into an explanation, and the creation of theoretical models.

3. **Convergent**—a combination of abstract conceptualization and active experimentation (*thinking and doing*), with a focus on problem solving, decision making, and the practical application of ideas.

4. **Accommodative**—a combination of concrete experience and active experimentation (*feeling and doing*), this style is usually demonstrated by accomplishment, executing plans, and involvement in new experiences.

Kolb theorizes that learning styles are developed as a result of life experiences, as well as hereditary influences. He notes that although individuals may have a dominant learning style, they may use other styles in particular situations. An open debate continues among researchers concerning whether learning styles are relatively fixed or more fluid. To help individuals identify their learning style, Kolb developed a questionnaire called the **Learning Style Inventory (LSI)**. The LSI, currently marketed by the Hay Group (Hay Group Transforming Learning), assesses an individual’s orientation toward the four modes of the learning process (CE, AC, RO, and AE). Scores also reflect the individual’s tendencies toward abstractness over concreteness and action over reflection.

Kolb’s theory and the LSI can help HRD professionals, supervisors, employees, and educators identify and appreciate different approaches to learning. As a result, interventions can be tailored to individual learner preferences in both traditional HRD programs and especially in those using computerized instruction. For example, a team at the University of Colorado at Colorado Springs developed a computer-based tutoring system that uses Kolb’s theory to assess an individual’s learning style and adjust its presentation accordingly.

**Learning Strategies**

Similar to Kolb’s modes of learning, **learning strategies** represent the “behavior and thoughts a learner engages in during learning.” Learning strategies are the
techniques learners use to rehearse, elaborate, organize, and/or comprehend new material and influence self-motivation and feelings. The use of mnemonic devices (discussed above to increase the meaningfulness of material) can be seen as a type of learning strategy. Learning strategies can be grouped into various categories (examples of each are listed in parentheses):

1. **Rehearsal strategies** (e.g., repeating items in a list; underlining text in an article; copying notes)
2. **Elaboration strategies** (e.g., forming a mental image; taking notes, paraphrasing, or summarizing new material)
3. **Organizational strategies** (e.g., grouping or ordering information to be learned; outlining an article; creating a hierarchy of material)
4. **Comprehension monitoring strategies** (e.g., self-questioning)
5. **Affective strategies** (e.g., increasing alertness; relaxation; finding ways to reduce test anxiety)

HRD efforts have applied learning strategies in learning-to-learn programs, which seek to provide learners with skills necessary to learn effectively in any learning situation. Given the dynamic nature of organizations and environments, as described in Chapter 1, there is now a greater pressure on individuals to learn throughout their lives. Learning-to-learn programs are aimed at enhancing the learning process and making individuals more independent. The programs emphasize selecting those learning strategies needed to cope effectively with the nature of given material and the demands of a learning situation. Clearly, if employees can acquire and become skilled in applying a variety of learning strategies, they will likely benefit more from both formal learning opportunities (such as training programs) and informal ones (such as a problem-solving meeting).

**Perceptual Preferences**

Just as individuals have preferences about the types of information they seek out in learning situations and how they process it, they also have preferences for the sensory channels they use to acquire information. For example, someone who asks you for directions may request that you write the directions out, draw a map, explain them verbally, or use some combination of the three (it’s tempting to enter into the popular debate about whether some people ever stop to ask for directions—but we probably don’t want to go there, do we?). Wayne James and Michael Galbraith propose seven primary perceptual preferences:

1. **Print** (reading and writing)
2. **Visual** (such as graphs and charts)
3. **Aural** (auditory, i.e., listening)
4. **Interactive** (discussing, asking questions)
5. **Tactile/manipulative** (hands-on approaches, such as touching)
6. **Kinesthetic/psychomotor** (role playing, physical activities)
7. **Olfactory** (association of ideas with smell or taste)

Recently, Neil Fleming developed the VARK questionnaire, which he describes as a scale measuring one’s “preference for taking in and putting out information in a
learning context.” This questionnaire is available online (see Exercise 2 at the end of this chapter). The four preferences measured by this scale are visual (V), aural (A), read/write (R), and kinesthetic (K). These preferences correspond to items 1, 2, 3, and 6 on the list above from James and Galbraith. In his research to date, Fleming finds differences between males and females, with males more likely to have kinesthetic preferences, and women more likely to have read/write preferences. Differences have emerged between students (who have a greater preference in general for the kinesthetic) and teachers/professors (who have a greater preference for reading and writing).125

Other research suggests that the majority of adults have a preference for visual material. Females are more likely than males to assimilate information from all available sources, whereas males tend to focus on fewer information sources.126 Furthermore, similar to Fleming’s findings concerning differences between students and teachers, it has been argued that people who grew up watching more television and movies and playing interactive computer games may have different perceptual preferences than previous generations, and may need to be trained in different ways.127

Perceptual preferences imply that trainers should, if possible, tailor their material and techniques to match trainee preferences. For example, a study of advanced safety training for truck drivers focused on individuals with aural versus kinesthetic preferences. Training was provided either by lecture (with visuals) or by a hands-on, simulation approach. Trainees with auditory preferences learned substantially more when taught via lecture, whereas those with kinesthetic preferences learned substantially more when taught via the hands-on approach. The reverse was also true, that is, when preferences and training method were mismatched, training achievement and trainee attitudes were significantly lower.128 Another implication of the research on perceptual preferences is that it would be desirable to train learners to increase their learning efficiencies by taking advantage of multiple perceptual channels.

**RECENT DEVELOPMENTS IN INSTRUCTIONAL AND COGNITIVE PSYCHOLOGY**

As we discussed earlier, instructional psychology focuses on identifying instructional principles and techniques that maximize learning. Progress in this field—in particular, the four areas that we will now present—should yield applications that make HRD efforts more effective. We feel it useful to give the reader a sense of the types of research currently underway.

**The ACT*/ACT-R Approach to Learning Procedural Skills**

John Anderson and his colleagues at Carnegie-Mellon University have developed instructional computer programs that have been effective in teaching students how to perform complex procedural skills, such as solving algebraic equations and programming using the computer language LISP.129 The underlying theory is called *ACT* theory, which assumes that the learning process is the same regardless of the material being learned. *ACT* theory focuses on the changes that occur as a learner proceeds from knowing what to do (*declarative knowledge*) to knowing how to do it (*procedural knowledge*).130

Progressing from declarative to procedural knowledge is important to successful performance. For example, a person who understands the steps involved in making
an effective sales presentation may not actually be able to perform one. It is one thing to learn what must be done, and another thing to actually accomplish it.

An instructional technique called model tracing is used in developing a computer-tutoring program. This approach starts with the assumption that there is an ideal way to solve problems in the content area being learned. This is identified, along with the types of mistakes that are commonly made. A learning model is then developed that contains all the correct and incorrect rules for performing the task, and includes a set of assumptions about how a student’s knowledge changes after each step in the process.

Through problem solving, trainees learn by doing. The tutoring program helps learners identify problems and corrects their errors immediately. The tutor reduces the burden placed on a learner’s memory by displaying the goals to be reached and helping to fill in some of the details. The tutor in effect guides the student through the learning process.

The ACT* approach features an intelligent computer-assisted instruction program. One example of a company using this approach is the Campbell Soup Company, which has a computer-based Cooker Maintenance Advisor. Campbell’s food-processing plants use a huge cooker to sterilize processed food. Cooker breakdowns are expensive because they disrupt all other operations in the plant. Because cookers are such complex systems, it is not easy to train engineers and mechanics to install, operate, and maintain them. When the engineer who knew the system best was nearing retirement, the company developed an intelligent tutoring software program that captured much of the knowledge he had acquired over forty-four years on the job.

The Cooker Maintenance Advisor is an interactive system that uses a question-and-answer format. Engineers and maintenance technicians use the system in training and as an aid when on the job. Use of the Cooker Maintenance Advisor has resulted in both cost and time savings, and employees throughout the company can benefit from the expert’s advice and experience.

Anderson has outlined another iteration of ACT*, which he referred to as ACT-R (R for rational). ACT-R contains revisions to the theory that have come from continued research and technical developments in the simulation models used to test the theory. Although ACT-R shares many of the same assumptions and basic predictions of ACT*, some concepts and processes have been modified to reflect new findings about how declarative knowledge becomes procedural knowledge, and how humans continue to fine-tune the procedural knowledge they have gained.

The ACT*/ACT-R approach focuses on the acquisition of procedural skills. Given that many of the skills used in organizations today are procedural in nature (e.g., the proper way to use a piece of equipment), this technique holds promise, especially as computer-assisted HRD training programs develop.

Learning to Regulate One’s Own Behavior

What is it that makes experts able to perform more quickly and at higher levels than novices? Research suggests that experts develop self-regulation and control strategies through experience. These strategies enable them to monitor their performance by quickly checking their work, accurately judging how difficult a problem is, allocating their time, assessing progress, and predicting the results of their efforts.

The development of expertise is an important goal of HRD, and one way to reach this goal is to teach trainees these self-regulatory and control skills. For example, a
reading comprehension program was developed based on a technique called reciprocal teaching, in which students learn strategies they can use to monitor their own performance. By individually applying learning techniques such as questioning, clarifying, summarizing, and predicting, with the teacher serving as coach, the group shares responsibility for its own learning.134

Although this research has been conducted using schoolchildren, such an approach should also be effective in organizational training. HRD approaches such as behavior modeling (which we discuss in more detail in Chapter 12) already use components of this strategy. For example, when trainees in a behavior modeling session practice the behaviors they are learning, they often receive feedback and coaching from one another on the adequacy of their performance and on ways it can be improved.135 Similar programs have been developed to improve general problem-solving and thinking skills as a way to improve learning.136

Expert and Exceptional Performance

Recent research has addressed the topic of expert or exceptional performance. What factors lead to the acquisition and production of human performance at the highest level? Perhaps the most significant finding is that “counter to the common belief that expert performance reflects innate abilities and capacities, recent research in different domains of expertise has shown that expert performance is predominantly mediated by acquired complex skills and physiological adaptations.”137

Expert performance is defined as “consistently superior performance on a specified set of representative tasks for a domain.”138 Defining expert performance in this way captures the idea that experts can reliably display their high performance levels on demand, which makes its study possible under laboratory conditions, allowing careful observation and firm conclusions. Expertise in a wide range of domains has been studied, including chess, medical diagnosis, auditing, athletic performance, music, typing, bridge, and physics. Literature reviews have reported the following findings:

- Exceptional abilities and performance are acquired primarily under optimal environmental conditions. A superior level of innate ability is not a sufficient (or even necessary) condition for expert-level performance. For example, IQ is only weakly related to performance among experts in chess and music.
- Exceptional performance is acquired through deliberate practice, done consistently over a period of a decade or longer. Deliberate practice is “an effortful activity motivated by the goal of improving performance” and provides the best opportunity for learning and skill acquisition.139 Deliberate practice is often performed under the guidance of a master teacher or coach using methods and techniques developed over a long period. For example, many marveled when U.S. cyclist Lance Armstrong won the Tour de France six consecutive times from 1999–2004, especially because he had been diagnosed with cancer in 1996. However, what is less well known is his almost single-minded commitment to intensive, daily practice. His ascents up mountains such as Mount Hautacam are attributed to both his conditioning and his motivation to win.140
- To perform deliberate practice daily over a period long enough to attain the highest levels of performance requires sustaining a very high level of motivation, especially given that practice in and of itself is not inherently pleasurable.
Over time, deliberate practice leads to anatomical and physiological adaptations that contribute to high levels of performance. This is especially true for children and adolescents, whose bodies are developing at the same time extreme demands are being made upon them by deliberate practice activities.

Given the demands that deliberate practice places on a person, it is estimated that over the long period that is needed to achieve elite performance the maximum amount of practice time that a person can tolerate is four 1-hour sessions per day, separated by periods of rest. Experts structure their lives to be able to do this, often sleeping more (in the form of naps) than amateurs and novices do.

Although it has been widely believed that expert performance is highly automated (done without conscious awareness), research has shown that expert performance is facilitated by planning, reasoning, and anticipation. For example, a tennis player prepares to return a serve before the server hits the ball, moving and anticipating the flight of the ball from the movement of the server’s arm and toss of the ball.

Experts are generally expert in a limited performance domain.

The age at which an individual can attain peak performance levels varies based on the domain of expertise but most often occurs in the twenties, thirties, or forties. Differences in the age at which an individual begins practice and the amount of time spent weekly in practice produce significant differences in performance and total practice time. It is not realistic to expect performance at the highest human levels from all employees in all kinds of work (and this would be impossible, given the definition of exceptional performance among humans). Nevertheless, effective organizational performance does demand very high levels of performance in key positions by key members. The study of exceptional performance offers many insights into how such performance is acquired and can be maintained. It can also offer ideas for how higher levels of performance can be reached.

One implication for HRD has to do with the opportunity to engage in deliberate practice in the workplace. Although normal working conditions provide some opportunities for learning and improvement, these opportunities are not ideal and are unlikely by themselves to lead to high levels of performance. One explanation for this is that the factors that influence performance in the workplace (e.g., reliable production at a given level, motivated by external social and monetary rewards) are significantly different from the factors that encourage deliberate practice. Therefore, provision has to be made for deliberate practice to occur on a regular basis if exceptional performance is expected to develop and be maintained. A second implication from this research concerns task analysis and the development of training methods. For example, studying “expert performers and their master teachers and coaches offers a nearly untapped reservoir of knowledge about optimal training and specific training that has been accumulated in many domains for a long time.”

Gagné’s Theory of Instruction

The Gagné (or Gagné-Briggs) theory of instruction focuses on the kinds of things people learn and how they learn them. The theory argues that different learning
### TABLE 3-6
Instructional Events and the Conditions of Learning They Imply for Five Types of Learned Capabilities

<table>
<thead>
<tr>
<th>Type of Capability</th>
<th>Instructional Event</th>
<th>Verbal Information</th>
<th>Intellectual Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gaining attention</td>
<td>Introduce stimulus change; variations in sensory mode (same for all)</td>
<td>Provide description and example of the expected performance</td>
<td></td>
</tr>
<tr>
<td>2. Informing learner of objective</td>
<td>Indicate the kind of verbal question to be answered</td>
<td>Stimulate recall of relevant rules and concepts</td>
<td></td>
</tr>
<tr>
<td>3. Stimulating recall of prerequisites</td>
<td>Stimulate recall of context of organized information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Presenting the stimulus material</td>
<td>Present information in propositional form</td>
<td>Present examples of rules and concepts</td>
<td></td>
</tr>
<tr>
<td>5. Providing learning guidance</td>
<td>Provide verbal links to a larger meaningful context</td>
<td>Provide verbal cues for proper combining/sequencing of rules or concepts</td>
<td></td>
</tr>
<tr>
<td>6. Eliciting the performance</td>
<td>Ask for information in learner’s own words (paraphrase)</td>
<td>Ask learner to apply rules or concepts to new examples</td>
<td></td>
</tr>
<tr>
<td>7. Providing feedback</td>
<td>Confirm correctness of statement of information</td>
<td>Confirm correctness of rule or concept application</td>
<td></td>
</tr>
<tr>
<td>8. Assessing performance</td>
<td>Learner restates information in paraphrased form</td>
<td>Learner demonstrates application of rules or concepts</td>
<td></td>
</tr>
<tr>
<td>9. Enhancing retention and transfer of information</td>
<td>Provide verbal links to additional areas of information</td>
<td>Provide spaced reviews including a variety of examples</td>
<td></td>
</tr>
</tbody>
</table>

*Continued*
<table>
<thead>
<tr>
<th>Type of Capability</th>
<th>Cognitive Strategy</th>
<th>Attitude</th>
<th>Motor Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarify the general nature of the solution expected</td>
<td>Provide example of the desired choice of action</td>
<td>Provide a demonstration of expected performance</td>
<td></td>
</tr>
<tr>
<td>Stimulate recall of task strategies and associated intellectual skills</td>
<td>Stimulate recall of relevant information, skills, and human model identification</td>
<td>Stimulate recall of sub-routine and part-skills</td>
<td></td>
</tr>
<tr>
<td>Present novel problems</td>
<td>Present human model, demonstrating choice of personal action</td>
<td>Provide external stimuli for performance, including tools or implements</td>
<td></td>
</tr>
<tr>
<td>Provide prompts and hints to novel solutions</td>
<td>Provide for observation of model’s choice of action, and of reinforcement received by model</td>
<td>Provide practice with feedback on performance achievement</td>
<td></td>
</tr>
<tr>
<td>Ask for problem solution</td>
<td>Ask learner to indicate choices of action in real or simulated situations</td>
<td>Ask for execution of the performance</td>
<td></td>
</tr>
<tr>
<td>Confirm originality of problem solution</td>
<td>Provide direct or vicarious reinforcement of action choice</td>
<td>Provide feedback on degree of accuracy and timing of performance</td>
<td></td>
</tr>
<tr>
<td>Learner originates a novel solution</td>
<td>Learner makes desired choice of personal action in real or simulated situation</td>
<td>Learner executes performance of total skill</td>
<td></td>
</tr>
<tr>
<td>Provide occasions for a variety of novel problem solutions</td>
<td>Provide additional varied situations for selected choice of action</td>
<td>Learner continues skill practice</td>
<td></td>
</tr>
</tbody>
</table>

outcomes are learned in different ways; in other words, there is not one best way to
learn everything. The two main components of the theory are a taxonomy of learn-
ing outcomes (what is being learned) and the techniques needed to teach them.
Gagné proposed that human performance could be divided into five categories, each
of which requires a different set of conditions for maximizing learning, retention,
and transfer. The categories are:

1. **Verbal information**, or declarative knowledge, involves the ability to state or
declare something, such as a fact or an idea. Reciting the Bill of Rights or the provi-
sions of the Americans with Disabilities Act are examples of verbal information.
2. **Intellectual skills**, sometimes called procedural knowledge, are the rules, con-
cepts, and procedures that we follow to accomplish tasks. Intellectual skills may
be simple or complex. English grammar is an example of an intellectual skill.
3. **Cognitive strategies**, or strategic knowledge, are the skills used to control learn-
ing, thinking, and remembering. Cognitive strategies allow us to determine what
procedural knowledge and verbal information we need to perform a task. For
example, an IRS representative uses a cognitive strategy when selecting the audit-
ing approach to take for a particular tax audit.
4. **Attitudes** are internal states of mind that can influence which of several behav-
iors we choose (recall our discussion in Chapter 2). Attitudes are not learned
simply by hearing facts from others. For instance, is it likely that your attitude
toward nuclear power is going to change just because someone tells you it is
good or bad? Something additional, such as reinforcement or personal experi-
ence regarding the object of the attitude, is needed for learning to occur. Even so,
attitudes are often highly resistant to change.
5. **Motor skills** involve using our bodies to manipulate something. Writing, icing
a cake, and balancing a tray of dishes are examples of motor skills. Motor skills
are learned by practicing the movement, and in doing so the quality of the move-
ment should improve.

According to Gagné, these five categories are important because they differ: first,
as human preferences; second, because the requirements for learning differ despite
the pervasiveness of general conditions like contiguity and reinforcement; and third,
because the effects of learning—the continued learning—appear also to differ from
each other.145

Gagné and his colleagues argue that successful performance of any given task re-
quires learning in one or more of these categories. Research continues concerning
which techniques are best suited to teaching each kind of outcome. Table 3-6 pre-

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Where Is the Learning in E-Learning?*

Advances in technology are greatly changing the field of human resource development. Developments with the Internet, and increased access to large bandwidth, have made distance learning (or “e-learning”) available to a much larger audience. For instance, information searches are much faster and more powerful today because of Google and other Internet search engines. Training vendors and consultants are much more likely to place their products and services on the Web. Whole courses are now offered on-line, with discussions taking place via course management systems (such as Desire to Learn, or D2L). Podcasting is a small but growing way to provide training content to learners via Apple iPods or MP3 players. Another example, open sourcing, as demonstrated by the online encyclopedia Wikipedia, demonstrates the use of a “wiki,” that is, “a website that allows visitors to add, remove, or edit content.”

However, with the dizzying growth in the use of technology within HRD, writers such as Gary Woodill, the Chief Learning Officer for Operitel Corporation, have questioned how much learning actually takes place online. Many of the criticisms concern inadequate attention paid to assessment, design, implementation, and evaluation issues. In Chapters 4 through 7, we will discuss these technology issues in more detail, as they relate to each of the four main phases in the HRD process model presented in Chapter 1. Be forewarned, there is good, bad, and ugly in the array of technology-based (or technology-enhanced) HRD offerings. There is much yet to learn concerning how to maximize the amount of learning that occurs via technology.


Since 1997, the American Society for Training and Development (ASTD) has conducted a Benchmarking Service on employer-provided training. In the 2000 ASTD State of the Industry Report, the Wisconsin Public Service Corporation (WPSC) was honored with placement in the top ten “Training Investment Leaders” among medium-sized organizations (500 to 4,999 employees). For all organizations in the survey, the average number of employees receiving training in the previous year was 76 percent. For organizations identified as Training Investment Leaders, this average rose to 96 percent. At WPSC, the figure was 100 percent. The average number of hours spent in training per employee was nearly fifty-four hours, which is over 80 percent higher than the average for all organizations surveyed. Your instructor has other information about this organization and the questions raised in the Opening Case.

SUMMARY

Understanding the learning process and how learning can be maximized are critical issues in designing and implementing HRD programs. Learning is a relatively permanent change in behavior or cognitions that occurs as a result of one’s interaction with an environment. Traditional research on the learning process identifies three principles of learning: contiguity, the law of effect, and practice. Although these principles enhance our understanding of the learning process, they are not sufficient for designing programs that maximize learning.

Trainee characteristics play a significant role in the learning process. Three trainee characteristics that affect the extent to which trainees learn are trainability, personality, and attitudes. Trainability is a combination of motivation, ability, and the work environment. The higher the level of trainability, the more likely it is that trainees will learn. Several personality traits, such as locus of control and the trainee’s attitudes, have also been shown to affect learning.

Knowledge of training design issues—in particular, the conditions of practice—should also be used to maximize learning. These conditions include active practice, massed versus spaced practice sessions, whole versus part learning, overlearning, knowledge of results, and task sequencing. In general, trainee learning is improved by overlearning, feedback, and practice sessions spaced over time, with sufficient rest periods between them.

The information or skills an employee learns are of little value to the organization if the employee does not retain or use them back on the job. Retention of what is learned is influenced by such factors as the meaningfulness of material, the degree of original learning, and interference. Factors that affect learning transfer to the work situation include identical elements, general principles, stimulus variability, and support in the work environment.

Obviously, not all trainees are alike. Individual differences among trainees affect the learning process. First of all, different people learn at different rates, a fact that should be considered in designing training programs. Second, people with different characteristics (such as intelligence levels or various learning styles) may learn best using different training approaches. And third, contrary to many stereotypes, older adults can learn as well as younger adults, but they do learn differently. Finally, recent research in instructional psychology demonstrates considerable promise for HRD. Research on the ACT* ACT-R approach, self-regulation, expert performance, and Gagné’s theory of instruction suggest creative ways to design training approaches that maximize learning. As we said at the start of this chapter, learning is a vital aspect of all HRD efforts.

Technological developments are transforming the manner in which training and other HRD interventions are conducted. While a positive aspect of this is that it can shift more of the control of learning onto the learner, design issues greatly affect the amount of learning that can and does occur via technology-enabled (and technology-enhanced) programs. Technology issues will be addressed in more detail in future chapters.

Now that you’ve read this chapter, have any of your answers to the true or false questions we posed on pages 62 and 63 changed? Dare we ask if learning has taken place? For our answers to these questions, visit the website for this book (www.academic.cengage.com/management/werner).
KEY TERMS AND CONCEPTS

active practice  learning strategy
andragogy  learning style
association  meaningfulness of material
cognitive architecture  mental practice
cognitive resource allocation theory  mode of learning
component task achievement  opportunity to perform
contiguity  overlearning
continuous-learning work environment  pedagogy
declarative knowledge  personality
degree of original learning  physical fidelity
deliberate practice  practice
expert performance  procedural knowledge
gerontology  psychological fidelity
equivalent elements  task analysis
instructional psychology  task sequencing
interference  trainability
learning  training design
learning curves  transfer of training
learning strategy  transfer of training climate
learning style  
meaningfulness of material  
mental practice  
mode of learning  
opportunity to perform  
overlearning  
pedagogy  
personality  
physical fidelity  
practice  
procedural knowledge  
psychological fidelity  
task analysis  
task sequencing  
trainability  
training design  
transfer of training  
transfer of training climate

QUESTIONS FOR DISCUSSION

1. Compare and contrast the pedagogical and andragogical approaches to instruction. Suppose the president of a local hospital asks you to design a program to increase employee awareness of sexual harassment and train participants in ways to deal with harassment complaints. Which principles (from either approach) do you feel might be useful? Support your choices.

2. Explain the role that trainability plays in the effectiveness of an HRD program or intervention. Briefly describe the options available to assess the trainability of employees.

3. Robert Gagné and others have argued that traditional principles of learning (such as contiguity and association) are not sufficient for designing effective training programs. State the reasoning behind this argument. What does research in instructional psychology and cognitive psychology offer as a resolution to these problems? Do you agree with this solution? Support your answer.

4. Few HRD professionals would disagree that practice plays an important role in learning and retention. Using your knowledge of the conditions of practice, what sort of practice do you think would be most effective for training mechanics in a new installation procedure for automobile air-conditioners? How about for training new supervisors to comply with the U.S. Americans with Disabilities Act?

5. Identify and discuss the factors that can affect whether training transfers back to the job. Which two factors do you feel are the most important to ensure transfer? Support your choices.

6. A common stereotype about older workers is that they find learning difficult. Does research from the field of gerontology support or disprove this stereotype?
Explain. What two findings or recommendations do you feel supervisors should follow to ensure effective training experiences for older workers?

7. Research by David Kolb and others suggests that individuals have different learning styles. How would a manager who has a convergent learning style and a manager who has a divergent learning style differ in their approach to learning? Suppose you are going to conduct training sessions designed to teach managers how to give feedback to subordinates. These two managers are scheduled to participate. What might you do (if anything), to handle their style differences to ensure that both of them learn the material you present?

8. Learning strategies are used by learners to rehearse, organize, elaborate, and comprehend new material. From the learning strategies discussed in this chapter, select two that you have used. For each one, identify how you applied it and how it helped you learn more effectively.

9. Supervisors and coworkers are often asked to serve as trainers. Although they may be experts on the material they are teaching others, many times they are novices when it comes to understanding how others learn. Based on the material presented in this chapter, what three things do you think supervisors and coworkers who train others should know about learning? Describe each one and explain why you feel it is important.

EXERCISE 1: LEARNING STYLES

Review the material on learning styles presented earlier (from David Kolb). In your opinion, which of the four learning styles best describes you? Have a friend or someone close to you look over this material and see what learning style they think you have (hopefully, there is agreement between the two of you). Finally, discuss your individual learning styles with a small group of students (e.g., from your class). What sorts of implications are there for group work when group members have different learning styles? How might this carry over to the workplace?

EXERCISE 2: VARK QUESTIONNAIRE

You are encouraged to take the VARK questionnaire concerning preferences for taking in information. It is available at http://www.vark-learn.com/english/page.asp?p=questionnaire.

As an additional assignment (if requested by your instructor), work with others in your class on a “mini training design project.” Specifically, take the four preferences emphasized in the VARK questionnaire (visual, aural, reading/writing, and kinesthetic) and make specific recommendations for how training can be designed to maximize learning for individuals with each of these different preferences. For example, what type of learning experiences would best serve a visual learner? An aural learner (one who learns best by listening)? Someone who learns best by reading and writing? Someone who learns best by doing, that is, by physical activity? What are the implications of your recommendations for effective training program design?

Visit academic.cengage.com/management/werner for links to informative websites for this Chapter.