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RECONCEIVING THE CHALLENGE OF CHANGE: THE IMPORTANCE OF INDIVIDUAL DEVELOPMENT

RECONCEIVING THE CHALLENGE OF CHANGE

What will distinguish your leadership from others' in the years ahead? It will be your ability to develop yourself, your people, and your teams. Throughout the world—and this is as true in the United States and Europe as it is in China and India—human capability will be the critical variable in the new century. But leaders who seek to win a war for talent by conceiving of capability as a fixed resource to be found "out there" put themselves and their organizations at a serious disadvantage.

In contrast, leaders who ask themselves, "What can I do to make my setting the most fertile ground in the world for the growth of talent?" put themselves in the best position to succeed. These leaders understand that for each of us to deliver on our biggest aspirations—to take advantage of new opportunities or meet new challenges—we must grow into our future possibilities. These leaders know what makes that more possible—and what prevents it.

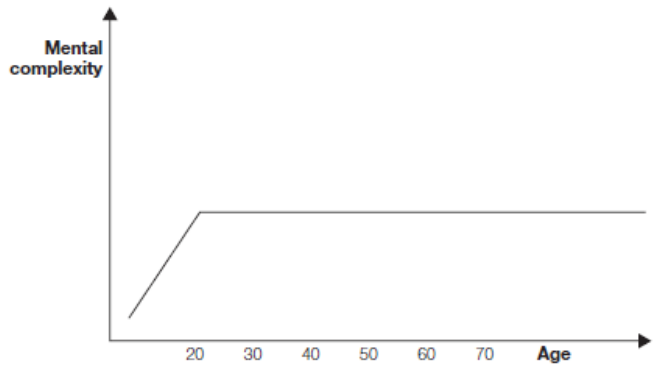
The challenge to change and improve is often misunderstood as a need to better "deal with" or "cope with" the greater complexity of the world. Coping and dealing involve adding new skills or widening our repertoire of responses. We are the same person we were before we learned to cope; we have simply added some new resources. We have learned, but we have not necessarily developed. Coping and dealing are valuable skills, but they are actually insufficient for meeting today's change challenges.

In reality, the experience of complexity is not just a story about the world. It is also a story about people. It is a story about the fit between the demands of the world and the capacity of the person or the organization. When we experience the world as "too complex", we are not just experiencing the complexity of the world. We are experiencing a mismatch between the world's complexity and our own at this moment. There are only two logical ways to mend this mismatch—reduce the world's complexity or increase our own. The first isn't going to happen. The second has long seemed impossibility in adulthood.

AN UPDATED VIEW OF AGE AND MENTAL COMPLEXITY

The ideas and practices you will find in this lecture begin by identifying a widespread misconception about the potential trajectory of mental development across the lifespan. The accepted picture of mental development was akin to the picture of physical development—your growth was thought fundamentally to end by your twenties. If, thirty years ago, you were to place "age" on one axis and "mental complexity" on another, and you asked the experts in the field to draw the graph as they understood it, they would have

Age and mental complexity: The view thirty years ago



produced something similar to figure 1: an upward sloping line until the twenties and a flat line thereafter.

Figure 1

If we were to draw the graph showing age and mental complexity today? On the basis of thirty years of longitudinal research—as a result of thoroughly analyzing the transcripts of hundreds of people, interviewed and re-interviewed at several-year intervals—the graph would look like figure 2.

Age and mental complexity: The revised view today

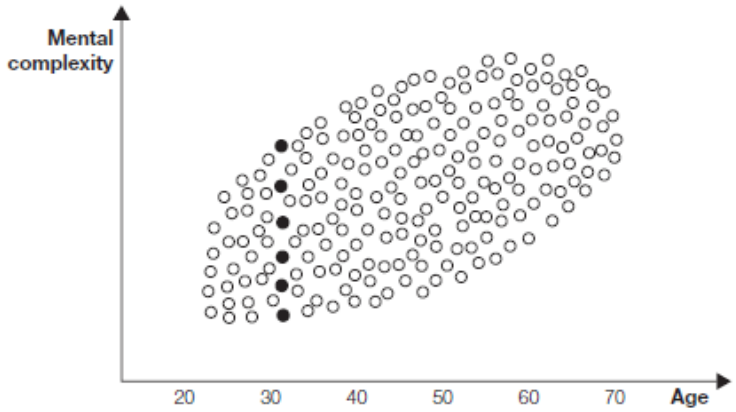


Figure 2

Two things are evident from this graph:

- With a large enough sample size you can detect a mildly upward-sloping curve. That is, looking at a population as a whole, mental complexity tends to increase with age, throughout adulthood, at least until old age; so the story of mental complexity is certainly not a story that ends in our twenties.
- There is considerable variation within any age. For example, six people in their thirties (the bolded dots) could all be at different places in their level of mental complexity, and some could be more complex than a person in her forties. If we were to draw a quick picture of what we have learned about the individual trajectory of mental development in adulthood, it might look something like figure 3. This picture suggests several different elements:

The trajectory of mental development in adulthood

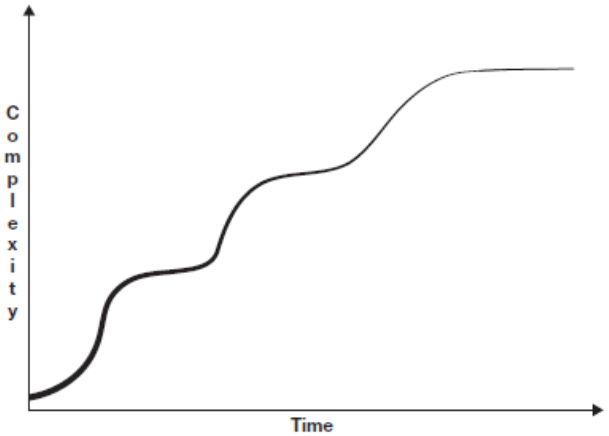


Figure 3

- There are qualitatively different, discernibly distinct levels (the "plateaus"); that is, the demarcations between levels of mental complexity are not arbitrary. Each level represents a quite different way of knowing the world.
- Development does not unfold continuously; there are periods of stability and periods of change. When a new plateau is reached we tend to stay on that level for a considerable period of time (although elaborations and extensions within each system can certainly occur).
- The intervals between transformations to new levels—"time on a plateau"—get longer and longer.
- The line gets thinner, representing fewer and fewer people at the higher plateaus.

THREE PLATEAUS IN ADULT MENTAL COMPLEXITY

Let's begin with a quick overview of three qualitatively different plateaus in mental complexity we see among adults, as suggested in figures 4 and 5.

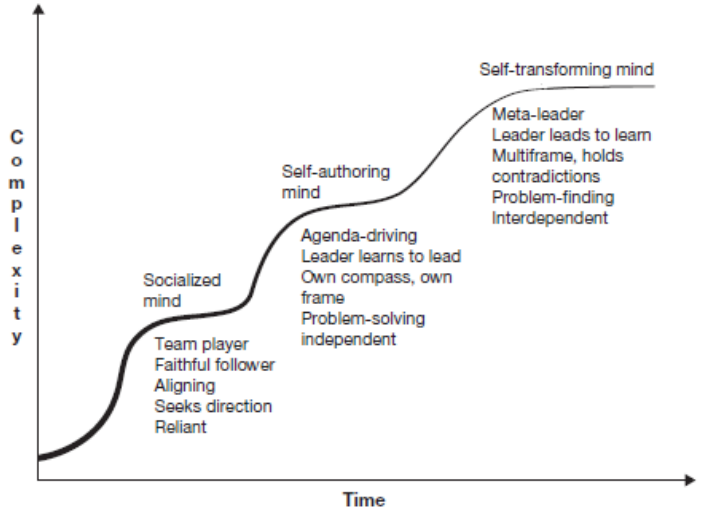


Figure 4

The three adult plateaus described

The socialized mind • We are shaped by the definitions and expectations of our personal environment. • Our self coheres by its alignment with, and loyalty to, that with which it identifies. • This can express itself primarily in our relationships with people, with "schools of thought" (our ideas and beliefs) or both.
The self-authoring mind • We are able to step back enough from the social environment to generate an internal "seat of judgment" or personal authority that evaluates and makes choices about external expectations. • Our self coheres by its alignment with its own belief system/ideology/personal code; by its ability to self-direct, take stands, set limits, and create and regulate its boundaries on behalf of its own voice.
The self-transforming mind • We can step back from and reflect on the limits of our own ideology or personal authority; see that any one system or self-organization is in some way partial or incomplete; be friendlier toward contradiction and opposites; seek to hold on to multiple systems rather than projecting all but one onto the other. • Our self coheres through its ability not to confuse internal consistency with wholeness or completeness, and through its alignment with the dialectic rather than either pole.

Figure 5

Reference:

Kegan, R., & Lahey, L. L. (2009). Reconceiving the challenge of change: The importance of individual development *Immunity to change: How to overcome it and unlock potential in yourself and your organization* (pp. 11-30). Boston, Massachusetts Harvard Business Press.

RECONCEIVING THE CHALLENGE OF CHANGE: THE IMPORTANCE OF INDIVIDUAL DEVELOPMENT (CONTINUED)

HOW INFORMATION IS SENT AND RECEIVED

THE SOCIALIZED MIND

- What should be sent will be strongly influenced by what is believed others want to hear
- Matched with the findings of Group-think studies
- Highly sensitive to information
- Picks up far beyond the required message
- Highly invested attention to imagined subtexts

SELF-AUTHORING MIND

- Say those things that will make people follow you, you say information that needs to be heard in order to forward your plan
- Communicating to get behind the wheel in order to drive
- Creates a filter when receiving information
- First priority, information that is sought
- Second priority; information that is relevant to the plan
- NO third priority

SELF-TRANSFORMING MIND

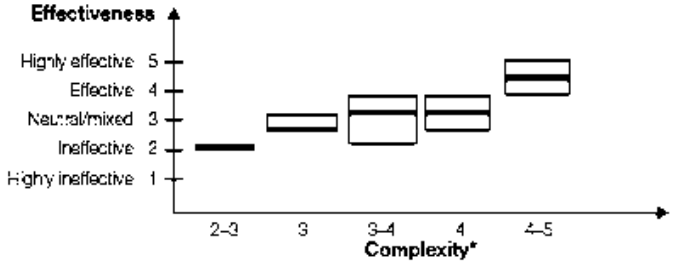
- Self-transforming mind also has a filter
- Then, where's the difference?
- It also values its own stances yet *is wary about* any *one* stance
- It is aware that it lives in time and the world is in motion.
- While communicating, they don't only advance their own agenda; they are also looking for modification and expansion of their agenda.
- They seek information that may lead them or their team to enhance, refine, or alter the original design or make it more inclusive

MENTAL COMPLEXITY AND PERFORMANCE

These descriptions, focusing on just a single important element of organizational life—information flow—should begin to make the different levels of mental complexity a little clearer. They also suggest a value proposition for mental complexity. Each successive level of mental complexity is formally higher than the preceding one because it can perform the mental functions of the prior level as well as additional functions. But the discussion of how information flow is conceived and handled also suggests that these formal mental properties translate into real actions with real consequences for organizational behavior and work competence. The implication is that a higher level of mental complexity outperforms a lower level. Keith Eagle assessed the level of mental complexity of twenty-one CEOs of large, successful companies, each company an industry leader with average gross revenue of over $5 billion. (He used a ninety-minute interview assessment measure that we and our colleagues developed. The Subject-Object Interview, described in "How Do We Assess Level of Mental Complexity?" has been used all over the world, across all sectors, over the last twenty years. It discriminates developmental movement between, and within, the levels of mental complexity with high degrees of inter-rater reliability.) In addition, for comparison, Eigel did similar assessments in each of the same companies, interviewing promising middle managers nominated by their respective CEOs. Figure 1 summarizes his findings. Several results stand out. The first obvious one is the clearly discernible upward slope, signifying that increased mental complexity and work competence, assessed on a number of dimensions, are correlated. So not only is it possible to reach higher planes of

mental complexity, but such growth correlates with effectiveness, for botches and middle managers. This finding has been replicated in a variety of fine-grained studies of small numbers of leaders, assessed on particular competencies.

Individual mental capacity and business effectiveness: Eigel's results



	Socialized		Self-authoring		
CEO	0	0	0	17	4	n = 21
Middle manager	1	2	7	10	1	n = 21

Source: K. Eigel, "Leader Effectiveness" (PhD diss., University of Georgia, 1998).

*3 = socialized mind; 4 = self-authoring mind; 5 = self-transforming mind

Figure 6

How to Assess Level of Mental Complexity?

The ASSESSMENT TOOL is a ninety-minute interview we call the Subject-Object Interview, so named because the complexity of a mindset is a function of the way it distinguishes the thoughts and feelings we have (i.e., can look at, can take as object) from the thoughts and feelings that "have us" (i.e., we are run by them, are subject to them). Each different level of mindset complexity differently draws the line between what is subject and what is object. Greater complexity means being able to look at more (take more as object). The blind spot (what is subject) becomes smaller and smaller. The assessment instrument has proven to be quite subtle: it can identify, with high degrees of inter-rater reliability, fully five different transitional places between any two mindsets.

The interview begins by handing the subject ten index cards, upon which are written the following cues:

- Angry
- Anxious, nervous
- Success
- Strong stand, conviction
- Sad
- Torn
- Moved, touched
- Lost something, farewells
- Change
- Important

In the first fifteen minutes, the interviewee is asked to make notes on each card in response to questions of the following form: "Think of some times, over the last few days or weeks, when you found yourself feeling really mad or angry about something [or nervous, scared, anxious, etc.], and jot down what comes to mind." The interview then proceeds as a systematic exploration: the interviewee tells the whats (what made him feel angry, successful, etc.) and the interviewer probes to learn the whys (why would that make him feel angry or successful; just what is at stake?). The interviewer choses these prompt because earlier research showed them to be highly successful at eliciting the boundaries and contours of people's current way of constructing reality. A trained interviewer can probe such material to learn the underlying principle governing what the person can and cannot see (the blind spot). The interviews are transcribed and analyzed according to a uniform process. Thousands of these interviews have now been conducted with people all

over the world, with people of all ages and from all walks of life. Most people find the interview a highly engaging experience.

SHIFTS IN THE DEMANDS ON FOLLOWERS AND LEADERS

We can also take a more sweeping view of the same issue by considering the new demands on leaders and their subordinates in the faster, flatter, more interconnected world in which we live.

Now let's consider what was asked, and is now asked, of subordinates. In the world in which we used to live, it was enough in most cases if people were good team players, pulled their weight, were loyal to the company or organization where they worked, and could be counted on to follow conscientiously the directions and signals of their boss. In other words, the socialized mind would be perfectly adequate to handle the nature of yesterday's demands upon subordinates.

Many authors who write about what we are now looking for from our workforce—really saying, as it relates to level of mental complexity? Without realizing it, that it used to be sufficient for workers to be at the level of the socialized mind, but today we need workers who are at the level of the self-authoring mind. In effect, we are calling upon workers to understand themselves and their world at a qualitatively higher level of mental complexity.

And what is the picture if we look not at subordinates but at bosses and leaders? Organizational theorist Chris Argyris raises similar issues about the ever-growing insufficiency of traditional conceptions of managerial and leadership effectiveness that still dominates our thinking today. There may have been a day when it was enough for leaders to develop worthy goals and sensible norms, cultivate alignments around them, and work "to keep organizational performance within the range specified"—all the while exercising the strength of character to advocate for one's position and hold one's ground in the face of opposition. Skillful as such managers may be, their abilities will no longer suffice in a world that calls for leaders who can not only run but reconstitute their organizations—its norms, missions, and culture—in an increasingly fast-changing environment. For example, a company that chooses to transform itself from a low-cost standardized-products organization to a mass customizer or a provider of organization-wide solutions will need to develop a whole new set of individual and team capabilities.

Thus, we are asking more and more workers who could once per-form their work successfully with socialized minds—good soldiers—to shift to self-authoring minds. And we are asking more and more leaders who could once lead successfully with self-authoring minds—sure and certain captains—to develop self-transforming minds. In short, we are asking for a quantum shift in individual mental complexity across the board. So how big is the gap between what we now expect of people's minds and what their minds are actually like? Are we expecting something that is so big a reach? After all, if the world has gotten more complex over the last half century, then perhaps the world has become a better incubator of mental complexity as well, and the sup-ply of mental complexity has risen with the demand.

We now have two sophisticated, reliable, and widely used measures for assessing mental complexity along the lines we are talking about here. (This is something quite different, obviously, from IQ testing, which has only the most modest correlation with mental complexity; you can have an above average IQ, say 125, and be at any of the three plateaus.) These are the Washington University Sentence Completion Test (SCT) and the Subject-Object Interview (SOI) we introduced earlier. 8 two large meta-analyses of studies using one or the other of these measures have now been performed, with several hundred participants in each study. Figure 2 presents a quick summary of results.

Two observations stand out from the data in figure 2:

- Both studies, each done with completely different samples, arrive at the same finding—that in a majority of respondents, mental complexity is not as far along as the self-authoring mind.
- The percentages of people beyond the plateau of the self-authoring mind are quite small. These data suggests that the gap between what we now expect of people's minds (including our own minds) and what our minds are actually like is quite large. We expect most workers to be self-authoring, but most are not.

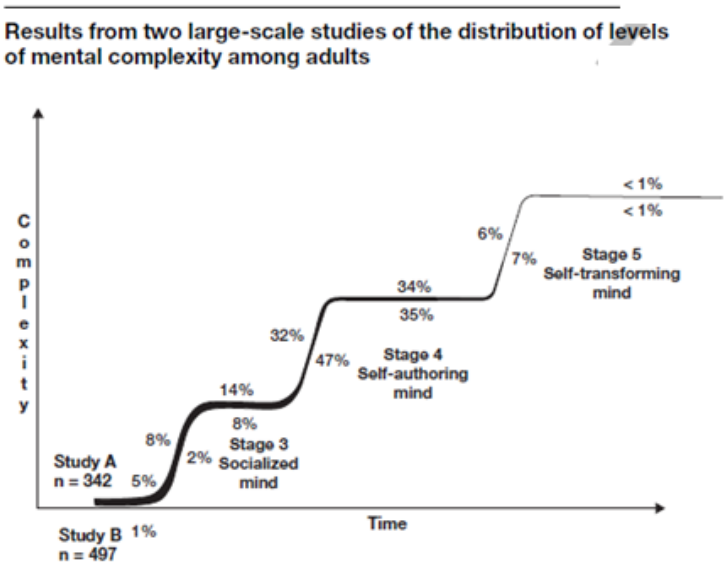


Figure 7

MENTAL COMPLEXITY AND "TECHNICAL "VERSUS "ADAPTIVE" CHALLENGES

Ronald Heifetz makes an important distinction that helps us summarize the central point's we have made so far. Heifetz distinguishes between two kinds of change challenges, those he calls "technical" and others he calls "adaptive." Technical changes are not necessarily easy, nor are their results necessarily unimportant or insignificant. Learning how to remove an inflamed appendix or how to land an airplane with a stuck nose wheel are examples of largely technical challenges, and their accomplishment is certainly important to the patient on the surgeon's table or the nervous passengers contemplating a crash landing. They are nonetheless "technical" from Heifetz's point of view because the skill set necessary to perform these complicated behaviors is well known. The routines and processes by which we might help an intern or novice pilot become an accomplished practitioner are well practiced and proven. While it is entirely possible that an intern or a pilot in training will become qualitatively more complex over years of training, such mental growth is beyond the scope of their technical training. Novice surgeons, for example, become sufficiently skilled surgeons without anyone worrying about their adult development or mental growth. However, many, if not most, of the change challenges you face today and will face tomorrow require something more than incorporating new technical skills into your current mindset. These are the "adaptive challenges," and they can only be met by transforming your mindset, by advancing to a more sophisticated stage of mental development.

Heifetz says the biggest error leaders make is when they apply technical means to solve adaptive challenges. In other words, we may be unable to bring about the changes we want because we are misdiagnosing our aspiration as technical, when in reality it is an adaptive challenge. The implication is that we must find adaptive (nontechnical) means of supporting ourselves and others to meet adaptive challenges. Distinguishing adaptive challenges from technical ones again brings our attention back from the "problem" to the "person having the problem." We've said that "complexity" is really a story about the relationship between the complex demands and arrangements of the world and our own complexity of mind. When we look at this relationship we discover a gap: our own mental complexity lags behind the complexity of the world's demands. We are in over our heads. This naturally brings us to a next question: can we actually do something to incubate mental complexity, and to accelerate it? We have spent more than twenty years actively exploring this question in a "laboratory" that has taken us all over the world. In the next chapter we bring you into this laboratory to show you what we have found.

Reference:

Kegan, R., & Lahey, L. L. (2009). Reconceiving the challenge of change: The importance of individual development *Immunity to change: How to overcome it and unlock potential in yourself and your organization* (pp. 11-30). Boston, Massachusetts Harvard Business Press.

LESSON 03

FORCES AFFECTING WORKING AND LEARNING

Lecture 3 and 4 are basic introductory lectures explaining many of the terms used in the area of training and development. The terms training and development are defined, and the various forces such as globalization, workforce demographic changes, new technologies, the changing roles of leadership, rapid development of knowledge, and development of e-commerce are explained. The importance of training and development in today's organizations, and today's global market is discussed. A basic Instructional System Design model (ISD) or the ADDIE model is introduced, and essential roles and competencies of trainer professionals are identified. Related training and development Web sites, internet, and e-commerce examples are discussed at the end of the chapter.

THE FORCES INFLUENCING WORKING AND LEARNING

Table 1 illustrates the forces that are influencing working and learning. Globalization of business, demographic changes, new technologies, and economic changes are several of the forces shown in Table 1 that influence all aspects of our lives: how we purchase products and services, how we learn, how we communicate with each other, and what we value in our lives and on the job.

These forces are affecting individuals, communities, businesses, and society. To survive, companies must address these forces—with training playing an important role.

Forces Influencing Working and Learning

- Economic cycles
- Globalization
- Increased value placed on intangible assets and human capital
- Focus on link to business strategy
- Changing demographics and diversity of the work force
- Talent Management
- Customer service and quality emphasis
- New technology
- High-performance work systems

Globalization

Every business must be prepared to deal with the global economy. Global business expansion has been made easier by technology. The Internet allows data and information to be instantly accessible and sent around the world. The Internet, e-mail, and video conferencing enable business deals to be completed between companies thousands of miles apart.

Many companies are entering international markets by exporting their products overseas, building manufacturing facilities or service centers in other countries, entering into alliances with foreign companies, and engaging in e-commerce. Developing nations such as Taiwan, Indonesia, and China may account for over 60 percent of the world economy by 2020.

Economic cycles

The term business cycle (or economic cycle) refers to economy-wide fluctuations in production, trade and economic activity in general over several months or years in an economy organized on free-enterprise principles.

The business cycle is the upward and downward movements of levels of GDP (gross domestic product) and refers to the period of expansions and contractions in the level of economic activities (business fluctuations) around its long-term growth trend.

These fluctuations occur around a long-term growth trend, and typically involve shifts over time between periods of relatively rapid economic growth (an expansion or boom), and periods of relative stagnation or decline (a contraction or recession).

Business cycles are usually measured by considering the growth rate of real gross domestic product. Despite being termed cycles, these fluctuations in economic activity can prove unpredictable.

Increased Value Placed on Intangible Assets and Human Capital

Today more and more companies are interested in intangible assets and human capital as a way to gain an advantage over competitors. Training and development can help a company's competitiveness by directly increasing the company's value through contributing to intangible assets. A company's value includes three types of assets that are critical for the company to provide goods and services: financial assets (cash and securities), physical assets (property, plant, equipment), and intangible assets. Table 2 provides examples of intangible assets, which consist of human capital, customer capital, social capital, and intellectual capital. Human capital refers to the sum of the attributes, life experiences, knowledge, inventiveness, energy, and enthusiasm that the company's employees invest in Intellectual capital refers to the codified knowledge that exists in a company.

Examples of Intangible Assets

Human Capital

- Tacit knowledge
- Education
- Work-related know-how
- Work-related competence

Customer Capital

- Customer relationships
- Brands
- Customer loyalty
- Distribution channels

Social Capital

- Corporate culture
- Management philosophy
- Management practices
- Informal networking systems
- Coaching/mentoring relationships

Intellectual Capital

- Patents
- Copyrights
- Trade secrets
- Intellectual property

Social capital refers to relationships in the company. Customer capital refers to the value of relationships with persons or other organizations outside the company for accomplishing the goals of the company (e.g., relationships with suppliers, customers, vendors, government agencies). Intangible assets are equally as valuable as financial and physical assets but they are not something that can be touched and they are nonmonetary.

Training and development have a direct influence on human and social capital because they affect education, work-related know-how and competence, and work relationships. Training and development can have an indirect influence on customer and social capital by helping employees better serve customers and by providing them with the knowledge needed to create patents and intellectual property.

Intangible assets also contribute to a company's competitive advantage because they are difficult to duplicate or imitate. The value of intangible assets and human capital has three important implications:

(1) A focus on knowledge worker
(2) Employee engagement
(3) An increased emphasis on adapting to change and continuous learning

Focus on Knowledge Workers

One way that a company can increase its intangible assets, specifically human capital, is by focusing on attracting, developing, and retaining knowledge workers. Knowledge workers are employees who contribute to the company not through manual labor but through what they know, perhaps about customers or a specialized body of knowledge. Employees cannot simply be ordered to perform tasks; they must share knowledge and collaborate on solutions. Knowledge workers contribute specialized knowledge that their managers may not have, such as information about customers, and managers depend on these knowledge workers to share that information. Knowledge workers have many job opportunities. If they choose, they can leave a company and take their knowledge to a competitor. Knowledge workers are in demand because of the growth of jobs requiring them.

Employee Engagement

To fully benefit from employees' knowledge, a management style requires that focuses on engaging employees. Employee engagement refers to the degree to which employees are fully involved in their work and the strength of their commitment to their job and the company. Employees who are engaged in their work and committed to their companies give those companies a competitive advantage, including higher productivity, better customer service, and lower turnover. Training and development gives employees an opportunity for personal growth within the company and helps provide the company with the knowledge and skills it needs to gain a competitive advantage. Using training delivery methods that provide employees with the flexibility to manage their personal learning while balancing other work and non-work responsibilities, such as online learning, helps build employee commitment to the company.

Change and Continuous Learning

In addition to acquiring and retaining knowledge workers, companies need to be able to adapt to change. Change refers to the adoption of a new idea or behavior by a company. Technological advances, changes in the work force or government regulations, globalization, and new competitors are among the many factors that require companies to change. Change is inevitable in companies as products, companies, and entire industries experience shorter life cycles.

A changing environment means that all employees must embrace a philosophy of learning. A learning organization embraces a culture of lifelong learning, enabling all employees to continually acquire and share knowledge. Improvements in product or service quality do not stop when formal training is completed. Employees need to have the financial, time, and content resources (courses, experiences, development opportunities) available to increase their knowledge. Managers take an active role in identifying training needs and helping to ensure that employees use training in their work. Also, employees should be actively encouraged to share knowledge with colleagues and other work groups across the company using e-mail and the Internet. For a learning organization to be successful, teams of employees must collaborate to meet customer needs. Managers need to empower employees to share knowledge, identify problems, and make decisions. This allows the company to continuously experiment and improve.

Focus on Link to Business Strategy

Given the important role that intangible assets and human capital play in a company's competitiveness, managers are beginning to see a more important role for training and development as a means to support a company's business strategy, that is, its plans for meeting broad goals such as profitability, market share, and quality. Managers expect training and development professionals to design and develop learning activities that will help the company successfully implement its strategy and reach business goals.

Changing Demographics and Diversity of the Work Force

Companies face several challenges as a result of increased demographics and diversity of the work force. Population is the single most important factor in determining the size and composition of the labor force, which is composed of people who are either working or looking for work.

Increase in Ethnic and Racial Diversity

Not only must companies face the issues of race, gender, ethnicity, and nationality to provide a fair workplace, but they must also develop training programs to help immigrants acquire the technical and customer service skills required in a service economy.

Aging Work Force

The labor force will continue to age and the size of the 16–24-year-old youth labor force will decrease to its lowest level in 30 years. The 55 years and older segment of the work force is expected to grow by approximately 47 percent between 2006–2016, more than five times the 8.5 percent growth projected for the entire work force. The labor force participation of those 55 years and older is expected to grow because older individuals are leading healthier and longer lives than in the past, providing the opportunity to work more years. In addition, the high cost of health insurance and decrease in health benefits will cause many employees to keep working to maintain their employer-based insurance or will prompt them to return to work after retirement to obtain health insurance through their employer. Also, the trend toward pension plans based on individuals' contributions to them, rather than years of service, will provide yet another incentive for older employees to continue working. The aging population means that companies are likely to employ a growing share of older workers—many of them in their second or third career. Older people want to work, and many say they plan a working retirement. Despite myths to the contrary, worker performance and learning in most jobs is not adversely affected by aging. Older employees are willing and able to learn new technology. An emerging trend is for qualified older employees to ask to work part-time or for only a few months at a time as a means to transition to retirement. Employees and companies are redefining what it means to be retired to include second careers as well as part-time and temporary work assignments. Another source of work force diversity is greater access to the workplace for people with disabilities.

Because of this diversity, it is unlikely that all employees will hold similar work values. Research suggests that to maximize employees' motivation and commitment to company goals, employees should be given the opportunity to develop their skills, meet their interests, and balance work and non-work activities.

Below shows how companies can use this increased diversity to provide a competitive advantage. Training plays a key role in ensuring that employees accept and work more effectively with each other.

1. **Cost**: As organizations become more diverse, the cost of a poor job in integrating workers will increase. Companies that handle this well will create cost advantages over those that don't.

2. Employee Attraction and Retention: Companies develop reputations on favorability as prospective employers for women and ethnic minorities. Those with the best reputations for managing diversity will be the most attractive employers for women and other minority groups. As the labor pool shrinks and changes composition, this edge will become increasingly important.

3. Market Share: For multinational organizations, the insight and cultural sensitivity that members with roots in other countries bring to the marketing effort should improve these efforts in important ways. The same rationale applies to marketing to subpopulations within domestic operations.

4. Creativity: Diversity of perspectives and less emphasis on conformity to norms of the past (which characterize the modern approach to management of diversity) should improve the level of creativity.

5. Problem-solving: Heterogeneity in decisions and problem-solving groups potentially produces better decisions through a wider range of perspectives and more thorough critical analysis of issues.

6. Flexibility: Greater adaptability in a rapidly changing market.

To successfully manage a diverse work force, managers and employees must be trained in a new set of skills, including:

1. Communicating effectively with employees from a wide variety of backgrounds.
2. Coaching, training, and developing employees of different ages, educational backgrounds, ethnicities, physical abilities, and races.
3. Providing performance feedback that is free of values and stereotypes based on gender, ethnicity, or physical handicap.
4. Training managers to recognize and respond to generational differences.
5. Creating a work environment that allows employees of all backgrounds to be creative and innovative.

Talent Management

Talent management refers to attracting, retaining, developing, and motivating highly skilled employees and managers. Talent management is becoming increasingly more important because of changes in demand for certain occupations and jobs, skill requirements, the anticipated retirement of the baby boomer generation, and the need to develop managerial talent with leadership skills. Also, the results of surveys suggest that opportunities for career growth, learning, and development, and the performance of exciting and challenging work are some of the most important factors in determining employees' engagement and commitment to their current employer.

It is important to identify employees who want to develop their skills and seek promotions and to keep them growing through new job experiences and training.

New Technology

Technology has reshaped the way we play (e.g., games on the Internet), communicate (e.g., cell phones, personal digital assistants), and plan our lives (e.g., electronic calendars that include Internet access) and where we work (e.g., small, powerful personal computers allow us to work at home, while we travel, and even while we lie on the beach!). The Internet has created a new business model—e-commerce, in which business transactions and relationships can be conducted electronically. The Internet is a global collection of computer networks that allows users to exchange data and information. Today more than 79 percent of adults go online spending an average of 11 hours a week on the Internet. Nearly 72 percent access the Internet most often from home, while 37 percent do so from work. Technology continues to have a large impact on all sectors of the economy. Robotics, computer-assisted design, radio frequency identification, and nanotechnology are transforming manufacturing. Technology has also made equipment easier to operate, helping companies cope with skill shortages and allowing older workers to postpone retirement.

This excerpt has been extracted in modified form from:

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 2 - 51.

LESSON 04

INTRODUCTION TO TRAINING AND DEVELOPMENT

Training refers to a planned effort by a company to facilitate employees' learning of job-related competencies. These competencies include knowledge, skills, or behaviors that are critical for successful job performance. The goal of training is for employees to master the knowledge, skill, and behaviors emphasized in training programs and to apply them to their day-to-day activities. For a company to gain a competitive advantage, its training has to involve more than just basic skill development. That is, to use training to gain a competitive advantage, a company should view training broadly as a way to create intellectual capital. Intellectual capital includes basic skills (skills needed to perform one's job), advanced skills (such as how to use technology to share information with other employees), an understanding of the customer or manufacturing system, and self-motivated creativity. Keep in mind that, traditionally, most of the emphasis on training has been at the basic and advanced skill levels.

Essential components of T&D

1. There should be need identification.
2. The improvement in skills, behaviours or abilities, that should come from the process of learning
3. The learning process must lead to a change.

Difference between training and education

Training	Education
Narrow perspective	Broad perspective
Application	Theoretical definition
Job experience	Classroom Learning
Specific tasks	General concepts

Difference between Training & Development

1. Development includes all those activities that are given as learning opportunities to help employees grow.
2. Training is targeted towards a particular job or skill.

Objectives of training and development

1. Develop the competencies of employees and improve their performance.
2. Help the employees grow so that the future human resource needs of the organization can be met from within the organization.
3. Reduce the learning time for employees starting in new jobs or appointments, transfers or promotions, and ensure that they become competent as quickly and economically as possible.

Many companies have adopted this broader perspective, which is known as high-leverage training. High-leverage training is linked to strategic business goals and objectives, uses an instructional design process to ensure that training is effective, and compares or benchmarks the company's training programs against training programs in other companies.

High-leverage training practices also help to create working conditions that encourage continuous learning. Continuous learning requires employees to understand the entire work system, including the relationships among their jobs, their work units, and the company. Employees are expected to acquire new skills and knowledge, apply them on the job, and share this information with other employees. Managers take an active role in identifying training needs and help to ensure that employees use training in their work. To facilitate the sharing of knowledge, managers may use informational maps that show where knowledge lies within the company (for example, directories that list what individuals do as well as the specialized

knowledge they possess) and use technology such as groupware or the Internet that allows employees in various business units to work simultaneously on problems and share information.

The emphasis on high-leverage training has been accompanied by a movement to link training to performance improvement. Companies have lost money on training because it is poorly designed, because it is not linked to a performance problem or business strategy, or because its outcomes have not been properly evaluated. That is, companies have been investing money into training simply because of the belief that it is a good thing to do. The perspective that the training function exists to deliver programs to employees without a compelling business reason for doing so is being abandoned. Today, training is being evaluated not on the basis of the number of programs offered and training activity in the company but on how training addresses business needs related to learning, behavior change, and performance improvement. In fact, training is becoming more performance-focused. That is, training is used to improve employee performance, which leads to improved business results. Training is seen as one of several possible solutions to improve performance. Other solutions include actions such as changing the job or increasing employee motivation through pay and incentives. Today there is a greater emphasis on

- • Providing educational opportunities for all employees. These educational opportunities may include training programs, but they also include support for taking courses offered outside the company, self-study, and learning through job rotation.
- Performance improvement as an ongoing process that is directly measurable rather than a one-time training event.
- Demonstrating to executives, managers, and trainees the benefits of training.
- Learning as a lifelong event in which senior management, trainer managers, and employees have ownership.
- Training being used to help attain strategic business objectives, which help companies gain a competitive advantage.

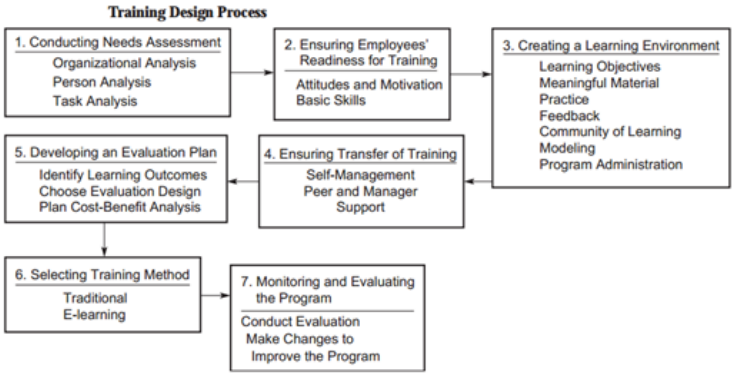


Figure 8

The training design process refers to a systematic approach for developing training programs. Figure 1 presents the seven steps in this process.

Step 1 is to conduct a needs assessment, which is necessary to identify whether training is needed.

Step 2 is to ensure that employees have the motivation and basic skills necessary to master the training content.

Step 3 is to create a learning environment that has the features necessary for learning to occur.

Step 4 is to ensure that trainees apply the training content to their jobs. This step involves having the trainee understand how to manage skill improvement as well as getting co-worker and manager support.

Step 5 is to develop an evaluation plan. Developing an evaluation plan includes identifying what types of outcomes training is expected to influence (for example, learning, behavior, skills), choosing an evaluation design that allows you to determine the influence of training on these outcomes, and planning how to

demonstrate how training affects the "bottom line" (that is, using a cost-benefit analysis to determine the monetary benefits resulting from training).

Step 6 is to choose the training method based on the learning objectives and learning environment. This step may include a traditional training method of face-to-face interaction with a trainer or e-learning using CD-ROM or Web-based training.

Step 7 is to evaluate the program and make changes in it or revisit any of the earlier steps in the process to improve the program so that learning, behavior, change, and the other learning objectives are obtained.

The training design process shown in Figure 1 is based on principles of Instructional System Design. Instructional System Design (ISD) refers to a process for designing and developing training programs. There is not one universally accepted instructional systems development model. The training design process sometimes is referred to as the ADDIE model because it includes analysis, design, development, implementation, and evaluation. In Figure 1, Step 1, conducting needs assessment, and Step 2, ensuring employees' readiness for training, are related to analysis. The next three steps—creating a learning environment, ensuring transfer of training, and developing an evaluation plan—are design issues. Step 6, selecting and using a training method, relates to implementation. Step 7, monitoring and evaluating the program, relates to evaluation. Regardless of the specific ISD approach used, all share the following assumptions:

- Training design is effective only if it helps employees reach instructional or training goals and objectives.
- Measurable learning objectives should be identified before the training program begins.
- Evaluation plays an important part in planning and choosing a training method, monitoring the training program, and suggesting changes to the training design process.

Some training professionals argue that the ISD model is flawed for several reasons. First, in organizations the training design process rarely follows the neat, orderly, step-by-step approach of activities shown in Figure 1. Second, in trying to standardize their own ISD method used in the training function, some organizations require trainers to provide detailed documents of each activity found in the model. This adds time and cost to developing a training program. Third, the ISD implies an end point: evaluation. However, good instructional design requires an iterative process of design, execution, evaluation, and reconsideration of the needs that the program was designed to meet as well as the learning environment, the transfer of training, and all the other activities in the ISD process. Despite these criticisms, the ISD model can be considered a set of general guidelines that trainers need to follow to ensure effective training.

The training design process should be systematic yet flexible enough to adapt to business needs. Different steps may be completed simultaneously. Keep in mind that designing training unsystematically will reduce the benefits that can be realized. For example, choosing a training method before determining training needs or ensuring employees' readiness for training increases the risk that the method chosen will not be the most effective one for meeting training needs. Also, training may not even be necessary and may result in a waste of time and money! Employees may have the knowledge, skills, or behavior they need but simply not be motivated to use them.

The introduction of new technologies such as podcasting highlights a shift from trainees having to learn from an instructor in one location to trainees learning independently and not being bound to learn in the workplace. Still, good training design requires determining the trainees' needs, identifying resources so that trainees can learn what they need to know, and providing them with access to reference materials and knowledge bases when they encounter problems, issues, or questions on the job.

The development of a Web-based training program focusing on teaching managers skills needed to run effective business meetings provides a good example of use of the instructional design process. The first step of the process, needs assessment, involved determining that managers lacked skills for conducting effective meetings and helped to identify the type of meetings that managers were involved in. The needs

assessment process involved interviewing managers and observing meetings. The needs assessment process also identified the most appropriate training method.

Because the managers were geographically dispersed and had easy access to computers and because the company wanted a self-directed, self-paced program that the managers could complete during free time in their work schedule, the training designers and company management decided that Web-based training was the appropriate method. Because training was going to be conducted over the Web, the designers had to be sure that managers could access the Web and were familiar with tools for using the Web (e.g., Web browsers). This relates to determining the managers' readiness for training.

The next step was to create a positive learning environment on the Web. Designers made sure that the program objectives were clearly stated to the trainees and provided opportunities within the program for exercises and feedback. For example, trainees were asked to prepare an outline for the steps they would take to conduct an effective meeting. The designers built into the program a feedback system that indicated to the managers which of the steps they outlined were correct and which needed to be changed. The designers also built in assessment tests allowing the trainees to receive feedback through the program and to skip ahead or return to earlier material based on their scores on the tests. The assessment included a test of meeting skills that the managers completed both prior to and after completing the program. The assessment tests were stored in a data bank that the company could use to evaluate whether trainees' meeting skills improved from pre-training levels.

Reference:

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LESSON 05

STRATEGIC TRAINING

Why is the emphasis on strategic training important? Companies are in business to make money, and every business function is under pressure to show how it contributes to business success or face spending cuts and even outsourcing. To contribute to a company's success, training activities should help the company achieve its business strategy. A business strategy is a plan that integrates the company's goals, policies, and actions. The strategy influences how the company uses physical capital (e.g., plants, technology, and equipment), financial capital (e.g., assets and cash reserves), and human capital (employees). The business strategy helps direct the company's activities (production, finance, marketing, human resources) to reach specific goals. The goals are what the company hopes to achieve in the medium- and long-term future. Most companies' goals include financial goals, such as to maximize shareholder wealth. But companies have other goals related to employee satisfaction, industry position, and community service.

There is both a direct and indirect link between training and business strategy and goals. Training that helps employees develop the skills needed to perform their jobs directly affects the business. Giving employees opportunities to learn and develop creates a positive work environment, which supports the business strategy by attracting talented employees as well as motivating and retaining current employees.

How strategy influences training and development function?

Business strategy has a major impact on the type and amount of training that occurs and whether resources (money, trainers' time, and program development) should be devoted to training. Also, strategy influences the type, level, and mix of skills needed in the company. Strategy has a particularly strong influence on determining:

1. The amount of training devoted to current or future job skills.
2. The extent to which training is customized for the particular needs of an employee or is developed based on the needs of a team, unit, or division.
3. Whether training is restricted to specific groups of employees (such as persons identified as having managerial talent) or open to all employees.
4. Whether training is planned and systematically administered, provided only when problems occur, or developed spontaneously as a reaction to what competitors are doing.
5. The importance placed on training compared to other human resource management practices such as selection and compensation

Evolution of training's role

Traditionally, training has been seen as an event or program to develop specific explicit knowledge and skills. But managers and trainers and human resource professionals have begun to recognize the potential contribution to business goals of knowledge that is based on experience and that is impossible to teach in a training program, and they have broadened the role of training to include learning and designing ways to create and share knowledge. The chapter goes on to discuss the process of strategic training and development, including identifying the business strategy, choosing strategic training and development initiatives that support the strategy, providing training and development activities that support the strategic initiatives, and identifying and collecting metrics to demonstrate the value of training. The chapter next describes organizational factors that influence how training relates to the business strategy. These include the roles of employees and managers; top management support for training; integration of business units; staffing and human resource planning strategy; degree of unionization; and manager, trainer, and employee involvement in training. The chapter then addresses specific strategic types and their implications for training. The chapter ends with a description of several different ways of organizing the training function, emphasizing that the business-embedded and corporate university models are gaining in popularity as companies are aligning training activities with business goals.

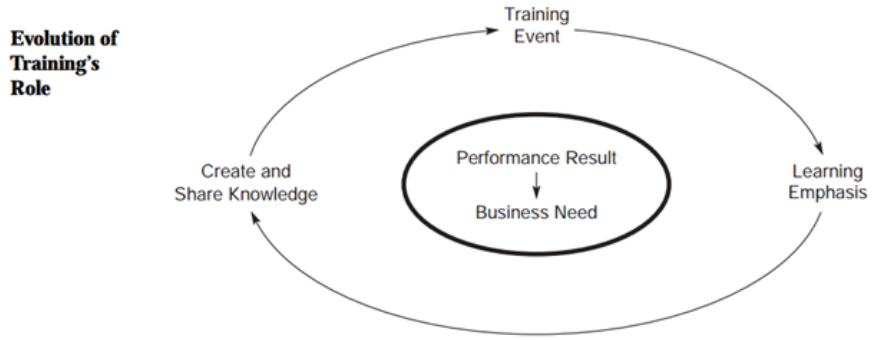

Figure 9

Figure 1 shows the evolution of training's role from a program focus to a broader focus on learning and creating and sharing knowledge. Training will continue to focus on developing programs to teach specific skills; however, to better relate to improving employees' performance and to help meet business needs and challenges (and be considered strategic), training's role has to evolve to include an emphasis on learning and creating and sharing knowledge. Learning refers to the acquisition of knowledge by individual employees or groups of employees who are willing to apply that knowledge in their jobs in making decisions and accomplishing tasks for the company. Knowledge refers to what individuals or teams of employees know or know how to do (human and social knowledge) as well as company rules, processes, tools, and routines (structured knowledge). Knowledge is either tacit knowledge or explicit knowledge. Explicit knowledge refers to knowledge that can be formalized, codified, and communicated. That is, it can be found in manuals, formulas, and specifications. Tacit knowledge refers to personal knowledge based on individual experience that is difficult to explain to others. Because tacit knowledge is difficult to communicate, it is passed along to others through direct experience (e.g., interacting with other employees, watching other employees). The types of tacit and explicit knowledge that are important for employees include knowledge about the company, knowledge about customers, and knowledge about the company's business processes. Employees need to understand the company's business, strategy, and financial statements as well as how the company is organized. This gives them some idea of where to go with new ideas, how to seek help with problems, and how to create opportunities for cross-functional businesses. Employees must know who the company's customers are, what they need, and why they choose to do business with the company. Finally, employees must have a general understanding of the major business processes and a more detailed understanding of the business processes they are involved in. Well-designed traditional training courses can successfully help employees learn tacit knowledge. But to learn tacit knowledge requires interpersonal interaction and experiences that are usually not found in training programs.

In traditional approaches to training, training is seen as a series of programs or events that employees attend. After attending the training program, employees are responsible for using what they learned in training on the job, and any support they might receive is based on the whims of their manager. Also, traditional training provides no information that would help employees understand the relationship between the training content and individual performance or development objectives or business goals. This type of training usually fails to improve workplace performance and meet business needs. The role of training as a program or event will continue into the future because employees will always need to be taught specific knowledge and skills. This approach assumes that business conditions are predictable, they can be controlled by the company, and the company can control and predict the knowledge and skills that employees need in the future. These assumptions are true for certain skills such as communication and conflict resolution. The emphasis on learning has several implications. First, there is a recognition that to be effective, learning has to be related to helping employees' performance improve and the company achieve its business goals. This connection helps ensure that employees are motivated to learn and that the limited resources (time and money) for learning are focused in areas that will directly help the business succeed. Second, unpredictability in the business environment in which companies operate will continue to be the norm. Because problems cannot be predicted in advance, learning needs to occur on an as-needed

basis. Companies need to move beyond the classroom and instead use job experiences and Web-based training to teach employees skills while they focus on business problems. Third, because tacit knowledge is difficult to acquire in training programs, companies need to support informal learning that occurs through mentoring, chat rooms, and job experiences. Fourth, learning has to be supported not only with physical and technical resources but also psychologically. The company work environment needs to support learning, and managers and peers need to encourage learning and help employees find ways to obtain learning on the job. Also, managers need to understand employees' interests and career goals to help them find suitable development activities that will prepare them to be successful in other positions in the company or deal with expansion of their current job.

Creating and sharing knowledge refers to companies' development of human capital. Human capital includes cognitive knowledge (know what), advanced skills (know how), system understanding and creativity (know why), and self-motivated creativity (care why). Traditionally, training has focused on cognitive and advanced skills. But the greatest value for the business may be created by having employees understand the manufacturing or service process and the interrelationships between departments and divisions (system understanding) as well as motivating them to deliver high-quality products and services (care why). To create and share knowledge, companies have to provide the physical space and technology (e-mail, Web sites) to encourage employee collaboration and knowledge sharing.

THE STRATEGIC TRAINING AND DEVELOPMENT PROCESS

Now that you understand how training is evolving in companies and have been introduced to the concept of business strategy and how training can support a business strategy, you are ready to study the process of strategic training and development. Figure 2 shows a model of the strategic training and development process with examples of strategic initiatives, training activities, and metrics.

Figure 10

The model shows that the process begins with identifying the business strategy. Next, strategic training and development initiatives that support the strategy are chosen. Translating these strategic training and development initiatives into concrete training and development activities is the next step of the process. The final step involves identifying measures or metrics. These metrics are used to determine whether training has helped contribute to goals related to the business strategy. The following sections detail each step in the process.

Identify the Company's Business Strategy

Three factors influence the company's business strategy. First, the company's mission, vision, values, and goals help to determine the strategy. These are usually determined by the top management team. The mission is the company's reason for existing. It may specify the customers served, why the company exists, what the company does, or the values received by the customer. The vision is the picture of the future that the company wants to achieve. Values are what the company stands for. Second, a SWOT analysis (strengths, weaknesses, opportunities, threats) involves an analysis of the company's operating environment (e.g., product markets, new technologies) to identify opportunities and threats as well as an internal analysis

of the company's strengths and weaknesses including people, technology, and financial resources. The business challenges may also represent an opportunity (or threat) to the company. Recall that these business challenges include globalization, the need for leadership, increased value of human capital, change, attracting and winning talent, and a focus on customers and quality. Third, the company has to consider its competition. That is, how will the company successfully compete? The decisions that a company has to make in determining how to compete are shown in Table 1

TABLE 1

Decisions a Company Must Make about How to Compete to Reach Its Goals

1. Where to compete?

   In what markets (industries, products, etc.) will we compete?

2. How to compete?

   On what outcome or differentiating characteristic will we compete? Cost? Quality? Reliability? Delivery? Innovativeness?

3. With what will we compete?

   What resources will allow us to beat the competition? How will we acquire, develop, and deploy those resources to compete?

Although these decisions are equally important, companies often pay less attention to the "with what will we compete" issue, resulting in failure to reach the goals. This decision includes deciding how human, physical, and financial capital will be used. To use human capital to gain a competitive advantage requires linking the company's human resources practices (such as training and development) to the business strategy.

Consider how training contributes to the business strategy at Nokia Corporation. Nokia, the world leader in mobile communications, has over 68,000 employees and net sales of $30 billion. Nokia's business strategy is to build trusted customer relationships by offering compelling and valued consumer solutions that combine the best mobile devices with context-enriched services (business mobility and Internet). Nokia's vision is a world where everyone can be connected and feel close to what is important to them. Nokia consists of the following business units: Devices, Software and Services, Markets (management of supply chains, sales, and brand and marketing activities), Nokia Siemens Networks (infrastructure and related services business), NAVTEQ (provider of digital map data for automotive navigation systems and other mapping applications), and the Corporate Development Office (which focuses on strategy and future growth and supports the other units). Nokia wants to create personalized communication technology that enables people to create their own mobile world. Nokia continues to target and enter segments of the communications market that the company believes will experience faster growth than the industry as a whole. As the demand for wireless access to services increases, Nokia plans to lead the development and commercialization of networks and systems required to make wireless content more accessible and rewarding for customers.

The management approach at Nokia, known as the "Nokia way," consists of the Nokia values, its organizational competencies, and its operations and processes used to maintain operational efficiency. The company has built its current and future strength on the Nokia way. The Nokia way has resulted in a flat, networked company emphasizing speed and flexibility in decision making. Nokia's values include "engaging you" (customer satisfaction and engaging with all stakeholders, including employees), "achieving together" (trust, sharing, working in formal and informal networks), "passion for innovation," and "very human" (understanding that how the company does business impacts people and the environment). Continuous learning provides employees with the opportunity to develop themselves and to stay technologically current. Employees are encouraged to share experiences, take risks, and learn together. Continuous learning goes beyond formal training classes. At Nokia, continuous learning means that employees support each

other's growth, developing and improving relationships through the exchange and development of ideas. E-learning is used to provide employees with the freedom to choose the best possible time and place for personal development.

Nokia's top management is committed to continuous learning. Figure 3 shows how Nokia links training and development to its business strategy. For example, the business group presidents are the "owners" of all global management and leadership programs for senior managers. They personally provide input into the development of these programs but they also appoint "godfathers" from their management teams. These godfathers participate actively throughout the program and are also designers of program content. Together with the training and development staff, the godfathers help the learning processes in the programs. Most of the programs involve strategic projects (action learning) that participants are responsible for completing. Top managers invest time in reviewing the projects and have the authority to take action based on the project team recommendations.

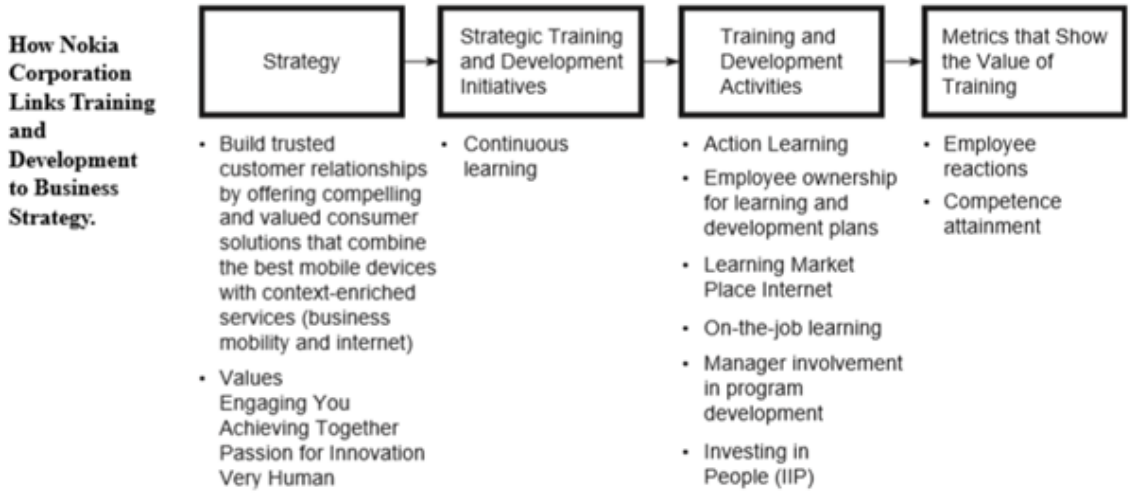

Figure 11

The value of continuous learning translates into personal and professional growth opportunities including a commitment to self-development, coaching, learning solutions and training, management training, a vibrant internal job market, and performance management. Employees are encouraged to create their own development plan and use available learning solutions and methods. Coaching with highly skilled colleagues helps employees develop and gives them the opportunity to share ideas and goals with each other. Nokia employees have access to a wide variety of training and development opportunities, including learning centers and the Learning Market Place Internet, which has information on all the available learning solutions including e-learning and classroom training. Through the learning centers, Nokia has integrated the learning activities of all the business groups into one place. Nokia believes that by mixing participants from across business groups, knowledge is created because traditions and experiences can be shared among employees. In addition to formal programs offered in classrooms or on the Internet, Nokia emphasizes on-the-job learning through job rotation and through managers giving their employees challenging new job assignments. There is also a wide range of opportunities for managers to improve their management and leadership skills. The emphasis on the internal labor market encourages employees to improve their skills by changing jobs. Nokia's performance management process, known as Investing in People (IIP), involves twice yearly discussions between employees and their managers. The IIP process consists of objective setting, coaching and achievement review, competence analysis, and a personal development plan. The entire IIP process is supported electronically. Employees can choose their profile from the company intranet, conduct a self-evaluation, create a personal development plan, and investigate what learning solutions are available at the learning centers.

Nokia uses a combination of measures to evaluate the value of training. Nokia always asks employees for their immediate reactions after they have completed a program. Other measures include attainment of competence and resource strategy in all parts of the company. Top management believes that the largest

benefit of the learning is that employees have opportunities to network, creating more knowledge, reinforcing continuous learning, and creating committed employees.

Identify Strategic Training and Development Initiatives That Support the Strategy

Strategic training and development initiatives are learning-related actions that a company should take to help it achieve its business strategy. The strategic training and development initiatives vary by company depending on a company's industry, goals, resources, and capabilities. The initiatives are based on the business environment, an understanding of the company's goals and resources, and insight regarding potential training and development options. They provide the company with a road map to guide specific training and development activities. They also show how the training function will help the company reach its goals (and in doing so, show how the training function will add value).

There is a tendency to have a disconnect between strategy and execution of the strategy. To avoid this, learning professionals need to reach out to managers to ensure that the strategic training initiatives and training activities are aligned with the business strategy and the necessary financial resources and support are provided to carry out the training activities. This requires consideration of people and cultural issues that might inhibit execution of training initiatives. In addition, the success or failure of previous training activities should be identified and addressed to ensure that future training activities support strategic training initiatives and are successfully implemented.

Table 2 shows strategic training and development initiatives and their implications for training practices. Diversify the learning portfolio means that companies may need to provide more learning opportunities than just traditional training programs. These learning opportunities include informal learning that occurs on the job through interactions with peers; new job experiences; personalized learning opportunities using mentors, coaches, and feedback customized to the employee needs; and the use of technology (including Web-based training).

Strategic Training and Development Initiatives and Their Implications

Strategic Training and Development Initiatives	Implications
Diversify the Learning Portfolio	• Use new technology such as the Internet for training • Facilitate informal learning • Provide more personalized learning opportunities
Expand Who Is Trained	• Train customers, suppliers, and employees • Offer more learning opportunities to nonmanagerial employees
Accelerate the Pace of Employee Learning	• Quickly identify needs and provide a high-quality learning solution • Reduce the time to develop training programs • Facilitate access to learning resources on an as-needed basis
Improve Customer Service	• Ensure that employees have product and service knowledge • Ensure that employees have skills needed to interact with customers • Ensure that employees understand their roles and decision-making authority
Provide Development Opportunities and Communicate to Employees	• Ensure that employees have opportunities to develop • Ensure that employees understand career opportunities and personal growth opportunities • Ensure that training and development addresses employees' needs in current job as well as growth opportunities
Capture and Share Knowledge	• Capture insight and information from knowledgeable employees • Logically organize and store information • Provide methods to make information available (e.g., resource guides, Web Sites)
Align Training and Development with the Company's Strategic Direction	• Identify needed knowledge, skills, abilities, or competencies • Ensure that current training and development programs support the company's strategic needs
Ensure that the Work Environment Supports Learning and Transfer of Training	• Remove constraints to learning, such as lack of time, resources, and equipment • Dedicate physical space to encourage teamwork, collaboration, creativity, and knowledge sharing • Ensure that employees understand the importance of learning • Ensure that managers and peers are supportive of training, development, and learning

Expand who is trained refers to the recognition that because employees are often the customer's primary point of contact, they need as much if not more training than managers do. Also, to provide better customer service to suppliers, vendors, and consumers, companies need to distribute information about how to use the products and services they offer. Companies are beginning to train suppliers to ensure that the parts that suppliers provide will meet their customers' quality standards. To be successful, companies have to be able to deal with changes in technology, customer needs, and global markets. Training needs have to be quickly identified and effective training provided. That is, companies have to accelerate the pace of employee learning. Also, companies are relying on electronic performance support systems (EPSS) that provide employees with immediate access to information, advice, and guidance. EPSS can be accessed through personal computers or handheld computers whenever they are needed. Because customers now have access to databases and Web Sites and have a greater awareness of high-quality customer service, they are more knowledgeable, are better prepared, and have higher service expectations than ever before. Employees must be prepared to improve customer service. Employees have to be knowledgeable about the product or service, they need to have customer service skills, and they need to understand the types of decisions they can make (e.g., can they make an exception to the policy of no cash refunds?).

Providing development opportunities and communicating them to employees is important to ensure that employees believe that they have opportunities to grow and learn new skills. Such opportunities are important for attracting and retaining talented employees. Capturing and sharing knowledge ensures that important knowledge about customers, products, or processes is not lost if employees leave the company. Also, giving employees access to knowledge that other employees have may quicken response times to customers and improve product and service quality. For example, rather than "reinventing the wheel," service personnel can tap into a database that allows them to search for problems and identify solutions that other service reps have developed. Aligning training and development with the company's strategic direction is important to ensure that training contributes to business needs. Companies need to identify what employee capabilities (e.g., knowledge, skills) are needed and whether training programs and services are helping to improve these capabilities. Lastly, a supportive work environment is necessary for employees to be motivated to participate in training and learning activities, use what they learn on the job, and share their knowledge with others. Tangible support includes time and money for training and learning as well as work areas that encourage employees to meet and discuss ideas. Psychological support from managers and peers for training and learning is also important.

Questions to Ask to Develop Strategic Training and Development Initiatives

Source. Based on R. Hughes and K. Beatty, "Five Steps to Leading Strategically," *TD* (December 2005). 46–48.

1. What is the vision and mission of the company? Identify the strategic drivers of the business strategy.
2. What capabilities does the company need as a result of the business strategy and business environment challenges?
3. What types of training and development will best attract, retain, and develop the talent needed for success?
4. Which competencies are critical for company success and the business strategy?
5. Does the company have a plan for making the link between training and development and the business strategy understood by executives, managers, and employees or customers?
6. Will the senior management team publicly support and champion training and development?
7. Does the company provide opportunities for training and developing not only individuals but also teams?

Table 3

How might a company ensure that its training and development initiatives are linked to its business strategy? Table 3 shows the questions that a company needs to answer to identify and develop its strategic training and development initiatives. To help answer these questions, trainers need to read the annual reports, strategic plans, earnings releases, and analyst reports for their companies. To understand the business strategy and its implications for training, it may be useful to invite managers to attend training and development staff meetings and present information on the company's business strategy. Also, in

companies with multiple divisions, it is important to understand each business, including how it measures effectiveness, how it monitors and reports performance, and what challenges it faces, such as supply chain management, new product development, competitive pressures, or service warranty issues.

Provide Training and Development Activities Linked to Strategic Training and Development Initiatives

After a company chooses its strategic training and development initiatives related to its business strategy, it then identifies specific training and development activities that will enable these initiatives to be achieved. These activities include developing initiatives related to use of new technology in training, increasing access to training programs for certain groups of employees, reducing development time, and developing new or expanded course offerings.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 52 - 101.

STRATEGIC TRAINING (continued)

Identify and Collect Metrics to Show Training Success

How does a company determine whether training and development activities actually contribute to the business goals? This determination involves identifying and collecting out-come measures, or metrics. The metrics that are typically used to identify training success or effectiveness include trainees' satisfaction with the training program; whether the trainees' knowledge, skill, ability, or attitudes changed as a result of program participation (cognitive and skill-based outcomes); and whether the program resulted in business-related outcomes for the company.

The business-related outcomes should be directly linked to the business strategy and goals. Business-related outcomes could evaluate, for example, customer service, employee satisfaction or engagement, employee turnover, number of product defects, time spent in product development, number of patents, or time spent filling management positions. Some companies use the balanced scorecard as a process to evaluate all aspects of the business. The balanced scorecard is a means of performance measurement that pro- vides managers with a chance to look at the overall company performance or the performance of departments or functions (such as training) from the perspective of internal and external customers, employees, and shareholders. The balanced scorecard considers four different perspectives: customer, internal, innovation and learning, and financial. The emphasis and type of indicators used to measure each of these perspectives are based on the company's business strategy and goals. The four perspectives and examples of metrics used to measure them include:

- Customer (time, quality, performance, service, cost).
- Internal (processes that influence customer satisfaction).
- •Innovation and learning (operating efficiency, employee satisfaction, continuous improvement).
- Financial (profitability, growth, shareholder value).

Metrics that might be used to assess training's contribution to the balanced scorecard include employees trained (employees trained divided by total number of employees), training costs (total training costs divided by number of employees trained), and training costs per hour (total training costs divided by total training hours). Following this model, Ingersoll Rand University shows that learning makes a difference and contributes to the business strategy by using metrics such as expected benefits, one-time versus ongoing costs, shelf-life of learning products, and employee participation rates in its programs. Each year Ingersoll Rand University (IRU) provides the company with an annual report communicating accomplishments, challenges, strategic directions, and operational efficiencies. For example, IRU has offered process improvement workshops related to Lean Six Sigma (a quality initiative), which is a business priority. IRU has been able to demonstrate that its workshops have resulted in saving the company hundreds of thousands of dollars by reducing vendor delivery costs by 76 percent. The process of identifying and collecting metrics is related to training evaluation, the final step. Of course, showing that training directly relates to the company "bottom line" (e.g., increased service, sales, product quality) is the most convincing evidence of the value of training!

ORGANIZATIONAL CHARACTERISTICS THAT INFLUENCE TRAINING

The amount and type of training as well as the organization of the training function in a company are influenced by employee and manager roles; by top management support for training; by the company's degree of integration of business units; by its global presence; by its business conditions; by other human resource management practices, including staffing strategies and human resource planning; by the company's extent of unionization; and by the extent of involvement in training and development by managers, employees, and human resource staff.

Roles of Employees and Managers

The roles that employees and managers have in a company influence the focus of training, development,

and learning activity. Traditionally, employees' roles were to perform their jobs according to the managers' directions. Employees were not involved in improving the quality of the products or services. However, with the emphasis on the creation of intellectual capital and the movement toward high-performance work systems using teams, employees today are performing many roles once reserved for management (e.g., hiring; scheduling work; interacting with customers, vendors, and suppliers). If companies are using teams to manufacture goods and provide services, team members need training in interpersonal problem solving and team skills (e.g., how to resolve conflicts, give feedback). If employees are responsible for the quality of products and services, they need to be trained to use data to make decisions, which involves training in statistical process control techniques. Team members may also receive training in skills needed for all positions on the team (cross training), not just for the specific job they are doing. To encourage cross training, companies may adopt skill-based pay systems, which base employees' pay rates on the number of skills they are competent in rather than what skills they are using for their current jobs. Research suggests that managers in traditional work environments are expected to do the following:

- Manage individual performance. Motivate employees to change performance, provide performance feedback, and monitor training activities.
- Develop employees. Explain work assignments and provide technical expertise.
- Plan and allocate resources. Translate strategic plans into work assignments and establish target dates for projects.
- Coordinate interdependent groups. Persuade other units to provide products or resources needed by the work group, and understand the goals and plans of other units.
- Manage group performance. Define areas of responsibility, meet with other managers to discuss effects of changes in the work unit on their groups, facilitate change, and implement business strategy.
- Monitor the business environment. Develop and maintain relationships with clients and customers, and participate in task forces to identify new business opportunities.
- Represent one's work unit. Develop relationships with other managers, communicate the needs of the work group to other units, and provide information on work group status to other groups.

Regardless of their level in the company (e.g., senior management), all managers are expected to serve as spokespersons to other work units, managers, and vendors (i.e., represent the work unit). Of course, the amount of time managers devote to some of these roles is affected by their level. Line managers spend more time managing individual performance and developing employees than midlevel managers or executives do. The most important roles for midlevel managers and executives are planning and allocating resources, coordinating interdependent groups, and managing group performance (especially managing change). Executives also spend time monitoring the business environment by analyzing market trends, developing relationships with clients, and overseeing sales and marketing activities.

The Roles and Duties of Managers in Companies That Use High-Performance Work Practices

Roles	Key Duties
Managing Alignment	Clarify team goals and company goals. Help employees manage their objectives. Scan organization environment for useful information for the team.
Coordinating Activities	Ensure that team is meeting internal and external customer needs. Ensure that team meets its quantity and quality objectives. Help team resolve problems with other teams. Ensure uniformity in interpretation of policies and procedures.
Facilitating Decision-Making Process	Facilitate team decision making. Help team use effective decision-making processes (deal with conflict, statistical process control).
Encouraging Continuous Learning	Help team identify training needs. Help team become effective at on-the-job training. Create environment that encourages learning.
Creating and Maintaining Trust	Ensure that each team member is responsible for his or her work load and customers. Treat all team members with respect. Listen and respond honestly to team ideas.

Table 1

The roles and duties of managers in companies that use high-performance work systems (such as teams) are shown in Table 1. The managers' duty is to create the conditions necessary to ensure team success. These roles include managing alignment, coordinating activities, facilitating the decision-making process, encouraging continuous learning, and creating and maintaining trust.

To manage successfully in a team environment, managers need to be trained in "people skills," including negotiation, sensitivity, coaching, conflict resolution, and communication skills. A lack of people skills has been shown to be related to managers' failure to advance in their careers.

Top Management Support

The CEO, the top manager in the company, plays a key role in determining the importance of training and learning in the company. The CEO is responsible for

- A clear direction for learning (vision).
- Encouragement, resources, and commitment for strategic learning (sponsor).
- Taking an active role in governing learning, including reviewing goals and objectives and providing insight on how to measure training effectiveness (governor).
- Developing new learning programs for the company (subject-matter expert).
- Teaching programs or providing resources online (faculty).
- Serving as a role model for learning for the entire company and demonstrating a willingness to constantly learn (learner).
- Promoting the company's commitment to learning by advocating it in speeches, annual reports, interviews, and other public relations tools (marketing agent).

Integration of Business Units

The degree to which a company's units or businesses are integrated affects the kind of training that takes place. In a highly integrated business, employees need to understand other units, services, and products in the company. Training likely includes rotating employees between jobs in different businesses so they can gain an understanding of the whole business.

Business Conditions

When unemployment is low and/or businesses are growing at a high rate and need more employees, companies often find it difficult to attract new employees, find employees with necessary skills, and retain current employees. Companies may find themselves in the position of hiring employees who might not be qualified for the job. Also, in these types of business conditions, companies need to retain talented employees. In the knowledge-based economy (including companies in information technology and pharmaceuticals), product development is dependent on employees' specialized skills. Losing a key employee may cause a project to be delayed or hinder a company's taking on new projects. Training plays a key role in preparing employees to be productive as well as motivating and retaining current employees. Studies of what factors influence employee retention suggest that employees rate working with good colleagues, challenging job assignments, and opportunities for career growth and development as top reasons for staying with a company. Across all industries, from high tech to retailing, companies are increasingly relying on training and development to attract new employees and retain current ones.

For companies in an unstable or recessionary business environment—one characterized by mergers, acquisitions, or disinvestment of businesses—training may be abandoned, be left to the discretion of managers, or become more short term (such as offering training courses only to correct skill deficiencies rather than to prepare staff for new assignments). These programs emphasize the development of skills and characteristics needed (e.g., how to deal with change) regardless of the structure the company takes. Training may not even occur as a result of a planned effort. Employees who remain with a company following a merger, acquisition, or disinvestment usually find that their job now has different responsibilities requiring new skills. For employees in companies experiencing growth—that is, an increased demand for their products and services—there may be many new opportunities for lateral job moves and promotions resulting from the expansion of sales, marketing, and manufacturing operations or

from the start-up of new business units. These employees are usually excited about participating in development activities because new positions often offer higher salaries and more challenging tasks.

During periods when companies are trying to revitalize and redirect their business, earnings are often flat. As a result, fewer incentives for participation in training—such as promotions and salary increases—may be available. In many cases, companies downsize their work forces as a way of cutting costs. Training activities under these conditions focus on ensuring that employees are available to fill the positions vacated by retirement or turnover. Training also involves helping employees avoid skill obsolescence.

Other Human Resource Management Practices

Human resource management (HRM) practices consist of the management activities related to investments (time, effort, and money) in staffing (determining how many employees are needed, and recruiting and selecting employees), performance management, training, and compensation and benefits. The type of training and the resources devoted to training are influenced by the strategy adopted for two human resource management practices: staffing and human resource planning.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 52 - 101.

STRATEGIC TRAINING (continued)

Staffing Strategy

Staffing strategy refers to the company's decisions regarding where to find employees, how to select them, and the desired mix of employee skills and statuses (temporary, full-time, etc.). For example, one staffing decision a company has to make is how much to rely on the internal labor market (within the company) or external labor market (outside the company) to fill vacancies. Two aspects of a company's staffing strategy influence training: the criteria used to make promotion and assignment decisions (assignment flow) and the places where the company prefers to obtain the human resources to fill open positions (supply flow).

Companies vary in terms of the extent to which they make promotion and job assignment decisions based on individual performance or group or business-unit performance. They also vary in terms of the extent to which their staffing needs are met by relying on current employees (internal labor market) or employees from competitors and recent entrants into the labor market, such as college graduates (external labor market). Figure 1 below displays the two dimensions of staffing strategy. The interaction between assignment flow and supply flow results in four distinct types of companies: fortresses, baseball teams, clubs, and academies. Each company type places a different emphasis on training activities. For example, some companies (such as medical research companies) emphasize innovation and creativity. These types of companies are labeled baseball teams. Because it may be difficult to train skills related to innovation and creativity, they tend to handle staffing needs by luring employees away from competitors or by hiring graduating students with specialized skills. The figure 1 can be used to identify development activities that support a specific staffing strategy. For example, if a company wants to reward individual employee contributions and promote from within (the bottom right quadrant), it needs to use lateral, upward, and downward moves within and across functions to support the staffing strategy.

Another staffing strategy is deciding what skills new employees will be expected to possess and what skills the company will develop through training.

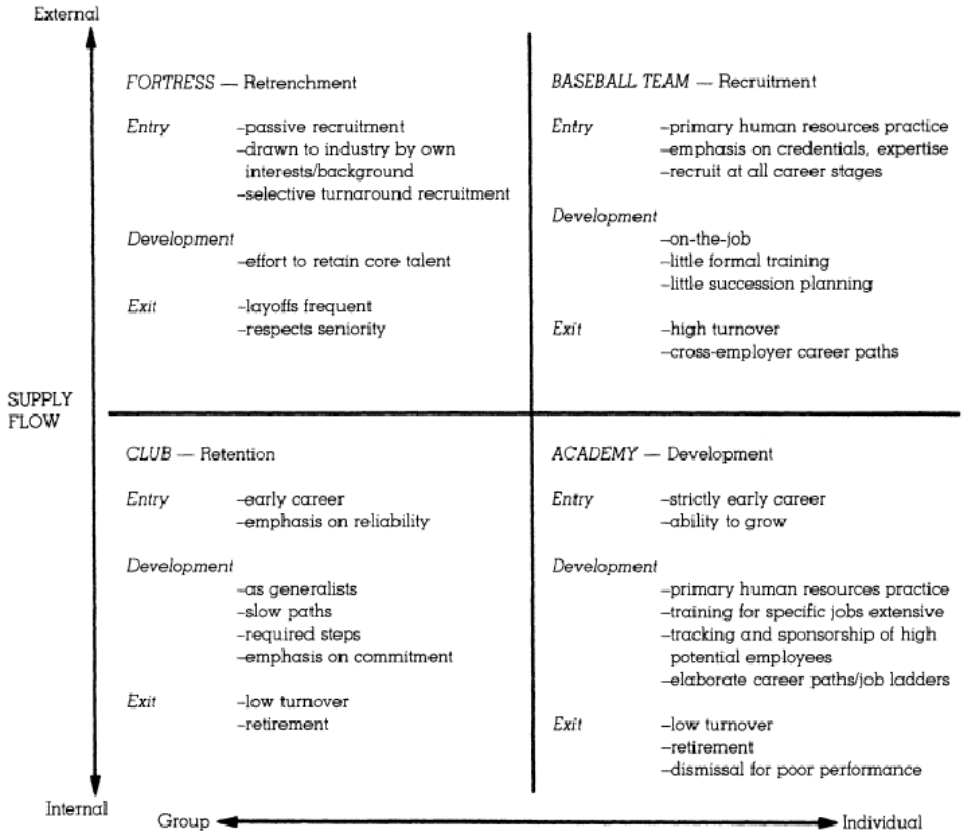

Figure 12 Staffing Strategies

TRAINING NEEDS IN DIFFERENT STRATEGIES

Table 1 below describes four business strategies—concentration, internal growth, external growth, and disinvestment—and highlights the implications of each for training practices. Each strategy differs based on the goal of the business. A concentration strategy focuses on increasing market share, reducing costs, or creating and maintaining a market niche for products and services. An internal growth strategy focuses on new market and product development, innovation, and joint ventures. An external growth strategy emphasizes acquiring vendors and suppliers or buying businesses that allow the company to expand into new markets.

Preliminary research suggests a link between business strategy and amount and type of training. Table 1 below shows that training issues vary greatly from one strategy to another. Divesting companies need to train employees in job-search skills and to focus on cross training remaining employees who may find themselves in jobs with expanding responsibilities. Companies focusing on a market niche (a concentration strategy) need to emphasize skill currency and development of their existing work force. New companies formed from a merger or acquisition need to ensure that employees have the skills needed to help the company reach its new strategic goals. Also, for mergers and acquisitions to be successful, employees need to learn about the new, merged organization and its culture. The organization must provide training in systems such as how the phone, e-mail, and company intranet work. Managers need to be educated on how to make the new merger successful (e.g., dealing with resistance to change).

Implications of Business Strategy for Training

Strategy	Emphasis	How Achieved	Key Issues	Training Implications
Concentration	• Increased market share • Reduced operating costs • Market niche • Innovation • Joint ventures	• Improve product quality • Improve productivity or innovate technical • Expand global market • Modify existing products • Create new or different products • Expand through joint ownership	• Skill currency • Development of existing work force	• Team building • Cross training • Specialized programs • Interpersonal • Development of organizational culture that values creative thinking and analysis • Technical competence in jobs • Manager training in feedback and communication • Conflict negotiation skills
External Growth (Acquisition)	• Horizontal integration • Vertical integration • Concentric diversification	• Acquire firms operating at same stage in product market chain (new market access) • Acquire business that can supply or buy products • Acquire firms that have nothing in common with acquiring firm	• Integration • Redundancy • Restructuring	• Determination of capabilities of employees in acquired firms • Integration of training systems • Methods and procedures of combined firms • Team building • Development of shared culture
Disinvestment	• Retrenchment • Turnaround • Divestiture • Liquidation	• Reduce costs • Reduce assets • Generate revenue • Redefine goals • Sell off all assets	• Efficiency	• Motivation, goal setting, time management, stress management, cross training • Leadership training • Interpersonal communications • Outplacement assistance • Job-search skills training

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 52 - 101

LESSON 08

MODELS OF ORGANIZING THE TRAINING DEPARTMENT

This section discusses five models that are used to organize the training department: faculty model, customer model, matrix model, corporate university model, and business- embedded model. This review of these structures should help you to understand that the organization of the training department has important consequences for how the training department (and trainers employed in the department) contributes (or fails to contribute) to the business strategy. Keep in mind that—particularly with large, decentralized companies— there may be multiple separate training functions, each organized using a different model. The business-embedded model and the corporate university model (or a blended model that includes both) are the models that companies are moving to in order to ensure that training is used to help the company achieve its business objectives. These models are also being adopted as companies begin to value human capital and view training as part of a learning system designed to create and share knowledge.

Centralized training means that training and development programs, resources, and professionals are primarily housed in one location and that decisions about training investment, programs, and delivery methods are made from that department. Training at Boeing used to be decentralized because of the company's many geographic locations. Boeing and other companies have found several advantages to centralized training, including the ownership of training to one organization and the elimination of course and program variation and duplication in the training system. Wyeth, a global leader in pharmaceuticals and consumer and animal health care products, uses a centralized training function to ensure that selling skills are adopted across the company. Instead of the four different selling models that were being used, Wyeth businesses in more than 140 countries are now using a consistent selling model.

Also, a centralized training function helps drive stronger alignment with business strategy, allows development of a common set of metrics or scorecards to measure and report rates of quality and delivery, helps to streamline processes, and gives the company a cost advantage in purchasing training from vendors and consultants because of the number of trainees who will be involved. Finally, a centralized training function helps companies better integrate programs for developing leaders and managing talent with training and learning during times of change. The key to the success of a centralized approach is that top managers must believe they are in control of the training function and that the training function is aligned with the business strategy. That is, the business objectives have to be communicated and understood, and training and development have to help drive that strategy. At the same time, centralized training functions must be in touch with the unique needs of the functions and divisions they serve.

Faculty Model

Training departments organized by the faculty model look a lot like the structure of a college. Figure 1 shows the faculty model. The training department is headed by a director with a staff of experts who have specialized knowledge of a particular topic or skill area. These experts develop, administer, and update training programs. For example, sales trainers are responsible for sales skills training (cultivating clients, negotiating a sale, closing a sale), and computer experts provide training on topics such as using e-mail and the World Wide Web as well as software design language.

The faculty model has several strengths. First, training staff are clearly experts in the areas in which they train. Second, the training department's plans are easily determined by staff expertise. The content and timing of programs are determined primarily by when they are available and the expertise of the trainers. Organizing by the faculty model also has several disadvantages. Companies that use the faculty model may create a training function that has expertise that does not meet the needs of the organization. Trainers in a faculty model may also be unaware of business problems or unwilling to adapt materials to fit a business need. This can result in demotivated trainees who fail to learn because course content lacks meaning for them—that is, it does not relate to problems or needs of the business. Programs and courses that may be needed may not be offered because trainers are not experts in certain areas. Skill and knowledge emphasized in programs may not match the needs of the company. To overcome these disadvantages of

the faculty model, managers need to frequently survey training's customers to ensure that course offerings are meeting their needs. Expert trainers also need to ensure that they adapt course materials so they are meaningful for participants.

Figure 13

The customer model

Training departments organized according to the customer model are responsible for the training needs of one division or function of the company. For example, trainers might be responsible for programs related to information systems, marketing, or operations. The trainers might also be human resource generalists whose job responsibilities include a broad range of human resource functions such as training, performance management, hiring, and benefits.

This model overcomes a major problem of the faculty model. Training programs are developed more in line with the particular needs of a business group rather than based on the expertise of the training staff. Selection, training, compensation, and development are all based on a common set of knowledges, skills, abilities, or competencies. That is, training is integrated with other human resource responsibilities. Trainers in this model are expected to be aware of business needs and to update courses and content to reflect them. If needs change such that training is no longer available from a source inside the company, the trainers may use outside experts (e.g., consultants). Materials provided by a training staff organized by this model are likely to be meaningful to trainees.

There are several disadvantages to this model. First, trainers have to spend considerable time learning the business function before they can be useful trainers. Second, a large number of programs covering similar topics may be developed by customers. These programs may also vary greatly in effectiveness. It may be difficult for the training director to oversee each function to ensure that (1) a common instructional design process is used or (2) the company's quality philosophy is consistently emphasized in each program. For example, quality training may be developed separately for marketing and for operations employees. This type of structure is likely to be unattractive to trainers who consider presentation and teaching to be their primary job function. In the customer model, trainers are likely to be employees from the functional area (e.g., manufacturing engineers) who have great functional expertise but lack training in instructional design and learning theory. As a result, courses may be meaningful but poor from a design perspective (e.g., have inadequate feedback and practice opportunities).

Matrix Model

In the matrix model, trainers report to both a manager in the training department and a manager in a particular function. Figure 2 shows the matrix model. The trainer has the responsibility of being both a training expert and a functional expert. For example, as Figure 2 shows, sales trainers report to both the director of training and the marketing manager. One advantage of the matrix model is that it helps ensure that training is linked to the needs of the business. Another advantage is that the trainer gains expertise in understanding a specific business function. Because the trainer is also responsible to the training director, it is likely that the trainer will stay professionally current (e.g., up-to-date on new training delivery

mechanisms such as the Internet). A major disadvantage of the matrix model is that trainers likely will have more time demands and conflicts because they report to two managers: a functional manager and a training director.

Corporate University Model (Corporate Training Universities)

Because of the trend to centralize training, many companies use the corporate university model, as shown in Figure 3. The corporate university model differs from the other models in that the client group includes not only employees and managers but also stakeholders outside the company, including community colleges, universities, high schools, and grade schools. Training functions organized by the university model tend to offer a wider range of programs and courses than functions organized by the other models. Important culture and

Figure 14

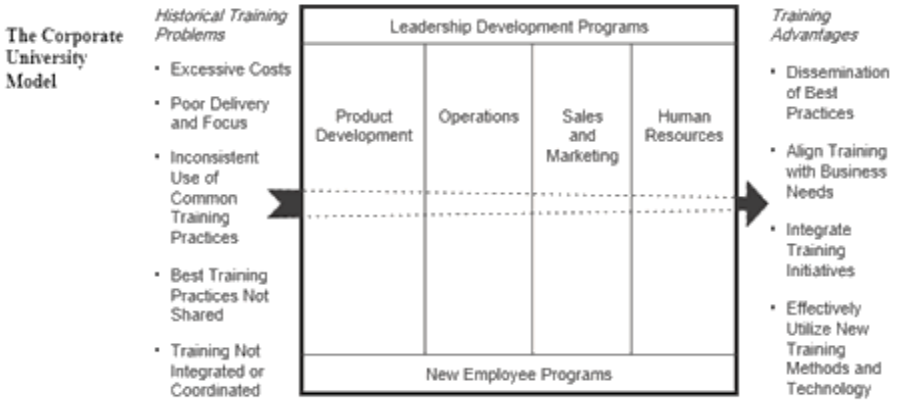

Figure 15

values also tend to be emphasized more often in the training curriculum of corporate universities than the other models. The university model centralizes training to make sure that "best training practices" that may be used in one unit of the company are disseminated across the company. Also, the corporate university enables the company to control costs by developing consistent training practices and policies.

Corporate universities also can help effectively utilize new technology. The University of Toyota, a division of Toyota Motor Sales, oversees external vendors' development of classroom and e-learning training for employees and dealerships. Trainees were frustrated because there was considerable variability in course navigation and quality. The group responsible for uploading courses to the company's learning management system and distributing the courses to learners was also frustrated because it had difficulties integrating different software and explaining to users why courses coming from the university had different

bandwidth requirements. To ensure that courses meet minimum standards for quality and usability, the University of Toyota has developed a single set of development standards, benchmarks, purchasing specifications, and best practices. The information is housed on e-Source, the university's Web site. Vendors are required to visit e-Source to bid on any e-learning projects for Toyota University. Courses that do not meet the specifications are revised at the vendor's expense. E-mail bulletins are sent to course owners and developers to notify them of any content additions or changes to the Web site.

Both large and small companies have started their own universities to train new employees and to retain and update the skills and knowledge of current employees. Caterpillar University comprises six colleges: leadership, marketing and distribution, technology, business and business processes, Six Sigma, and product support. The deans of the colleges report to the president of the university. Caterpillar's CEO, vice presidents, and two group presidents provide policy guidance, approve budgets, and identify priorities for the university. One priority was to support new business growth goals through the development of leaders who are willing to collaborate with others, have a global mindset, and understand the financial aspects of the business. The College of Marketing and Distribution focuses on providing a comprehensive curriculum for sales professionals and sales marketing managers. It includes product knowledge, sales skills, and management skills. All learning goals are tied to business goals. The College of Product Support focuses on training dealer employees to meet certification standards. Caterpillar University staff members help the business units deal with their learning needs. Lead learning managers in each unit have a dual reporting relationship to the university and to the unit's human resource manager. The learning managers work with the business unit managers to set up learning plans. Hamburger University, the corporate university for McDonald's Corporation, is charged with continuing to teach the core values that founder Ray Kroc believed were the key to success: quality, service, cleanliness, and value. McDonald's conducts research designed to identify the characteristics of its work force that influence learning. As a result, Hamburger University has transitioned away from teaching courses with a lecture format and is moving toward fewer large group sessions and more interactive learning in classes of 25–35 students, which are then further divided into small groups for discussion and exercises. McDonald's changed its learning format to accommodate how most of its students (who would be considered Generation Y) learn. The typical education level of frontline service workers has influenced curriculum design through the development of more easily understandable coursework. E-learning is used to deliver the basics of restaurant operations or management training and classroom instruction and simulations are used to help the learner apply the basics on the job. Because students come from around the world, learners are provided with headphones that connect them with translators who provide instruction in the learner's native language during class. Besides classroom instruction, Hamburger University includes a simulated kitchen and drive-thru window. Despite having learners at the university who are already familiar with behind-the-counter operations, everyone takes part in the simulation, making real food and filling orders just as they would at a real McDonald's restaurant. Learners have performance goals to meet and receive feedback from fellow learners and trainers.

Creating a corporate university from scratch involves several steps. First, senior managers and business managers form a governing body with the responsibility of developing a vision for the university. (This group answers questions such as, What are the university's policies, systems, and procedures? What are the key functional areas for which training courses will be developed?) Second, this vision is fleshed out, and the vision statement is linked to the business strategy. For example, Ingersoll Rand has a business goal of obtaining 38 percent of its revenue in 2010 from new product innovation.63 As a result, most of the programs and courses offered through Ingersoll Rand University discuss how to get close to the customer, innovation, and strategic marketing. The programs are designed for teams working on real business issues. Subject matter experts and managers teach these programs, which are scheduled based on key product launch dates. Third, the company decides how to fund the university. The university can be funded by charging fees to business units and/or by monies allocated directly from the corporate budget. Fourth, the company determines the degree to which all training will be centralized. Many universities centralize the development of a learning philosophy, core curriculum design, and policies and procedures related to registration, administration, measurement, marketing, and distance learning. Local and regional on-site

delivery and specialized business-unit curriculum are developed by business units. Fifth, it is important to identify the needs of university "customers" including employees, managers, suppliers, and external customers. Sixth, products and services are developed. The Bank of Montreal uses a service team that includes a client-relationship manager, a subject-matter expert, and a learning manager. The client-relationship manager works with the business units to identify their needs. The subject-matter expert identifies the skill requirements for meeting those needs. The learning manager recommends the best mix of learning, including classroom training as well as training based on, say, the Web or CD-ROM. The seventh step is to choose learning partners including suppliers, consultants, colleges, and companies specializing in education. Eighth, the company develops a strategy for using technology to train more employees, more frequently, and more cost-effectively than instructor-led training. Ninth, learning that occurs as a result of a corporate university is linked to performance improvement. This involves identifying how performance improvement will be measured (tests, sales data, etc.).

Business Embedded Model

Many companies are organizing their training function so that they can better control their training costs and ensure that training is aligned with the business strategy but at the same time respond quickly to client needs and provide high-quality services. The business- embedded (BE) model is characterized by five competencies: strategic direction, product design, structural versatility, product delivery, and accountability for results. Strategic direction includes a clearly described goal and direction to the department as well as a customer focus that includes customizing training to meet customer needs and continuously improving programs. A BE training function not only views trainees as customers but also views managers as customers who make decisions to send employees to training and views senior-level managers as customers who allocate money for training. Table 2.8 contrasts a BE training function with a traditional training department. Compared to a traditional training department, a BE function is customer focused. It takes more responsibility for learning and evaluating training effectiveness, provides customized training solutions based on customer needs, and determines when and how to deliver training based on customer needs.

The most noticeable difference between a BE function and a traditional training department is its structure. The traditional training organization tends to operate with a fixed staff of trainers and administrators who perform very specific functions such as instructional design. In traditional training departments developers and instructors often take a "silo" approach, focusing only on their particular responsibilities. This approach can hinder the development of successful training programs. In BE training functions all persons who are involved in the training process communicate and share resources. Trainers—who are responsible for developing training materials, delivering instruction, and supporting trainees—work together to ensure that learning occurs. For example, access to project managers and subject-matter experts can be provided by developers to instructors who usually do not have contact with these groups. The number of trainers in BE training functions varies according to the demand for products and services. The trainers not only have specialized competencies (e.g., instructional design) but can also serve as internal consultants and provide a wide range of services (e.g., needs assessment, content improvement, customization of programs, results measurement).

Current Practice: Business-Embedded Model with Centralized Training

Because many companies are recognizing training's critical role in contributing to the business strategy, there is an increasing trend for the training function, especially in companies that have separate business units, to be organized by a blend of the BE model with centralized training that often includes a corporate university. This approach allows the company to gain the benefits of centralized training but at the same time ensure that training can provide programs, content, and delivery methods that meet the needs of specific businesses.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 52 - 101.

CORPORATE BOOT CAMPS

We've all heard about them. Many of us have lived through them. In my case, I've even invented a number of them. It's fair to say that, while some achieve their goals better than others, they're all pretty much the same. They typically focus on knowledge transfer – informing new hires, for instance, about the company's products and markets and how to access key resources in the organization. The best ones, like those at GE and Ford, do this by having the recruits work on real business problems, where intense teamwork is required to meet tight deadlines (a technique I've described elsewhere as "compressed action learning"). I've studied them all. I thought I'd seen it all. But then I saw Trilogy University. It was 1998, and I was traveling around the country, studying corporate universities as part of a benchmarking research project on action learning. Within days of my arrival, I knew Trilogy University was a breed apart – in fact, my definition of best practice shot out to the horizon line. I've spent hundreds of hours since then at TU, documenting its unconventional approach – and its phenomenal results. (It should be stated, by way of full disclosure, that I briefly consulted to Trilogy last year on the matter of its reorganization. But my relationship to the company and its university at this point is purely as an observer.) Modeled after Marine Corps basic training, a corporate boot camp is designed to push new recruits to their limits. Each day offers some nearly insurmountable challenge, and the reward for overcoming it is an even harder one the next day. It's intense and intimidating, but people emerge on the other end of the program highly confident that they are prepared for anything. They also come away with deep bonds to their fellow recruits and strong ties to the organization. Those two goals – preparedness and bonding – are usually the whole focus of a boot camp, and achieving them is worth a great deal. That's why so many of the top-performing companies put their faith in such programs. In the mid- 1980s, I ran General Electric's Crotonville leadership development center, where I led the development of its Corporate Entry Leadership Conference, a three-day program in which new hires learn about GE's strategy, its culture, and a bit about themselves. "Old man Watson" at IBM ran them, as did Ross Perot when he founded EDS, as does Andy Grove at Intel. And for years, the commercial banks have run their commercial- lending boot camps for college hires. In the past decade, consulting firms and service organizations have dramatically increased their investments in boot camps for new recruits. Accounting giant Arthur Andersen, for instance, has a 700-bed facility in St. Charles, Illinois, which runs at capacity year-round. Many old-line industrials have also set them up because they realize that energizing new hires and engaging them in the culture is just as critical as making sure they have the technical skills to do their specific jobs. The interesting thing about Trilogy University is that it achieves those goals and more. Much more. It also serves as the company's primary R&D engine and as its way of developing its next generation of leadership. It even succeeds as the impetus and incubator for Trilogy's strategic thinking. How can it do all that? By now, it almost couldn't fail to, thanks to a virtuous cycle that was established early and continues to gain momentum. In the simplest terms, these things happen at TU because top leadership is on the scene and deeply engaged in it – and top leadership stays on the scene and deeply engaged in TU because these essential activities are happening there.

Welcome to Trilogy

Trilogy University is the orientation program of Austin, Texas-based Trilogy, designed to turn the company's raw recruits – hired straight off the campuses of MIT, Stanford, U. Michigan, and the like – into highly productive contributors. Started in 1995, it is the brainchild of Trilogy's president and CEO, Joe Liemandt, and its vice president of marketing, John Price. The company has a pressing need for new-employee orientation because its growth has been extremely rapid, and the biggest drag on growth has been the difficulty of recruiting and bringing new talent up to speed. Trilogy started fast out of the gate in 1989 when Liemandt nailed a market opportunity to create "configuration software" for large manufacturers like Hewlett-Packard and Boeing. The products these companies sell have innumerable variants, as alternative components are assembled to suit each buyer's highly specific preferences. Trilogy's software solves a huge problem traditionally faced in the selling process by allowing a salesperson with a laptop to translate a customer's needs into a workable specification. The software spots where components are incompatible, for instance, or where one part requires another, and it configures a system that will work. Then – and this

is really important to those salespeople – it produces an accurate price quote on the spot. Trilogy's breakthrough allowed it to do something most small software companies only dream of: sign up brand name accounts like Hewlett-Packard while the product was still in its infancy. Since then, Trilogy has expanded on its original offering to launch e-commerce applications for both the buying and selling of products, and its revenues have grown to about $200 million. Along the way, its employee base has grown 35% annually. In 2000, the company brought 450 new hires into an existing organization of 1,000.

Joe Liemandt realized early on that, as each influx of new hires came through the doors, the company needed to equip them with not only the skills required for their jobs but also the vision and values with which they should align their work. But because each new group represented a fair proportion of the whole organization, assimilation wasn't going to happen in some natural, organic way. It would have to be deliberately managed. Having to compress a great deal of learning and acculturation into a short time frame, Liemandt decided he needed a boot camp.

Three High-Pressure Months

"The first day, Joe walks in. And, like, his very few first words are, 'You're going to be the future of Trilogy – the company is relying on you– and everybody's waiting on you.'" The speaker is Vince Mallet, a computer science master's grad who was wearing a Java T-shirt, his long hair in a neat ponytail, and a broad grin as he recently gave me the student's view of TU. Liemandt's message was apparently hitting home. Mallet told me, "I just want to go out in the company and be able to have that impact." It would be a tough several weeks before he got that chance.

Trilogy University is run twice a year. In the summer, it currently includes 170 to 200 hires, and in the winter about 60, all coming straight from campus. A class typically has a sprinkling of freshly minted master's and PhDs, and a fair number of liberal arts majors, but it's mostly drawn from undergraduate computer science departments. The program generally lasts 12 weeks. It's structured to take students through a well thought- out process to develop skills, relationships, and values, which they then apply in intense R&D projects before they're ultimately introduced as a positive new force into the rest of the organization.

Month One

When you arrive at Trilogy University, you are assigned to a section and to an instruction track. Your section, a group of about 20, is your social group for the duration of TU. You share a section leader (an experienced person from Trilogy who serves as a mentor) and virtually all of your time with these people. Tracks are designed to be microcosms of future work life at Trilogy. For example, as a future developer or consultant, you might learn about technologies like XML and JSPone week by building a customizable sales analysis Web site for a fictional company. The technical challenges in such exercises closely mimic real customer engagements, but the time frames are dramatically compressed. The assignments pile up week after week for the first month, each one successively more challenging than the last. During that time, you're being constantly measured and evaluated, as assignment grades and comments are entered into a database monitoring your progress. The functional training is so intense it would be easy to assume that it is the most important goal of TU. But Allan Drummond, the Trilogy vice president who runs TU, says that's not the case. "If people don't learn Java in TU, I don't care. They're very bright – they can pick up what they need. But if they don't develop nearly unbreakable bonds with fellow TUers, if they don't learn to prioritize and make smart decisions, if they don't leave charged up, then TU is a failure."

The goals Drummond is emphasizing are the focus of the sections. Unlike tracks, sections continue past the first month. In a sense, they last for life. Effectiveness at Trilogy depends on having trusting relationships with coworkers, and sections are designed to prime that process. That's why, Vince Mallet explained to me, "on the second day, we were all asked to tell the most significant emotional experience of our lives." Vince says some of the students' first reactions were cynical: "Yeah, we're going to tell stories about us. Whatever." But the technique worked its magic as people began to talk and listen. Before long, he says, "some people were crying; some people were making other people cryAnd I thought, whoa– this is totally unusual." People were getting deeply acquainted, not incidentally but intentionally. The individuals in

each section represent a cross section of functions; upon graduation from TU, the students will disperse to all corners of Trilogy, and the trust and bonds they develop will form horizontal networks linking them to people throughout the company for the rest of their careers. Beyond developing skills and relationships, month one of Trilogy University also begins to instill values. Humility is one of the values Liemandt wants to see, and that's one reason the tracks deliberately stretch students beyond the point of failure. Other values are introduced through what people at Trilogy refer to as "big talks," which Liemandt or other Trilogy stars have with the whole TU class, usually in a Socratic style, and which are further discussed and debated in sections. Students learn early that Trilogy values creativity, innovation, and being a force for positive change in the workplace. They learn that Trilogy wants to see teamwork and a strong belief that success means solving the customer's problem. More than anything, they learn that Trilogy values risk taking. Along with the skills and relationships forged in month one, these values will be sorely tested in month two.

Month Two

Month two is TU project month. This is when the TUers, most of them 22 years old and employees for all of a month, take on the responsibility of inventing the company's future. "We tell them that, in order for the company to survive, they have to come up with a frame-breaking great new business idea," says Liemandt."And they believe it because I really believe it." Liemandt's learned, he says,"the hard way" that taking risks and suffering the consequences is a crucial part of any business. When he decided to launch Trilogy, he was in his senior year at Stanford. Rather than miss what might be a narrow window of opportunity, he decided to drop out and dedicate himself full-time to it. At least one very accomplished businessman, a former GE senior executive (who also happened to be his father), told him: "You're a moron." The TU project is Liemandt's way of giving new recruits his own experience all over again. In teams of three to five people, they have to come up with an idea, create a business model for it, build the product, and develop the marketing plan. In trying to launch bold new ideas in a hyper accelerated time frame, they gain a deep appreciation of the need to set priorities, evaluate probabilities, and measure results. Mind you, these projects are not hypothetical – they're the real thing. But even more important, when each team presents its innovation, Liemandt is there, deciding whether or not to put up the money to launch it. It's exhausting but it's also energizing, because Trilogy's best and most senior people are in the mix. New employees know they're getting noticed and that their ideas have a chance of being taken up. How big is that chance? About 15% of the projects survive beyond the month that's allocated to them in TU. It's that humility thing again. Drummond describes the reaction of recruits who think their ideas are brilliant but then see them fail. "They're like, 'We stink. Not near good enough.' Actually, we never want that feeling to end. Because the minute you get arrogant, someone comes and beats you." At the same time, the seriousness with which Liemandt and all the rest of Trilogy take the projects builds confidence. "We encourage them to go for the fence with their ideas and, while we don't reward failure around here, we don't punish them for it either, "says Liemandt."So, when people leave TU, most of them are thinking, 'I know I can make a difference, and I am not afraid to try' – which is exactly what we want them to think."

Month Three

Month three at Trilogy University is all about finding your place and having a broader impact in the larger organization. A few students continue with their TU projects, but most move on to "graduation projects," which generally are assignments within the various Trilogy business units. People leave TU on a rolling basis as they find sponsors out in the company who are willing to take them on. The graduation process is a meeting between the graduate, the new manager, and the section leader. Before the meeting, each has been asked to evaluate the TUer on his or her various abilities.

At the meeting, the three of them discuss the evaluation to resolve disagreements. "We don't just want understanding; we want agreement," Drummond says. "On all of the rankings where there is a disparity, they have to reach an agreement." The TUers have also written lists of objectives and their thoughts on how they want their careers to unfold. The manager responds to these with a list of specific goals that the TUer must agree to. Typically, the manager will set three to five yearlong goals that include a skill development goal, a mainline execution goal, and an organizational development goal. In addition, the

manager creates another plan focused on creating the job assignments and coaching opportunities that will help the TUer reach his or her longer term career goals. "We want everyone here to be a star. We won't graduate TUers until they have found positions they want and where the new manager will take responsibility for helping them become a star," explains former TU head Danielle Rios. The TU faculty sometimes helps persuade managers who are reluctant to take a risk, but a TUer who ultimately can't find a sponsor is out of the company. It's the rare TU graduate who can't find a home within Trilogy because, clearly, Trilogy University succeeds at the basics of basic training. Graduates emerge from it prepared– by their skills, their relationships, and their values – to hit the ground running. But what really sets this boot camp apart from others I know is that it contributes much more to Trilogy than that. First, thanks to the energy and attention devoted to the TU projects, TU has become the company's primary research and development engine. Second, it has become the setting for Trilogy's leadership development. Third, it provides a great context and impetus for management to revisit and communicate strategic direction. And fourth, it serves as a constant source of organizational renewal and transformation.

A New-Product Pipeline

Liemandt recalls the day in 1997 when a TU project team of six kids pitched the idea for selling cars on the Internet. At the time, e-commerce was still pretty much virgin territory. EBay was not alive yet. Amazon was a start-up. Liemandt told them their idea was one of the dumbest he had ever heard. They clearly didn't understand the automotive industry, franchise laws, and how dealers would prevent this from happening. And they were totally naïve to think people would spend that kind of money over the Internet. The team thought Liemandt was the one who was missing something, so they decided to prove him wrong. They went ahead and developed CarOrder.com, lined up struggling dealers who were willing to cooperate, and – lo and behold – started racking up sales. Today, one of Trilogy's most talked-about businesses is its global alliance with Ford. Without the consumer-side technology, experience, and credibility Trilogy developed from that TU project – the CarOrder.com Web site won *PC Magazine*'s 2000 Editors' Choice for Best Car-Buying Site – the Ford relationship would not have happened. Liemandt, who first designed TU projects purely as a learning exercise, has come to see them as his biggest source of strategic innovation. It makes perfect sense, if you think about it. Playing the role of the venture capitalist, Liemandt is wholly focused on the merits of the ideas as business propositions. And because he and other senior managers are paying attention, the students are truly giving their all on these projects. Meanwhile, the intensity of the bonds between teammates helps ensure that deep collaboration is taking place among them, leading to higher creativity. And the fact that these are new hires straight out of college means their ideas are less likely to be constrained by past practices – at TU or anywhere else. For all these reasons, R&D gets done at Trilogy and gets done well. Since 1995, TU projects have produced revenues of $25 million and have formed the basis for $100 million in new business for the company. A recent TU class, for example, developed Fast Cycle Time, an Internet-time delivery methodology now being used by more than 20 of Trilogy's customers. In late 1999, several TUers created a Web site called IveBeenGood.com, which enabled shoppers to put products from popular retail sites like Amazon or Shop Now directly into a single shopping cart, which I've Been Good hosted. Only nine months after its creation, a refined version of this universal shopping cart technology, renamed UberWorks and still run by TUers, was sold to Network Commerce for $13 million. The initial investment was $2 million.

The Next Generation of Leaders

TU also succeeds as a proving ground for developing the next generation of leadership at Trilogy. I've mentioned that the section leaders are experienced people. What I haven't said yet is that these are the best and brightest technical stars Trilogy has to offer – and that they dedicate themselves 100% to TU for three months at a time. Trilogy's chief scientist, David Franke, for example, was a section leader in 1999. So was Scott Snyder, Trilogy's vice president of development, who in summer 2000 asked for a turn as a section leader before he moved over to help grow Trilogy's European operations. This is an extraordinary investment, to be sure. But consider the payback. In the hothouse of TU, and under the direct eye of Liemandt, these technical people are learning and testing out the essential skills they need to be effective leaders: inspiring others, mentoring talent, evaluating performance, communicating vision and strategy, and

more. During their three months at TU, they are not only exposed to Liemandt's latest ideas about the direction of the company, they're also engaged with him as partners in developing and implementing those ideas. In the process, they are transformed from being members of the "old Trilogy" into dedicated change agents participating in its next round of transformation. Again, it makes perfect sense. But what a contrast with typical practice, which assigns orientation duty to the staff the business can most easily spare or outsources it to consultants and professional trainers. At Trilogy University, believe it or not, it's an honor to be asked to instruct. Trilogians know this is the fast-track experience they need to move up in the company. A case in point is Ben Zaniello, a leading product manager in Trilogy's financial services practice, who actually declined a promotion in 2000, opting instead to become a section leader. "I felt that to really drive our financial service offerings forward into places like on-line wealth management Zaniello says, "section leading was a better opportunity for growth and for really innovating."

Clarity on Strategy

Another benefit was at first unexpected but is now a crucial piece of TU's contribution to Trilogy's success: twice a year, Liemandt and other Trilogy leaders must decide what they want to teach and how they want to focus the new class of hires. For any leader, regardless of whether he or she is ever in a classroom setting, having what I call a "teachable point of view" is crucial. This is essentially a clear idea about where the company (or organization or team) needs to go, a general understanding about how it's going to get there, and the ability to explain it in a way that inspires others. Leaders' TPOVs must be firm and clear, but they must also constantly evolve to take new conditions into account. What TU does for Liemandt and other Trilogy leaders is to compel them to update their TPOVs at least twice a year. As a result, Joe and the senior leadership are continually challenged and given candid feedback that helps them improve the way they craft and share their vision. TU is the impetus and the process for improving Liemandt and his senior people as leaders.

Organizational Transformation

There's at least one more thing TU contributes to Trilogy that a typical boot camp does not – and it may be the most important thing of all. It serves as a force for organizational renewal and transformation. Traditionally, orientation programs are designed to teach newcomers to fit into the existing organization. But TU sees its fresh hires as its best chance to change the company. "With each TU class, we have the opportunity to create in the minds of 60 or 160 new people the vision of Trilogy not as it is but as we would like it to be," says Drummond. "We make sure that they bond into a strong trust network among themselves and with the leaders who mentor them in TU, which gives them confidence. Then we send them out into the company, where they have the critical mass to make a real impact." This, in fact, was the goal that led to Trilogy University in the first place. As Liemandt tells it now, he was concerned in 1994 that the new people coming in might have their eyes on a rather short term prize. The company was a one trick pony; it had a very hot product, and a quick sale or an IPO could have paid off handsomely. Liemandt had already spotted that kind of perspective in some of his colleagues, and he didn't like it. He was in it for the long haul, and he wanted an organization devoted to building, as it says in the company's motto, "the next great software company." So that's when he decided to gather together a team of new hires, isolate them from the legacy organization, and spend three months helping them get the religion. This is a big part of why the TUers' entry into the company is so carefully orchestrated. In the first few weeks of TU, they're highly isolated from the rest of the company. As the weeks go by, the amount of contact increases. By the third month, they're ready to venture out into the company, while retaining their home base and their support network back in TU. "I and most of Trilogy don't think of TU as a training program. It is a transformational experience," Drummond says. It transforms the TUers, it transforms Liemandt and other Trilogy leaders, and, ultimately, it transforms the company.

The Virtuous Teaching Cycle

Of everything I've seen at Trilogy University, I'm most impressed with the power of the virtuous teaching cycle it has put in motion. The leaders of the organization are learning from the recruits as the recruits are learning from the leaders. Each element in place here– new-hire training, product innovation, leadership

development, and the rest – fuels the others. It's not just that all these things get done at Trilogy University. It's that all of them get done better than they would otherwise. Now stop and read that last sentence again, because it's big. *It's all done better.* New hires learn faster because they are working on real projects, with guidance from the best managerial talent in the company and with the full knowledge that their efforts are not going unnoticed. Leaders in training learn more because they have real leadership responsibilities and must engage thoughtfully with the vision and strategy of the company. Even R&D pays off better because people with unconstrained perspectives are brainstorming ideas just as they are internalizing that vision and strategy. The commitment and personal involvement of the CEO keeps the cycle in motion. He serves as a role model for it and demands it of everyone else.

So Why Doesn't Everyone Do This?

I'll say it again for emphasis: what I have observed at Trilogy University is completely different from what I've seen in other corporate training programs – even in other boot camps. So why is that? Why didn't someone like Jack Welch think this up? For that matter, why didn't *I*? In Jack's defense and mine, I'll point out that this revolutionary model was also an evolutionary one – and arose from a particular circumstance that few companies share. Back in 1994, Trilogy was a very small company hiring so many people at once that the incoming group had the power to make a needed shift in the culture. Under those circumstances, to claim that new-employee orientation is the best use of a CEO's time – even three months of his time – is not such a stretch. But how many places does this describe? At this point, not even Trilogy. Happily, TU evolved by adding other elements so important to the company's future that it remains the best use of senior management's time. In fact, at this point, the cycle is so powerful it's hard to imagine it breaking down. And the evolution continues: starting in 2001, Liemandt has decided to bring customers into the process. Selected customers can sponsor a TU session, sending their own executives to the program, which would then focus on a set of their key business challenges. Trilogy will get invaluable executive exposure for its R&D efforts and its leadership development process. The customer will get several man-years of innovation time – and a potential breakthrough. The point is, this isn't a case of taking top people out of the action. This *is* the action. The challenge for other companies, then, is to set this kind of virtuous cycle in motion given their larger scale and established processes. Most will have to overcome a lot of inertia; some will even have to reverse a cycle that's going in the opposite direction. That's not an easy task, and along the way the most dedicated reformer will constantly run up against some predictable objections: It's too expensive. We can't take our best people off the line. We can't leave innovation up to kids. We can't trust them not to train on our dime, then take their skills elsewhere. Excuses, excuses. I'm not saying there aren't legitimate reasons that a full-blown TU-style boot camp might not be for you. Maybe most of your new hires don't come straight from campus and simply can't deal with the intense work-life imbalance of a boot camp. Maybe you're not in a hot enough business–like pre-IPO software– to attract the kind of talent that could dream up your next big hit (although Liemandt would certainly counter that the best way to attract talent is to offer this kind of opportunity). There may be more reasons that TU can't be replicated everywhere. But it seems clear that many other companies can do this –and could reap the same results. What has held the rest of us back, I hope, is not that we couldn't use this model but that we have not yet imagined it, and we have not yet seen it succeed. We've discovered it now, and it seems to work. Now it's up to other leaders to imagine it in their own organizations. More than anything, making it succeed will require top management on the scene, truly committed to learning as a two-way street. Without those people and that attitude, no orientation program will get much respect or have much impact. With them, the impact can go far, *far* beyond the goals of simple orientation. That's what has happened at Trilogy.

This excerpt has been extracted in modified form from;

Noel M. Tichy (April 2001). No Ordinary Boot Camp. Harvard Business Review April 2001

LESSON 10

TRAINING NEEDS ASSESSMENT

Needs assessment typically involves organizational analysis, person analysis, and task analysis. An organizational analysis considers the context in which training will occur. That is, organizational analysis involves determining the appropriateness of training, given the company's business strategy, its resources available for training, and support by managers and peers for training activities. You are already familiar with one aspect of organizational analysis.

Person analysis helps to identify who needs training. Person analysis involves (1) determining whether performance deficiencies result from a lack of knowledge, skill, or ability (a training issue) or from a motivational or work-design problem, (2) identifying who needs training, and (3) determining employees' readiness for training. Task analysis identifies the important tasks and knowledge, skills, and behaviors that need to be emphasized in training for employees to complete their tasks.

WHY IS NEEDS ASSESSMENT NECESSARY?

Needs assessment is the first step in the instructional design process, and if it is not properly conducted any one or more of the following situations could occur:

- • Training may be incorrectly used as a solution to a performance problem (when the solution should deal with employee motivation, job design, or a better communication of performance expectations).
- Training programs may have the wrong content, objectives, or methods.
- • Trainees may be sent to training programs for which they do not have the basic skills, prerequisite skills, or confidence needed to learn.
- Training will not deliver the expected learning, behavior change, or financial results that the company expects.
- Money will be spent on training programs that are unnecessary because they are unrelated to the company's business strategy.

Figure 1 shows the three types of analysis involved in needs assessment and the causes and outcomes resulting from needs assessment. There are many different "pressure points" that suggest that training is necessary. These pressure points include performance problems, new technology, internal or external customer requests for training, job redesign, new legislation, changes in customer preferences, new products, or employees' lack of basic skills. Note that these pressure points do not guarantee that training is the correct solution. For example, consider, a delivery truck driver whose job is to deliver anesthetic gases to medical facilities. The driver mistakenly hooks up the supply line of a mild anesthetic to the supply line of a hospital's oxygen system, contaminating the hospital's oxygen supply. Why did the driver make this mistake, which is clearly a performance problem? The driver may have made this mistake because of a lack of knowledge about the appropriate line hookup for the anesthetic, because of anger over a requested salary increase that the driver's manager recently denied, or because of mislabeled valves for connecting the gas supply. Only the lack of knowledge can be addressed by training. The other pressure points require addressing issues related to the consequence of good performance (pay system) or the design of the work environment.

What outcomes result from a needs assessment? Needs assessment provides important input into most of the remaining steps in the training design. As shown in Figure 1, the needs assessment process results in information related to who needs training and what trainees need to learn, including the tasks in which they need to be trained plus knowledge, skill, behavior, or other job requirements. Needs assessment helps to determine whether the

Figure 16

company will outsource its training, that is, purchase training from a vendor or consultant, or develop training through internal resources. Determining exactly what trainees need to learn is critical for the next step in the instructional design process: identifying learning outcomes and objectives. Through identifying the learning outcomes and resources available for training, the needs assessment also provides information that helps the company choose the appropriate training or development method (discussed in Part Three of the book). Needs assessment also provides information regarding the outcomes that should be collected to evaluate training effectiveness.

WHO SHOULD PARTICIPATE IN NEEDS ASSESSMENT?

Because the goal of needs assessment is to determine whether a training need exists, who it exists for, and for what tasks training is needed, it is important to include managers, trainers, and employees in the needs assessment process. Traditionally, only trainers were concerned with the needs assessment process. Training increasingly becomes used to help the company achieve its strategic goals, both upper- and top-level managers are involved in the needs assessment process. Table 1 shows the questions that upper-level managers, mid-level managers, and trainers are interested in answering for organizational analysis, person analysis, and task analysis. Upper-level managers include directors, chief executive officers (CEOs), and vice presidents.

Table 2

Key Concerns of Upper-Level and Mid-Level Managers and Trainers in Needs Assessment

	Upper-Level Managers	Mid-Level Managers	Trainers
Organizational Analysis	Is training important to achieve our business objectives? How does training support our business strategy? What are the threats to our talent base?	Do I want to spend money on training? How much? How will training and development help meet my business goals? Are we retaining top talent	Do I have the budget to buy training services? Will managers support training?
Person Analysis	What functions or business units need training? What do employees need to do to accomplish our business objectives?	Who should be trained? Managers? Professionals? Core employees?	How will I identify which employees need training?
Task Analysis	Does the company have people with the knowledge, skills, and abilities or competencies needed to compete in the marketplace?	For what jobs can training make the biggest difference in product quality or customer service?	For what tasks should employees be trained? What knowledge, skills, ability, or other characteristics are necessary?

Upper-level managers view the needs assessment process from the broader company perspective. They do

not focus on specific jobs. Upper-level managers are involved in the needs assessment process to identify the role of training in relation to other human resource practices in the company (e.g., selection, compensation). That is, upper-level managers help to determine if training is related to the company's business strategy— and if so, what type of training is required. Upper-level managers are also involved in identifying what business functions or units need training (person analysis) and in determining if the company has the knowledge, skills, and abilities in the work force that are necessary to meet its strategy and be competitive in the marketplace. Mid-level managers are more concerned with how training may affect the attainment of financial goals for the units they supervise. As a result, for mid-level managers, organizational analysis focuses on identifying (1) how much of their budgets they want to devote to training, (2) the types of employees who should receive training (e.g., engineers, or core employees who are directly involved in producing goods or providing services), and (3) for what jobs training can make a difference in terms of improving products or customer service.

Trainers (including training managers and instructional designers) need to consider whether training is aligned with the business strategy. However, trainers are primarily interested in needs assessment to provide them with information that they need to administer, develop, and support training programs. This information includes determining if training should be purchased or developed in-house, identifying the tasks for which employees need to be trained, and determining top-level and mid-level managers' interest in and support for training.

Upper-level managers are usually involved in determining whether training meets the company's strategy and then providing appropriate financial resources. Upper-level managers are not usually involved in identifying which employees need training; the tasks for which training is needed; or the knowledge, skills, abilities, and other characteristics needed to complete those tasks. This is the role of subject-matter experts (SMEs). Subject-matter experts (SMEs) are employees, academics, managers, technical experts, trainers, and even customers or suppliers who are knowledgeable in regard to (1) training issues including tasks to be performed; (2) knowledge, skills, and abilities required for successful task performance; (3) necessary equipment; and (4) conditions under which the tasks have to be performed. A key issue with SMEs is making sure they are knowledgeable about the content that training must cover as well as realistic enough to be able to prioritize what content is critical to cover in the time allotted for the subject in the training curriculum. SMEs also must have information that is relevant to the company's business and have an understanding of the company's language, tools, and products. There is no rule regarding how many types of employees should be represented in the group conducting the needs assessment. Still, it is important to get a sample of job incumbents involved in the process because they tend to be most knowledgeable about the job and can be a great hindrance to the training process if they do not feel they have had input into the needs assessment. Job incumbents are employees who are currently performing the job.

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Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 102 - 137.

TRAINING NEEDS ASSESSMENT (continued)

METHODS USED IN NEEDS ASSESSMENT

Several methods are used to conduct needs assessment, including observing employees performing the job, utilizing online technology, reading technical manuals and other documentation, interviewing SMEs, conducting focus groups with SMEs, and asking SMEs to complete questionnaires designed to identify tasks and knowledge, skills, abilities, and other characteristics required for a job. Table 1 presents advantages and disadvantages of each method. Texas Instruments was trying to determine how to train engineering experts to become trainers for new engineers. All the engineers had technical expertise. The problem was that their level of instructional expertise varied. Some had no experience teaching, whereas others taught courses at local colleges. When new engineers became inexperienced instructors, both the trainees and the instructors were frustrated. In assessing the engineers' training needs, training and development specialists used five of the six methods shown in Table 1. They collected information that was useful for organization and task analysis. Training course listings and mission statements were used to identify the engineering department mission, and current and previous course offerings were used to develop engineers. Competency studies and project checklists were used to identify relevant tasks. Classroom observation of new and experienced instructors was used to identify strengths and weaknesses of instructors' presentations (person analysis). Both instructors and non-instructors were interviewed to validate the information gathered through the writ- ten documentation and surveys. Another example is Boeing, which uses a process borrowed from the field of artificial intelligence. Experts are observed and interviewed to identify their thinking processes for solving problems, dealing with uncertainty, and minimizing risks. The expert practices that are uncovered are then included in the training curriculum.

For newly created jobs, trainers often do not have job incumbents to rely on for this information. Rather, technical diagrams, simulations, and equipment designers can provide information regarding the training requirements, tasks, and conditions under which the job is performed. Another source of information for companies that have introduced a new technology is the help desk that companies often set up to deal with calls regarding problems, deficiencies in training, or deficiencies in documentation, software, or systems. Help desk management software can categorize and track calls and questions by application, by caller, or by vendor. Report creation capability built into the software makes it easy to generate documents on user problems and identify themes among calls. Analyzing these calls is practical for identifying gaps in training. For example, common types of call problems can be analyzed to determine if they are due to inadequate coverage in the training program and/or inadequate written documentation and job aids used by trainees.

Advantages and Disadvantages of Needs Assessment Techniques

Technique	Advantages	Disadvantages
Observation	• Generates data relevant to work environment • Minimizes interruption of work	• Needs skilled observer • Employees' behavior may be affected by being observed
Questionnaires	• Inexpensive • Can collect data from a large number of persons • Data easily summarized	• Requires time • Possible low return rates, inappropriate responses • Lacks detail • Only provides information directly related to questions asked
Interviews	• Good at uncovering details of training needs as well as causes of and solutions to problems • Can explore unanticipated issues that come up • Questions can be modified	• Time consuming • Difficult to analyze • Needs skilled interviewer • Can be threatening to SMEs • Difficult to schedule • SMEs only provide information they think you want to hear
Focus Groups	• Useful with complex or controversial issues that one person may be unable or unwilling to explore • Questions can be modified to explore unanticipated issues	• Time-consuming to organize • Group members only provide information they think you want to hear • Group members may be reluctant to participate if status or position differences exist among members
Documentation (Technical Manuals, Records)	• Good source of information on procedure • Objective • Good source of task information for new jobs and jobs in the process of being created	• You may be unable to understand technical language • Materials may be obsolete
Online Technology (Software)	• Objective • Minimizes interruption of work • Requires limited human involvement	• May threaten employees • Manager may use information to punish rather than train • Limited to jobs requiring interaction with customers via computer or phone

Table 3

Online technology is available to monitor and track employee performance. This information is useful for identifying training needs and providing employees with feedback regarding their skill strengths and weaknesses. In call centers, for example, technology provides an ongoing assessment of performance. An employee who triggers the online system by failing to meet a defined standard, such as receiving more than five callbacks on an unresolved issue, is automatically referred to the appropriate job aid or training event. As shown in Table 1, online technology has several advantages: It provides an objective report of behaviors, the data can be quickly summarized into reports, it does not require a trainer or SME to observe or interview employees, and it minimizes work interruptions. However the use of online technology in needs assessment is best suited for only a small number of jobs requiring interactions with customers through the use of a computer or telephone. Also, for online technology to be effective, managers need to ensure that the information is used to train and not to punish employees. Otherwise, employees will feel threatened, which will contribute to employee dissatisfaction and turnover.

Because no one method of conducting needs assessment is superior to the others, multiple methods are usually used. The methods vary in the type of information as well as the level of detail provided. The advantage of questionnaires is that information can be collected from a large number of persons. Also, questionnaires allow many employees to participate in the needs assessment process. However, when using questionnaires it is difficult to collect detailed information regarding training needs. Face-to-face and telephone interviews are time consuming, but more detailed information regarding training needs can be collected. Focus groups are a type of SME interview that involves a face-to-face meeting with groups of SMEs in which the questions that are asked relate to specific training needs. It is important to verify the results of interviews and observations because what employees and managers say they do and what they really do may differ.

One of the potential training needs identified by the corporate training staff was that employees were unable to use new technologies such as the Internet to access training programs. Questionnaires administered to all 3,000 employees to help determine their training needs included questions related to skills in using new technology. Because there were too many skills and tasks related to the use of technology to include all of them on the questionnaire (e.g., how to use the personal computer operating system, Web browsers, CD-ROM, spreadsheets), several general questions were included—for instance, "To what extent do you believe you need training to use new technologies that the company is implementing at your workplace?" Phone interviews were conducted with a small sample of the employees to gather more detailed information regarding specific skill needs.

With the increasing emphasis on Total Quality Management, many companies are also using information about other companies' training practices (a process known as benchmarking) to help determine the appropriate type, level, and frequency of training.

THE NEEDS ASSESSMENT PROCESS

This section examines the three elements of needs assessment: organizational analysis, person analysis, and task analysis. Figure 1 illustrates the needs assessment process. In practice, organizational analysis, person analysis, and task analysis are not conducted in any

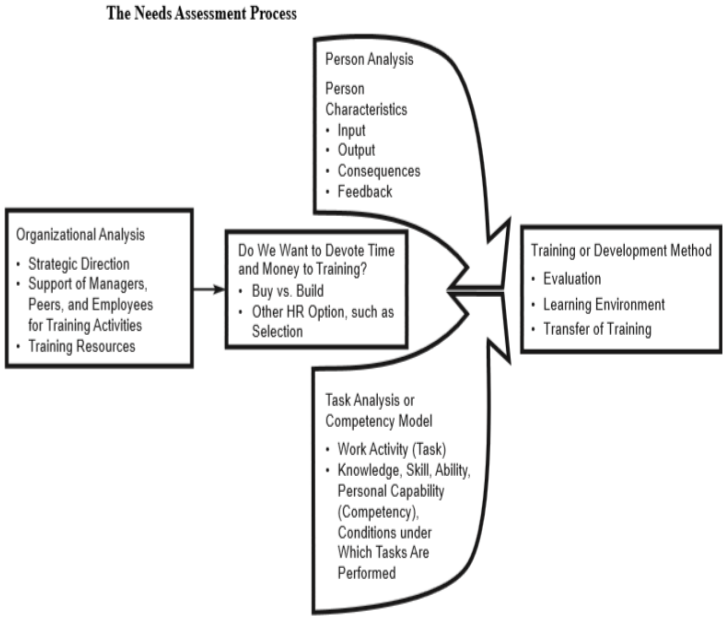

Figure 17

order. Whether time and money are devoted to training is contingent on the results of organizational, person, and task analyses. While any one analysis can indicate the need for training, companies need to consider the information from all three types of analysis before the decision is made to devote time and money to training. Because organizational analysis is concerned with identifying whether training fits with the company's strategic objectives and whether the company has the budget, time, and expertise for training (the context for training), it is usually conducted first. Person analysis and task analysis are often conducted at the same time because it is difficult to determine whether performance deficiencies are a training problem without understanding the tasks and the work environment. An initial organizational analysis may suggest that a company does not want to spend financial resources on training. However, if person analysis reveals that a large number of employees lack a skill in an important area that is related to the company's business objectives (such as customer service), upper-level managers may decide to reallocate financial resources for training.

Organizational Analysis

Organizational analysis involves identifying whether training supports the company's strategic direction; whether managers, peers, and employees support training activity; and what training resources are available. Table 2 provides questions that trainers should answer in an organizational analysis. Some combination of documentation, interviews, or focus groups of managers and individuals in the training function should be used to answer these questions.

Questions to Ask in an Organizational Analysis

How might the training content affect our employees' relationship with our customers?
What might suppliers, customers, or partners need to know about the training program?
How does this program align with the strategic needs of the business?
Should organizational resources be devoted to this program?
What do we need from managers and peers for this training to succeed?
What features of the work environment might interfere with training (e.g., lack of equipment, no time to use new skills)?
Do we have experts who can help us develop the program content and ensure that we understand the needs of the business as we develop the program?
Will employees perceive the training program as an opportunity? reward? punishment? waste of time?
Which persons or groups (employees, managers, vendors, suppliers, program developers) have an interest in seeing training succeed? Whose support do we need?

Table 4

Company's Strategic Direction

The strategic role of training influences the frequency and type of training and how the training function is organized in the company. In companies in which training is expected to contribute to the achievement of business strategies and goals, the amount of money allocated to training and the frequency of training will likely be higher than in companies in which training is done haphazardly or with no strategic intent in mind. For example, companies that believe learning contributes to their competitive advantage or that have adopted high-performance work systems (e.g., teams) are likely to have greater training budgets and conduct more training. The business strategy also influences the type of training. For example, companies that have adopted a disinvestment strategy are more likely to focus on outplacement assistance and job search skills training than are companies with other strategic initiatives. Last, the greater the strategic role of training, the more likely the company will organize the training function using the business-embedded or corporate university models. Both these models emphasize that training is used to help solve business problems.

Support of Managers, Peers, and Employees for Training Activities

A number of studies have found that peer and manager support for training is critical, along with employee enthusiasm and motivation to attend training. The key factors for success are a positive attitude among peers, managers, and employees about participation in training activities; managers' and peers' willingness to provide information to trainees about how they can more effectively use knowledge, skill, or behaviors learned in training on the job; and opportunities for trainees to use training content in their jobs.9 If peers' and managers' attitudes and behaviors are not supportive, employees are not likely to apply training content to their jobs.

Training Resources

It is necessary to identify whether the company has the budget, time, and expertise for training. For example, if the company is installing computer-based manufacturing equipment in one of its plants, it has three possible strategies for dealing with the need to have computer literate employees. First, the company can decide that, given its staff expertise and budget, it can use internal consultants to train all affected employees. Second, the company may decide that it is more cost-effective to identify employees who are computer-literate by using tests and work samples. Employees who fail the test or perform below standards on the work sample can be reassigned to other jobs. Choosing this strategy suggests that the company has decided to devote resources to selection and placement rather than training. Third, because it lacks time or expertise, the company may decide to purchase training from a consultant. One way to identify training resources is for companies that have similar operations or departments located across the country or the world to share practices.

Choosing a Vendor or Consultant If a company decides to purchase a training program from a consultant or vendor rather than build the program in-house, it is important to choose a high-quality provider. Training providers may include individual consultants, consulting firms, or academic institutions. Many companies identify vendors and consultants who can provide training services by using requests for proposals. A request for proposal (RFP) is a document that outlines for potential vendors and consultants the type of service the company is seeking, the type and number of references needed, the number of employees who need to be trained, funding for the project, the follow-up process used to determine level of satisfaction and service, the expected date of completion of the project, and the date when proposals must be received by the company. The RFP may be mailed to potential consultants and vendors or posted on the company's Web site. The RFP is valuable because it provides a standard set of criteria against which all consultants will be evaluated. The RFP also helps eliminate the need to evaluate outside vendors that cannot provide the needed services. Usually the RFP helps to identify several vendors who meet the criteria. The next step is to choose the preferred provider. Table 3 provides examples of questions to ask vendors. Managers and trainers should check the vendor's reputation by contacting prior clients and professional organizations. The consultant's experience should be evaluated. (For example, in what industry

has the vendor worked?) Managers should carefully consider the services, materials, and fees outlined in the consulting contract. For example, it is not uncommon for

Questions to Ask Vendors and Consultants

How much and what type of experience does your company have in designing and delivering training?
What are the qualifications and experiences of your staff?
Can you provide demonstrations or examples of training programs you have developed?
Can you provide references of clients for whom you have worked?
What evidence do you have that your programs work?
What instructional design methods do you use?
How do your products or services fit our needs?

Table 5

training materials, manuals, and handouts to remain the property of the consultant. If the company wishes to use these materials for training at a later date, it would have to pay additional fees to the consultant.

When using a consultant or other outside vendor to provide training services, it is also important to consider the extent to which the training program will be customized based on the company's needs or whether the consultant is going to provide training services based on a generic framework that it applies to many different organizations.

How long should it take a vendor or consultant to develop a training program? The answer is, "It depends." Some consultants estimate that development time ranges from 10 to 20 hours for each hour of instruction. Highly technical content requiring more frequent meetings with SMEs can add an additional 50 percent more time. For training programs using new technology (such as a CD-ROM), development time can range from 300 to 1,000 hours per hour of program time depending on how much animation, graphics, video, and audio are included; how much new content needs to be developed; the number of practice exercises and the type of feedback to be provided to trainees; and the amount of "branches" to different instructional sequences.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 102 - 137.

TRAINING NEEDS ASSESSMENT (continued)

Person Analysis

Person analysis helps to identify employees who need training, that is, whether employees' current performance or expected performance indicates a need for training. The need for training may result from the pressure points, including performance problems, changes in the job, or use of new technology. Person analysis also helps determining employees' readiness for training. Readiness for training refers to whether (1) employees have the personal characteristics (ability, attitudes, beliefs, and motivation) necessary to learn program content and apply it on the job and (2) the work environment will facilitate learning and not interfere with performance. This process includes evaluating person characteristics, input, output, consequences, and feedback. A major pressure point for training is poor or substandard performance. Poor performance is indicated by customer complaints, low performance ratings, or on-the-job incidents such as accidents and unsafe behavior. Another potential indicator of the need for training is if the job changes such that current levels of performance need to be improved or employees must be able to complete new tasks.

Process for Person Analysis

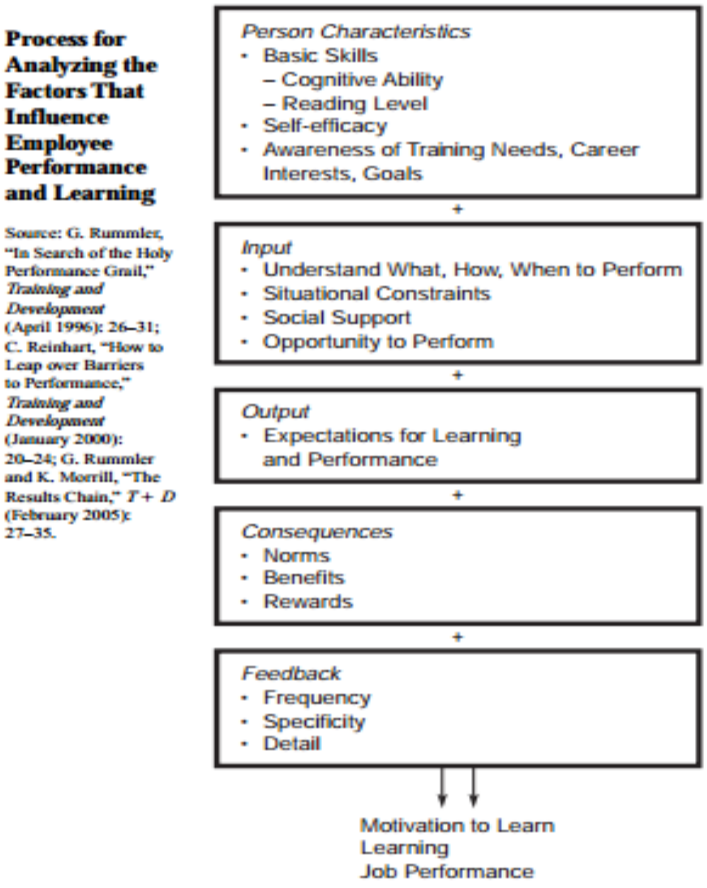

Figure 18

Figure 1 shows a process for analyzing the factors that influence performance and learning. Person characteristics refer to the employees' knowledge, skill, ability, and attitudes. Input relates to the instructions that tell employees what, how, and when to perform. Input also refers to the resources that the employees are given to help them perform. These resources may include equipment, time, or budget. Output refers to the job's performance standards. Consequences refer to the type of incentives that employees receive for performing well. Feedback refers to the information that employees receive while they are performing.

Interviews or questionnaires can be used to measure person characteristics, input, output, consequences, and feedback. For example, a package delivery company believed that lead drivers were valuable for providing on-the-job training for new employees. The company employed 110 lead drivers. The lead driver job involved driving, delivery, and bookkeeping duties. The lead drivers benefited from training because coaching and training made their jobs more interesting. The company benefited because on-the-job training was relatively inexpensive and effective. Lead drivers often quickly spotted and corrected performance problems with new trainees. Lead drivers knew the technical aspects of the delivery job quite well. Although many of the lead drivers were good trainers and coaches, the company believed they needed to learn how to coach and train the new drivers. The company used interviews to identify what type of coaching and training skills the lead drivers needed. Interviews were conducted with 14 lead drivers, six supervisors, and two regional vice presidents. The interview for the lead drivers consisted of questions such as:

- What types of situations call for coaching on your part?
- What keeps you from being a good coach on the job?
- How do you encourage or motivate other lead drivers? Do you use incentives or rewards? Do you try other things (compliments, personal attention)?
- What common types of performance problems do new hires have?
- What were the biggest problems you encountered as a new coach and trainer? What mistakes did you make? What lessons have you learned over time?
- Tell me about a successful coaching experience and an unsuccessful coaching experience.

Recurring trends in the interview data were noted and categorized. For example, interview questions on obstacles to coaching related to three themes: lack of time to coach, the physical environment (no privacy), and reluctance to coach peers. These three topics were covered in the coaching course.

Person characteristics, input, output, consequences, and feedback influence the motivation to learn. Motivation to learn is trainees' desire to learn the content of training programs. Consider how your motivation to learn may be influenced by personal characteristics and the environment. You may have no problem understanding and comprehending the contents of this textbook. But your learning may be inhibited because of your attitude toward the course. That is, perhaps you do not believe the course will be important for your career. Maybe you are taking the course only because it fits your schedule or is required in your degree program. Learning may also be inhibited by the environment. For example, maybe you want to learn, but your study environment prevents you from doing so. Every time you are prepared to read and review your notes and the textbook, your room- mates could be having a party. Even if you do not join them, the music may be so loud that you cannot concentrate!

A number of research studies have shown that motivation to learn is related to knowledge gained, behavior change, or skill acquisition resulting from training. Besides considering the factors of person characteristics, input, output, consequences, and feedback in determining whether training is the best solution to a performance problem, managers should also consider these factors prior to selecting which employees will attend a training program. These factors relate to the employees' motivation to learn. The following sections describe each of these factors and its relationship to performance and learning.

Person Characteristics

Basic skills refer to skills that are necessary for employees to successfully perform on the job and learn the content of training programs. Basic skills include cognitive ability and reading and writing skills. For example, one assumption that your professor is making in this course is that you have the necessary reading level to comprehend this textbook and the other course materials such as overhead transparencies, videos, or readings. If you lacked the necessary reading level, you likely would not learn much about training in this course. Table 1 shows the activities involved in conducting a literacy audit.

Steps in Performing a Literacy Audit

Source: U.S. Department of Education, U.S. Department of Labor, *The Bottom Line: Basic Skills in the Workplace* (Washington, DC: 1988): 14–15.

Step 1:	Observe employees to determine the basic skills they need to be successful in their job. Note the materials the employee uses on the job, the tasks performed, and the reading, writing, and computations completed by the employee.
Step 2:	Collect all materials that are written and read on the job and identify computations that must be performed to determine the necessary level of basic skill proficiency. Materials include bills, memos, and forms such as inventory lists and requisition sheets.
Step 3:	Interview employees to determine the basic skills they believe are needed to do the job. Consider the basic skill requirements of the job yourself.
Step 4:	Determine whether employees have the basic skills needed to successfully perform the job. Combine the information gathered by observing and interviewing employees and evaluating materials they use on their job. Write a description of each job in terms of the reading, writing, and computation skills needed to perform the job successfully.
Step 5:	Develop or buy tests that ask questions relating specifically to the employees' job. Ask employees to complete the tests.
Step 6:	Compare test results (from step 5) with the description of the basic skills required for the job (from step 4). If the level of the employees' reading, writing, and computation skills does not match the basic skills required by the job, then a basic skills problem exists.

Table 6

It is important to note that possession of a high school diploma or a college degree is no guarantee that an employee has basic skills. If participants do not have the fundamental reading, writing, and math skills to understand the training, they will not be able to learn, they will not apply their training to the job, and the company will have wasted money on training that does not work.

Trainers need to evaluate the strengths and weaknesses of trainees before designing a training program. The skill weaknesses that are identified can be used to determine prerequisites that trainees need or must acquire before entering a training program. How do trainers identify skills gaps? First, trainers collect general information through position-specific training materials and job descriptions. They also observe the job to become familiar with the necessary skills. Next, trainers meet with SMEs including employees, managers, engineers, or others who are familiar with the job. With the help of the SMEs, trainers identify a list of regularly performed activities and prioritize the list according to importance. Finally, trainers identify the skills and skill levels that are needed to perform the activities or job tasks. For example, nurses must watch for changes in patient conditions, reactions, and comfort levels; they need to identify and recall details when observing patients. These activities require good observation skills, and the trainer needs to find a test to measure those skills. Once the skills analysis is complete, trainers conduct a basic (or pre-training) skills evaluation to identify skills gaps that need to be addressed prior to enrolling employees in a training session.

Cognitive Ability

Research shows that cognitive ability influences learning and job performance. Cognitive ability includes three dimensions: verbal comprehension, quantitative ability, and reasoning ability. Verbal comprehension refers to the person's capacity to understand and use written and spoken language. Quantitative ability refers to how fast and accurately a person can solve math problems. Reasoning ability refers to the person's capacity to invent solutions to problems. Research shows that cognitive ability is related to successful performance in all jobs. The importance of cognitive ability for job success increases as the job becomes more complex.

For example, a supermarket cashier needs low to moderate levels of all three dimensions of cognitive ability to successfully perform that job. An emergency room physician needs higher levels of verbal comprehension, quantitative ability, and reasoning ability than the cashier. The supermarket cashier needs to understand basic math operations (addition, subtraction, etc.) to give customers the correct amount of change. The cashier also needs to invent solutions to problems. (For example, how does the cashier deal

with items that are not priced that the customer wants to purchase?) The cashier also needs to be able to understand and communicate with customers (verbal comprehension). The physician also needs quantitative ability, but at a higher level. For example, when dealing with an infant experiencing seizures in an emergency situation, the physician needs to be able to calculate the correct dosage of medicine (based on an adult dosage) to stop the seizures after considering the child's weight. The physician has to be able to quickly diagnose the situation and determine what actions (blood tests, X-rays, respiratory therapy) are necessary. The physician also needs to communicate clearly to the patient's parents the treatment and recovery process.

Cognitive ability influences job performance and ability to learn in training programs. If trainees lack the cognitive ability level necessary to perform job tasks, they will not perform well. Also, trainees' level of cognitive ability can influence how well they can learn in training programs. Trainees with low levels of cognitive ability are more likely to fail to complete training or (at the end of training) receive lower grades on tests to measure how much they have learned.

To identify employees without the cognitive ability to succeed on the job or in training programs, companies use paper-and-pencil cognitive ability tests.

Reading Ability

Lack of the appropriate reading level can impede performance and learning in training programs. Material used in training should be evaluated to ensure that its reading level does not exceed that required by the job. Readability refers to the difficulty level of written materials. A readability assessment usually involves analysis of sentence length and word difficulty.

If trainees' reading level does not match the level needed for the training materials, four options are available. First, trainers can determine whether it is feasible to lower the reading level of training materials or use video or on-the-job training, which involves learning by watching and practicing rather than by reading. Second, employees without the necessary reading level could be identified through reading tests and reassigned to other positions more congruent with their skill levels. Third, again using reading tests, trainers can identify employees who lack the necessary reading skills and provide them with remedial training. Fourth, trainers can consider whether the job can be redesigned to accommodate employees' reading levels. The fourth option is certainly the most costly and least practical. Therefore, alternative training methods need to be considered, or managers can elect a non-training option. Non-training options include selecting employees for jobs and training opportunities on the basis of reading, computation, writing, and other basic skill requirements.

Another approach to improving basic skills is incorporating basic skills instruction into training programs. An example is the electronics technician training program developed by the Ford Foundation. Before the start of the program, students are given information about electronic technician jobs. Students are told they will learn how to think about operating, maintaining, and repairing electrical equipment that they are familiar with such as flashlights, curling irons, and lamps. These appliances were selected because they are useful for introducing basic electronic concepts and procedures.

Trainees are given a book that covers the basic literacy skills needed to read training and job-related material in electronics. The book's exercises and worksheets help the trainee master "reading-to-do" and "reading-to-learn" skills that have been identified as required in the majority of jobs. Reading-to-do involves searching for and reading information in manuals, books, or charts (e.g., looking up information such as repair specifications in a technical manual or scanning tables and graphs to locate information). Reading-to-learn involves reading information to apply it in the future, such as reading instructions on how to use a piece of equipment (e.g., paraphrasing and summarizing information).

Besides learning reading skills related to electronics, trainees study how electronics is used in flashlights and table lamps. The textbook introduces students to math concepts and their applications, including scientific notation needed to understand waves that appear on an oscilloscope. This training program has prepared competent electronic technicians for entry-level positions.

Self-Efficacy

Self-efficacy is employees' belief that they can successfully perform their job or learn the content of the training program. The job environment can be threatening to many employees who may not have been successful performers in the past. The training environment can also be threatening to people who have not received training or formal education for some length of time, lack education, or are not experienced in the training program's subject matter. For example, training employees to use equipment for computer-based manufacturing may represent a potential threat, especially if they are intimidated by new technology and lack confidence in their ability to master the skills needed to use a computer. Research has demonstrated that self- efficacy is related to performance in training programs. Employees' self-efficacy level can be increased by

1. Letting employees know that the purpose of training is to try to improve performance rather than to identify areas in which employees are incompetent.
2. Providing as much information as possible about the training program and the purpose of training prior to the actual training.
3. Showing employees the training success of their peers who are now in similar jobs.
4. Providing employees with feedback that learning is under their control and they have the ability and the responsibility to overcome any learning difficulties they experience in the program.

Awareness of Training Needs, Career Interests, and Goals to be motivated to learn in training programs, employees must be aware of their skill strengths and weaknesses and of the link between the training program and improvement of their weaknesses. Managers should make sure that employees understand why they have been asked to attend training programs, and they should communicate the link between training and improvement of skill weaknesses or knowledge deficiencies. This can be accomplished by sharing performance feedback with employees, holding career development discussions, or having employees complete a self-evaluation of their skill strengths and weaknesses as well as career interests and goals. For example, Reynolds and Reynolds, an Ohio information services company, uses surveys to obtain sales employees' opinions about what kinds of training they want. The survey asks questions about what additional training the company could provide to improve sales effectiveness and productivity and how employees want to receive training. Sixty percent of the employees felt they needed more training on how to create and present credible estimates of return on investments for each solution they offer customers. Time management training, working in a virtual environment, problem-solving decision making, and listening skills were personal development areas identified by the employees as needing improvement. Most employees preferred classroom training but they also mentioned webcasts, on-the-job training, or CDs. The internal training director shares the results with the sales leadership teams, including vice presidents and service directors. The results are being used as part of the process for setting goals for the training department. If possible, employees need to be given a choice of what programs to attend and must understand how actual training assignments are made to maximize motivation to learn. Several studies have suggested that giving trainees a choice regarding which programs to attend and then honoring those choices maximizes motivation to learn. Giving employees choices but not necessarily honoring them can undermine motivation to learn.

Input

Employees' perceptions of two characteristics of the work environment—situational constraints and social support—are determinants of performance and motivation to learn. Situational constraints include lack of proper tools and equipment, materials and supplies, budgetary support, and time. Social support refers to managers' and peers' willingness to provide feedback and reinforcement. If employees have the knowledge, skills, attitudes, and behavior needed to perform but do not have the proper tools and equipment needed, their performance will be inadequate.

To ensure that the work environment enhances trainees' motivation to learn, managers should take the following steps:

1. 1. Provide materials, time, job-related information, and other work aids necessary for employees

to use new skills or behavior before participating in training programs.

2. Speak positively about the company's training programs to employees.
3. 3. Let employees know they are doing a good job when they are using training content in their work.
4. 4. Encourage work-group members to involve each other in trying to use new skills on the job by soliciting feedback and sharing training experiences and situations in which training content has been helpful.
5. Provide employees with time and opportunities to practice and apply new skills or behaviors to their work.

Output

Poor or substandard performance can occur on the job because employees do not know at what level they are expected to perform. For example, they may not be aware of quality standards related to speed or the degree of personalization of service that is expected. Employees may have the knowledge, skill, and attitudes necessary to perform and yet fail to perform because they are not aware of the performance standards. Lack of awareness of the performance standards is a communications problem, but it is not a problem that training can "fix." Understanding the need to perform is important for learning. Trainees need to understand what specifically they are expected to learn in the training program. To ensure that trainees master training content at the appropriate level, trainees in training programs also need to understand the level of proficiency that is expected of them. For example, for tasks, level of proficiency relates to how well employees are to perform a task. For knowledge, level of proficiency may relate to a score on a written test.

Consequences

If employees do not believe that rewards or incentives for performance are adequate, they will be unlikely to meet performance standards even if they have the necessary knowledge, behavior, skill, or attitudes. Also, work-group norms may encourage employees not to meet performance standards. Norms refer to accepted standards of behavior for work-group members.

Consequences also affect learning in training programs. Employees' motivation to learn can be enhanced by communicating to them the potential job-related, personal, and career benefits they may receive as a result of attending training and learning the content of the training program. These benefits may include learning a more efficient way to perform a process or procedure, establishing contacts with other employees in the company (also known as networking), or increasing their opportunity to pursue other jobs in the company. It is important that the communication from the manager about potential benefits be realistic. Unmet expectations about training programs can hinder motivation to learn.

Feedback

Performance problems can result when employees do not receive feedback regarding the extent to which they are meeting performance standards. Training may not be the best solution to this type of problem if employees know what they are supposed to do (output), but do not understand how close their performance is to the standard. Employees need to be given specific, detailed feedback of effective and ineffective performance. For employees to perform to standard, feedback needs to be given frequently, not just during a yearly performance evaluation.

Determining Whether Training Is the Best Solution

To determine whether training is needed to solve a performance problem, managers need to analyze characteristics of the performer, input, output, consequences, and feedback. How might this be done? Managers should assess the following:

1. Is the performance problem important? Does it have the potential to cost the company a significant amount of money from lost productivity or customers?
2. Do the employees know how to perform effectively? Perhaps they received little or no previous

training or the training was ineffective. (This problem is a characteristic of the person.)

3. Can the employees demonstrate the correct knowledge or behavior? Perhaps employees were trained but they infrequently or never used the training content (knowledge, skills, etc.) on the job. (This is an input problem.)
4. Were performance expectations clear (input)? Were there any obstacles to performance such as faulty tools or equipment?
5. Were positive consequences offered for good performance? Was good performance not rewarded? For example, if employees are dissatisfied with their compensation, their peers or a union may encourage them to slow down their pace of work. (This involves consequences.)
6. Did employees receive timely, relevant, accurate, constructive, and specific feedback about their performance (a feedback issue)?
7. Were other solutions—such as job redesign or transferring employees to other jobs— too expensive or unrealistic?

If employees lack the knowledge and skill to perform a job and the other factors are satisfactory, training is needed. If employees have the knowledge and skill to perform but input, output, consequences, or feedback is inadequate, training may not be the best solution. For example, if poor performance results from faulty equipment, training cannot solve this problem but repairing the equipment will. If poor performance results from lack of feedback, then employees may not need training, but their managers may need training on how to give performance feedback!

It is also important to consider the relationships among a critical job issue (a problem or opportunity that is critical to the success of a job within the company), a critical process issue (a problem or opportunity that is critical to the success of a business process), and a critical business issue (a problem or opportunity that is critical to the success of the company). If the critical job issue, process issue, and business issue are related, training should be a top priority because it will have a greater effect on business outcomes and results and will likely receive greater management support. Table 2 shows the relationships among the critical job, process, and business issues for a sales representative. This analysis resulted from a request from a top manager who suggested that sales representatives needed more training because incomplete sales orders were being submitted to production.

Example of the Relationships among a Critical Job Issue, a Critical Process Issue, and a Critical Business Issue

Critical Job Issue	Critical Process Issue	Critical Business Issue
Desired Results	*Desired Results*	*Desired Results*
No incomplete order forms	Order cycle time of 3 days	Market share of 60%
100% accurate orders		
Current Results	*Current Results*	*Current Results*
10% incomplete order forms	Order cycle time of 30 days	Market Share of 48%
83% accurate orders		

Table 7

Task Analysis

Task analysis results in a description of work activities, including tasks performed by the employee and the knowledge, skills, and abilities required to complete the tasks. A job is a specific position requiring the completion of certain tasks. (The job exemplified in Table 4 is that of an electrical maintenance worker.) A task is the employee's work activity in a specific job. Table 4 shows several tasks for the electrical maintenance worker job. These tasks include replacing light bulbs, electrical outlets, and light switches. To complete tasks, employees must have specific levels of knowledge, skill, ability, and other considerations (KSAOs). Knowledge includes facts or procedures (e.g., the chemical properties of gold). Skill indicates competency in performing a task (e.g., negotiation skill, a skill in getting another person to agree to take a certain course of action). Ability includes the physical and mental capacities to perform a task (e.g., spatial ability, the ability to see the relation- ship between objects in physical space). Other refers to the conditions

under which tasks are performed. These conditions include identifying the equipment and environment that the employee works in (e.g., the need to wear an oxygen mask, work in extremely hot conditions), time constraints for a task (e.g., deadlines), safety considerations, or performance standards.

Sample Items from Task Analysis Questionnaires for the Electrical Maintenance Job

Job: Electrical Maintenance Worker

		Task Performance Ratings		
Task #s	**Task Description**	**Frequency of Performance**	**Importance**	**Difficulty**
199–264	Replace a light bulb	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
199–265	Replace an electrical outlet	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
199–266	Install a light fixture	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
199–267	Replace a light switch	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
199–268	Install a new circuit breaker	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
		Frequency of Performance	**Importance**	**Difficulty**
		0 = never	1 = negligible	1 = easiest
		5 = often	5 = extremely high	5 = most difficult

Source: E. F. Holton III and C. Bailey, "Top to Bottom Curriculum Redesign," *Training and Development* (March 1995): 40–44.

Table 8

Task analysis should be undertaken only after the organizational analysis has determined that the company wants to devote time and money for training. Why? Task analysis is a time-consuming, tedious process that involves a large time commitment to gather and summarize data from many different persons in the company, including managers, job incumbents, and trainers.

Steps in a Task Analysis

A task analysis involves four steps:

1. Select the job or jobs to be analyzed.
2. Develop a preliminary list of tasks performed on the job by (1) interviewing and observing expert employees and their managers and (2) talking with others who have performed a task analysis.
3. Validate or confirm the preliminary list of tasks. This step involves having a group of SMEs (job incumbents, managers, etc.) answer in a meeting or on a written survey several questions regarding the tasks. The types of questions that may be asked include the following: How frequently is the task performed? How much time is spent performing each task? How important or critical is the task for successful performance of the job? How difficult is the task to learn? Is performance of the task expected of entry-level employees? Table 5 presents a sample task analysis questionnaire. This information is used to determine which tasks will be focused on in the training program. The person or committee conducting the needs assessment must decide the level of ratings across dimensions that will determine that a task should be included in the training program. Tasks that are important, frequently performed, and of moderate-to-high level of difficulty are tasks for which training should be provided. Tasks that are not important and are infrequently performed should not involve training. It is difficult for managers and trainers to decide if tasks that are important but are performed infrequently and require minimal difficulty should be included in training. Managers and trainers must determine whether or not important tasks—regardless of how frequently they are performed or their level of difficulty—will be included in training.
4. Once the tasks have been identified, it is important to identify the knowledge, skills, or abilities necessary to successfully perform each task. This information can be collected through interviews

and questionnaires. Recall this chapter's discussion of how ability influences learning. Information concerning basic skill and cognitive ability requirements is critical for determining if certain levels of knowledge, skills, and abilities will be prerequisites for entrance to the training program (or job) or if supplementary training in underlying skills is needed. For training purposes, information concerning how difficult it is to learn the knowledge, skill, or ability is important—as is whether the knowledge, skill, or ability is expected to be acquired by the employee before taking the job. Table 6 summarizes key points to remember regarding task analysis.

Sample Task Statement Questionnaire

Name Date

Position

Please rate each of the task statements according to three factors: (1) the *importance* of the task for effective performance, (2) how *frequently* the task is performed, and (3) the degree of *difficulty* required to become effective in the task. Use the following scales in making your ratings.

Importance

4 = Task is critical for effective performance.
3 = Task is important but not critical for effective performance.
2 = Task is of some importance for effective performance.
1 = Task is of no importance for effective performance.
0 = Task is not performed.

Frequency

4 = Task is performed once a day.
3 = Task is performed once a week.
2 = Task is performed once every few months.
1 = Task is performed once or twice a year.
0 = Task is not performed.

Difficulty

4 = Effective performance of the task requires extensive prior experience and/or training (12–18 months or longer).
3 = Effective performance of the task requires minimal prior experience and training (6–12 months).
2 = Effective performance of the task requires a brief period of prior training and experience (1–6 months).
1 = Effective performance of the task does not require specific prior training and/or experience.
0 = This task is not performed.

Task	*Importance*	*Frequency*	*Difficulty*
1. Ensuring maintenance on equipment, tools, and safety controls			
2. Monitoring employee performance			
3. Scheduling employees			
4. Using statistical software on the computer			
5. Monitoring changes made in processes using statistical methods			

Table 9

Key Points to Remember When Conducting a Task Analysis

Source: Adapted from A. P. Carnevale, L. J. Gainer, and A.S. Meltzer, *Workplace Basics Training Manual* (San Francisco: Jossey-Bass, 1990).

A task analysis should identify both what employees are actually doing and what they should be doing on the job.
Task analysis begins by breaking the job into duties and tasks.
Use more than two methods for collecting task information to increase the validity of the analysis.
For task analysis to be useful, information needs to be collected from subject-matter experts (SMEs). SMEs include job incumbents, managers, and employees familiar with the job.
In deciding how to evaluate tasks, the focus should be on tasks necessary to accomplish the company's goals and objectives. These may not be the tasks that are the most difficult or take the most time.

Table 10

Example of a Task Analysis

Each of the four steps of a task analysis can be seen in this example from a utility company. Trainers were given the job of developing a training system in six months. The purpose of the program was to identify tasks and knowledge, skills, abilities, and other considerations that would serve as the basis for training program objectives and lesson plans.

The first phase of the project involved identifying potential tasks for each job in the utility's electrical maintenance area. Procedures, equipment lists, and information provided by SMEs were used to generate the tasks. SMEs included managers, instructors, and senior technicians. The tasks were incorporated into a questionnaire administered to all technicians in the electrical maintenance department. The questionnaire included 550 tasks. Table 4 shows sample items from the questionnaire for the electrical maintenance job. Technicians were asked to rate each task on importance, difficulty, and frequency of performance. The rating scale for frequency included zero. A zero rating indicated that the technician rating the task had never performed the task. Technicians who rated a task zero were asked not to evaluate the task's difficulty and importance.

Customized software was used to analyze the ratings collected via the questionnaire. The primary requirement used to determine whether a task required training was its importance rating. A task rated "very important" was identified as one requiring training regardless of its frequency or difficulty. If a task was rated moderately important but difficult, it also was designated for training. Tasks rated as unimportant, not difficult, or done infrequently were not designated for training.

The list of tasks designated for training was reviewed by the SMEs to determine if it accurately described job tasks. The result was a list of 487 tasks. For each of the 487 tasks, two SMEs identified the necessary knowledge, skills, abilities, and other factors required for performance. This included information on working conditions, cues that initiate the task's start and end, performance standards, safety considerations, and necessary tools and equipment. All data were reviewed by plant technicians and members of the training department. More than 14,000 knowledge, skill, ability, and other considerations were grouped into common areas and assigned an identification code. These groups were then combined into clusters. The clusters represented qualification areas. That is, the task clusters were related to linked tasks that the employees must be certified in to perform the job. The clusters were used to identify training lesson plans and course objectives. Trainers also reviewed the clusters to identify prerequisite skills for each cluster.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 102 - 137.

LEARNING

WHAT IS LEARNING? WHAT IS LEARNED?

Learning is a relatively permanent change in human capabilities that is not a result of growth processes. These capabilities are related to specific learning outcomes, as Table 1 shows.

Learning Outcomes

Type of Learning Outcome	Description of Capability	Example
Verbal Information	State, tell, or describe previously stored information	State three reasons for following company safety procedures
Intellectual Skills	Apply generalizable concepts and rules to solve problems and generate novel products	Design and code a computer program that meets customer requirements
Motor Skills	Execute a physical action with precision and timing	Shoot a gun and consistently hit a small moving target
Attitudes	Choose a personal course of action	Choose to respond to all incoming mail within 24 hours
Cognitive Strategies	Manage one's own thinking and learning processes	Selectively use three different strategies to diagnose engine malfunctions

Source: R. Gagne and K. Medsker, *The Conditions of Learning* (New York: Harcourt-Brace, 1996).

Table 11

Verbal information includes names or labels, facts, and bodies of knowledge. Verbal information includes specialized knowledge that employees need in their jobs. For example, a manager must know the names of different types of equipment as well as the body of knowledge related to Total Quality Management.

Intellectual skills include concepts and rules. These concepts and rules are critical to solve problems, serve customers, and create products. For example, a manager must know the steps in the performance appraisal process (e.g., gather data, summarize data, prepare for appraisal interview with employee) in order to conduct an employee appraisal.

Motor skills include coordination of physical movements. For example, a telephone repair person must have the coordination and dexterity necessary to climb ladders and telephone poles.

Attitudes are a combination of beliefs and feelings that predispose a person to behave a certain way. Attitudes include a cognitive component (beliefs), an affective component (feeling), and an intentional component (the way a person intends to behave in regard to the subject of the attitude). Important work-related attitudes include job satisfaction, commitment to the organization, and job involvement. Suppose you say that an employee has a "positive attitude" toward her work. This means the person likes her job (the affective component). She may like her job because it is challenging and provides an opportunity to meet people (the cognitive component). Because she likes her job, she intends to stay with the company and do her best at work (the intentional component). Training programs may be used to develop or change attitudes because attitudes have been shown to be related to physical and mental withdrawal from work, turnover, and behaviors that impact the wellbeing of the company (e.g., helping new employees).

Cognitive strategies regulate the processes of learning. They relate to the learner's decision regarding what information to attend to (i.e., pay attention to), how to remember, and how to solve problems. For example, a physicist recalls the colors of the light spectrum through remembering the name "Roy G. Biv" (red, orange, yellow, green, blue, indigo, violet).

As this chapter points out, each learning outcome requires a different set of conditions for learning to occur. Before this chapter investigates the learning process in detail, it looks at the theories that help to explain how people learn.

LEARNING THEORIES

Several theories relate to how people learn. Each theory relates to different aspects of the learning process. Many of the theories also relate to trainees' motivation to learn.

Reinforcement Theory

Reinforcement theory emphasizes that people are motivated to perform or avoid certain behaviors because of past outcomes that have resulted from those behaviors. There are several processes in reinforcement theory. Positive reinforcement is a pleasurable outcome resulting from a behavior. Negative reinforcement is the removal of an unpleasant outcome. For example, consider a machine that makes screeching and grinding noises unless the operator holds levers in a certain position. The operator will learn to hold the levers in that position to avoid the noises. The process of withdrawing positive or negative reinforcers to eliminate a behavior is known as extinction. Punishment is presenting an unpleasant outcome after a behavior, leading to a decrease in that behavior. For example, if a manager yells at employees when they are late, they may avoid the yelling by being on time (but they may also call in sick, quit, or trick the boss into not noticing when they arrive late).

From a training perspective, reinforcement theory suggests that for learners to acquire knowledge, change behavior, or modify skills, the trainer needs to identify what outcomes the learner finds most positive (and negative). Trainers then need to link these outcomes to learners' acquiring knowledge or skills or changing behaviors. Learners can obtain several types of benefits from participating in training programs. The benefits may include learning an easier or more interesting way to perform their job (job-related), meeting other employees who can serve as resources when problems occur (personal), or increasing opportunities to consider new positions in the company (career-related). According to reinforcement theory, trainers can withhold or provide these benefits to learners who master program content. The effectiveness of learning depends on the pattern or schedule for providing these reinforcers or benefits. Schedules of reinforcement are shown in Table 2.

Schedules of Reinforcement

Type of Schedule	Description	Effectiveness
Ratio Schedules		
Fixed-Ratio Schedule	Reinforcement whenever target behavior has taken place a given number of times	Rapid learning; frequent instances of target behavior; rapid extinction
Continuous Reinforcement	Reinforcement after each occurrence of target behavior	Same direction of behavior as with fixed-ratio schedules but more extreme
Variable-Ratio Schedule	Reinforcement after several occurrences of target behavior; number of occurrences before reinforcement may differ each time	Target behavior less susceptible to extinction than with fixed-ratio schedules
Interval Schedules		
Fixed-Interval Schedule	Reinforcement at a given time interval after performance of target behavior	Lower performance of target behavior than with ratio schedules; lower effectiveness if time interval is long
Variable-Interval Schedule	Reinforcement occurring periodically after performance of target behavior; time intervals may differ each time	Target behavior less susceptible to extinction than with fixed-interval schedules; lower performance of target behavior than with ratio schedules

Source: P. Wright and R. A. Noe, *Management of Organizations* (Burr Ridge, IL: Irwin/McGraw-Hill, 1996).

Table 12

Behavior modification is a training method that is primarily based on reinforcement theory. For example, a training program in a bakery focused on eliminating unsafe behaviors such as climbing over conveyor belts (rather than walking around them) and sticking hands into equipment to dislodge jammed materials without turning off the equipment. Employees were shown slides depicting safe and unsafe work behaviors. After viewing the slides, employees were shown a graph of the number of times safe behaviors were observed

during past weeks. Employees were encouraged to increase the number of safe behaviors they demonstrated on the job. They were given several reasons for doing so: for their own protection, to decrease costs for the company, and to help their plant get out of last place in the safety rankings of the company's plants. Immediately after the training, safety reminders were posted in employees' work areas. Data about the number of safe behaviors performed by employees continued to be collected and displayed on the graph in the work area following the training. Employees' supervisors were also instructed to recognize the workers whenever they saw them perform a safe work behavior. In this example, the data of safe behavior posted in the work areas and supervisors' recognition of safe work behavior represent positive reinforcers.

Social Learning Theory

Social learning theory emphasizes that people learn by observing other persons (models) whom they believe are credible and knowledgeable. Social learning theory also recognizes that behavior that is reinforced or rewarded tends to be repeated. The models' behavior or skill that is rewarded is adopted by the observer. According to social learning theory, learning new skills or behaviors comes from (1) directly experiencing the consequences of using that behavior or skill, or (2) the process of observing others and seeing the consequences of their behavior.

According to social learning theory, learning also is influenced by a person's self-efficacy. Self-efficacy is a person's judgment about whether he or she can successfully learn knowledge and skills. Self-efficacy is one determinant of readiness to learn. A trainee with high self-efficacy will put forth effort to learn in a training program and is most likely to persist in learning even if an environment is not conducive to learning (e.g., noisy training room). In contrast, a person with low self-efficacy will have self-doubts about mastering the content of a training program and is more likely to withdraw psychologically and/or physically (daydream or fail to attend the program). These persons believe that they are unable to learn, and regardless of their effort level, they will be unable to learn.

A person's self-efficacy can be increased using several methods: verbal persuasion, logical verification, observation of others (modeling), and past accomplishments. Verbal persuasion means offering words of encouragement to convince others they can learn. Logical verification involves perceiving a relationship between a new task and a task already mastered. Trainers and managers can remind employees when they encounter learning difficulties that they have been successful at learning similar tasks. Modeling involves having employees who already have mastered the learning outcomes demonstrate them for trainees.

As a result, employees are likely to be motivated by the confidence and success of their successful peers. Past accomplishments refers to allowing employees to build a history of successful accomplishments. Managers can place employees in situations where they are likely to succeed and provide training so that employees know what to do and how to do it.

Social learning theory suggests that four processes are involved in learning: attention, retention, motor reproduction, and motivational processes (see Figure 1).

Processes of Social Learning Theory

Source: Based on A. Bandura, *Social Foundations of Thoughts and Actions* (Englewood Cliffs, NJ: Prentice Hall, 1986); P. Taylor, D. Russ-Eft, and D. Chan, "A Meta-analytic Review of Behavior Modeling Training," *Journal of Applied Psychology* 90 (2005): 692–709.

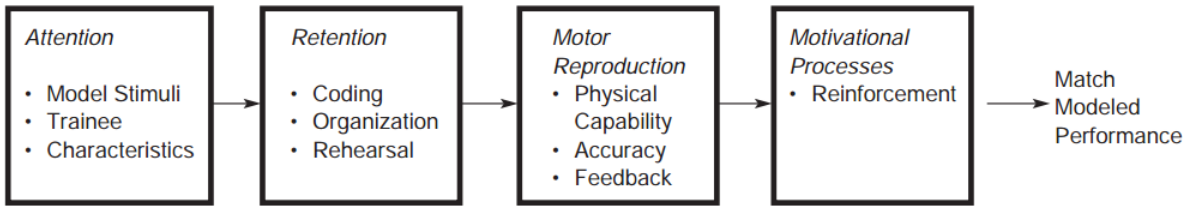

Figure 19

Attention suggests that persons cannot learn by observation unless they are aware of the important aspects of a model's performance. Attention is influenced by characteristics of the model and the learner. Learners

must be aware of the skills or behavior they are supposed to observe. The model must be clearly identified and credible. The learner must have the physical capability (sensory capability) to observe the model. Also, a learner who has successfully learned other skills or behavior by observing the model is more likely to attend to the model.

Learners must remember the behaviors or skills that they observe. This is the role of retention. Learners have to code the observed behavior and skills in memory in an organized manner so they can recall them for the appropriate situation. Behaviors or skills can be coded as visual images (symbols) or verbal statements.

Motor reproduction involves trying out the observed behaviors to see if they result in the same reinforcement that the model received. The ability to reproduce the behaviors or skills depends on the extent to which the learner can recall the skills or behavior. The learner must also have the physical capability to perform the behavior or exhibit the skill. For example, a firefighter can learn the behaviors necessary to carry a person away from a dangerous situation, but he may be unable to demonstrate the behavior because he lacks upper body strength. Note that performance of behavior is usually not perfect on the first attempt. Learners must have the opportunity to practice and receive feedback to modify their behavior to be similar to the model's behavior.

Learners are more likely to adopt a modeled behavior if it results in positive outcomes. Social learning theory emphasizes that behaviors that are reinforced (a motivational process) will be repeated in the future. For example, a major source of conflict and stress for managers often relates to the performance appraisal interview. A manager may, through observing successful managers, learn behaviors that allow employees to be more participative in a performance appraisal interview (e.g., give employees the opportunity to voice their concerns). If the manager uses this behavior in the performance appraisal interview and the behavior is rewarded by employees (e.g., they make comments such as "I really felt the feedback meeting was the best we have ever had") or the new behavior leads to reduced conflicts with employees (e.g., negative reinforcement), the manager will more likely use this behavior in subsequent appraisal interviews.

Social learning theory is the primary basis for behavior modeling training and has influenced the development of multimedia training programs. For example, in the training program called "Getting Your Ideas Across," trainees are first presented with the five key behaviors for getting their ideas across: (1) state the point and purpose of the message, (2) present points to aid understanding, (3) check the audience for reactions and understanding, (4) handle reactions from the audience to what was presented, and (5) summarize the main point. The trainer provides a rationale for each key behavior. Next, trainees view a video of a business meeting in which a manager is having difficulty getting subordinates to accept his ideas regarding how to manage an impending office move. The manager, who is the model, is ineffective in getting his ideas across to his subordinates. As a result, the video shows that the subordinates are dissatisfied with the manager and his ideas. The video is turned off and the trainer leads the trainees in a discussion of what the manager did wrong in trying to get his ideas across. Trainees again view the video. But this time the manager, in the same situation, is shown using the key behaviors. As a result, subordinates react quite positively to their boss (the model). Following this video segment, the trainer leads a discussion of how the model used the key behaviors to successfully get his ideas across.

After observing the model and discussing the key behaviors, each trainee is paired with another trainee for practice. Each group is given a situation and message to communicate. The trainees take turns trying to get their ideas across to each other using the key behaviors. Each trainee is expected to provide feedback regarding the partner's use of the key behaviors. The trainer also observes and provides feedback to each group. Before leaving training, the trainees are given a pocket-size card with the key behaviors, which they take back with them to the job. Also, they complete a planning guide in which they describe a situation where they want to use the key behaviors and how they plan to use them.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

LEARNING (continued)

Goal Theories

Goal Setting Theory

Goal setting theory assumes that behavior results from a person's conscious goals and intentions. Goals influence a person's behavior by directing energy and attention, sustaining effort over time, and motivating the person to develop strategies for goal attainment. Research suggests that specific challenging goals result in better performance than vague, unchallenging goals. Goals have been shown to lead to high performance only if people are committed to the goal. Employees are less likely to be committed to a goal if they believe it is too difficult.

Goal setting theory also is used in training program design. Goal setting theory suggests that learning can be facilitated by providing trainees with specific challenging goals and objectives. Specifically, the influence of goal setting theory can be seen in the development of training lesson plans. As explained later in the chapter, these lesson plans begin with specific goals providing information regarding the expected action that the learner will demonstrate, conditions under which learning will occur, and the level of performance that will be judged acceptable.

Goal Orientation

Goal orientation refers to the goals held by a trainee in a learning situation. Goal orientation can include a learning orientation or a performance orientation. Learning orientation relates to trying to increase ability or competence in a task. People with a learning orientation believe that training success is defined as showing improvement and making progress, prefer trainers who are more interested in how trainees are learning than in how they are performing, and view errors and mistakes as part of the learning process. Performance orientation refers to learners who focus on task performance and how they compare to others. Persons with a performance orientation define success as high performance relative to others, value high ability more than learning, and find that errors and mistakes cause anxiety and want to avoid them.

Goal orientation is believed to affect the amount of effort a trainee will expend in learning (motivation to learn). Learners with a high learning orientation will direct greater attention to the task and learn for the sake of learning in comparison to learners with a performance orientation. Learners with a performance orientation will direct more attention to performing well and less effort to learning. Research has shown that trainees with a learning orientation exert greater effort to learn and use more complex learning strategies than do trainees with a performance orientation. There are several ways to create a learning orientation in trainees. These include setting goals around learning and experimenting with new ways of having trainees perform trained tasks rather than emphasizing trained-task performance; deemphasizing competition among trainees; creating a community of learning (discussed later in the chapter); and allowing trainees to make errors and to experiment with new knowledge, skills, and behaviors during training.

Expectancy Theory

Expectancy theory suggests that a person's behavior is based on three factors: expectancy, instrumentality, and valence. Beliefs about the link between trying to perform a behavior and actually performing well are called expectancies. Expectancy is similar to self-efficacy. In expectancy theory, a belief that performing a given behavior (e.g., attending a training program) is associated with a particular outcome (e.g., being able to better perform your job) is called instrumentality. Valence is the value that a person places on an outcome (e.g., how important it is to perform better on the job).

According to expectancy theory, various choices of behavior are evaluated according to their expectancy, instrumentality, and valence. Figure 1 shows how behavior is determined based on finding the mathematical product of expectancy, instrumentality, and valence. People choose the behavior with the highest value.

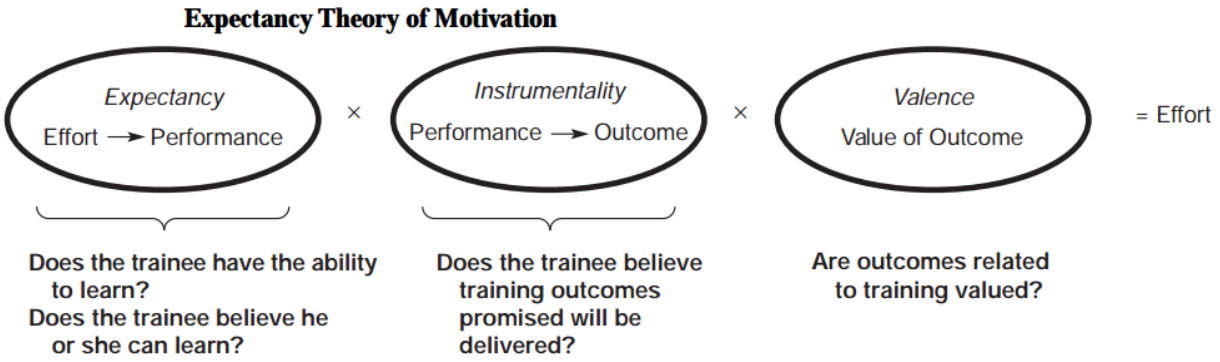

Figure 20

From a training perspective, expectancy theory suggests that learning is most likely to occur when employees believe they can learn the content of the program (expectancy); learning is linked to outcomes such as better job performance, a salary increase, or peer recognition (instrumentality); and employees value these outcomes (valence).

Adult Learning Theory

Adult learning theory was developed out of a need for a specific theory of how adults learn. Most educational theories as well as formal educational institutions have been developed exclusively to educate children and youth. Pedagogy, the art and science of teaching children, has dominated educational theory. Pedagogy gives the instructor major responsibility for making decisions about learning content, method, and evaluation. Students are generally seen as (1) being passive recipients of directions and content and (2) bringing few experiences that may serve as resources to the learning environment.

Educational psychologists, recognizing the limitations of formal education theories, developed andragogy, the theory of adult learning. Malcolm Knowles is most frequently associated with adult learning theory. Knowles's model is based on several assumptions:

1. Adults have the need to know why they are learning something.
2. Adults have a need to be self-directed.
3. Adults bring more work-related experiences into the learning situation.
4. Adults enter into a learning experience with a problem-centered approach to learning.
5. Adults are motivated to learn by both extrinsic and intrinsic motivators.

Adult learning theory is especially important to consider in developing training programs because the audience for many such programs tends to be adults, most of whom have not spent a majority of their time in a formal education setting. Table 1 shows implications of adult learning theory for learning. For example, many adults are intimidated by math and finance. In a day-long seminar to teach basic accounting principles, the course designers considered the trainees' readiness. They created a program, filled with fun and music, in which participants start their own lemonade stand. This reduced trainees' anxiety, which could have inhibited their learning. Many adults believe that they learn through experience. As a result, trainers need to provide opportunities for trainees to experience something new and discuss it or review training materials based on their experiences.

Implications of Adult Learning Theory for Training

Source: Based on M. Knowles, *The Adult Learner,* 4th ed. (Houston, TX: Gulf Publishing, 1990).

Design Issue	Implications
Self-Concept	Mutual planning and collaboration in instruction
Experience	Use learner experience as basis for examples and applications
Readiness	Develop instruction based on the learner's interests and competencies
Time Perspective	Immediate application of content
Orientation to Learning	Problem-centered instead of subject-centered

Table 13

Note that a common theme in these applications is mutuality. That is, the learner and the trainer are both

involved in creating the learning experience and making sure that learning occurs.

Information Processing Theory

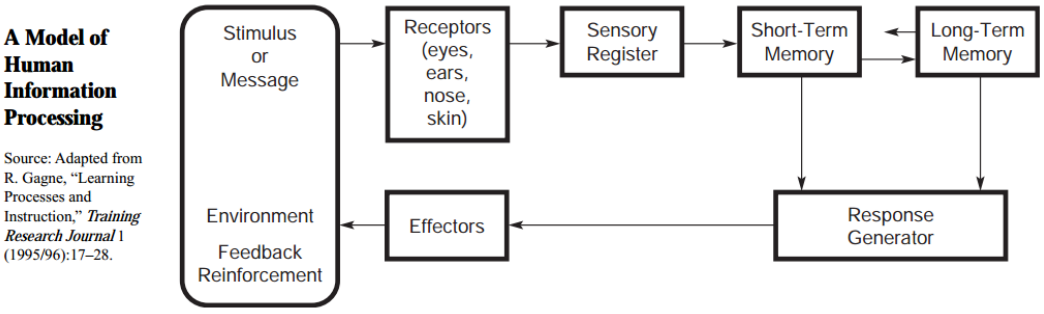

Figure 21

Compared to other learning theories, information processing theories give more emphasis to the internal processes that occur when training content is learned and retained. Figure 2 shows a model of information processing. Information processing theories propose that information or messages taken in by the learner undergo several transformations in the human brain. Information processing begins when a message or stimuli (which could be sound, smell, touch, or pictures) from the environment is received by receptors (ears, nose, skin, eyes). The message is registered in the senses and stored in short-term memory. The message is then transformed or coded for storage in long-term memory. A search process occurs in memory during which time a response to the message or stimulus is organized. The response generator organizes the teamers response and tells the effectors (muscles) what to do. The "what to do" relates to one of the five learning outcomes: verbal information, cognitive skills, motor skills, intellectual skills, or attitudes. The final link in the model is feedback from the environment. This feedback provides the learner with an evaluation of the response given. This information can come from another person or the learner's own observation of the results of his or her action. A positive evaluation of the response provides reinforcement that the behavior is desirable and should be stored in long-term memory for use in similar situations.

Besides emphasizing the internal processes needed to capture, store, retrieve, and respond to messages, the information processing model highlights how external events influence learning. These events include:

1. Changes in the intensity or frequency of the stimulus that affect attention.
2. Informing the learner of the objectives to establish an expectation.
3. Enhancing perceptual features of the material (stimulus), drawing the attention of the learner to certain features.
4. Verbal instructions, pictures, diagrams, and maps suggesting ways to code the training content so that it can be stored in memory.
5. Meaningful learning context (examples, problems) creating cues that facilitate coding.
6. Demonstration or verbal instructions helping to organize the learner's response as well as facilitating the selection of the correct response.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

LEARNING (continued)

THE LEARNING PROCESS

Now that you have reviewed learning theories, you are ready to address three questions: What are the physical and mental processes involved in learning? How does learning occur? Do trainees have different learning styles?

Mental and Physical Processes

The Relationship among Learning Processes, Instructional Events, and Forms of Instruction

Processes of Learning	External Instructional Events	Forms of Instruction
1. Expectancy	1. Informing the learner of the lesson objective	1a. Demonstrate the expected performance. 1b. Indicate the kind of verbal question to be answered.
2. Perception	2. Presenting stimuli with distinctive features	2a. Emphasize the features of the subject to be perceived. 2b. Use formatting and figures in text to emphasize features.
3. Working Storage	3. Limiting the amount to be learned	3a. Chunk lengthier material. 3b. Provide a visual image of material to be learned. 3c. Provide practice and overlearning to aid the attainment of automaticity.
4. Semantic Encoding	4. Providing learning guidance	4a. Provide verbal cues to proper combining sequence. 4b. Provide verbal links to a larger meaningful context. 4c. Use diagrams and models to show relationships among concepts.
5. Long-Term Storage	5. Elaborating the amount to be learned	5a. Vary the context and setting for presentation and recall of material. 5b. Relate newly learned material to previously learned information. 5c. Provide a variety of contexts and situations during practice.
6. Retrieval	6. Providing cues that are used in recall	6a. Suggest cues that elicit the recall of material. 6b. Use familiar sounds or rhymes as cues.
7. Generalizing	7. Enhancing retention and learning transfer	7a. Design the learning situation to share elements with the situation to which learning applies. 7b. Provide verbal links to additional complexes of information.
8. Gratifying	8. Providing feedback about performance correctness	8a. Provide feedback on degree of accuracy and timing of performance. 8b. Confirm whether original expectancies were met.

Source: R. Gagne, "Learning Processes and Instruction," *Training Research Journal* 1 (1995/96): 17–28.

Table 14

Table 1 shows the learning processes. These processes include expectancy, perception, working storage, semantic encoding, long-term storage, retrieval, generalizing, and gratification. Table 1 emphasizes that learning depends on the learner's cognitive processes, including attending to what is to be learned (learning content), organizing the learning content into a mental representation, and relating the learning content to existing knowledge from long-term memory. Expectancy refers to the mental state that the learner brings to the instructional process. This includes factors such as readiness for training (motivation to learn, basic skills) as well as an understanding of the purpose of the instruction and the likely benefits that may result from learning and using the learned capabilities on the job. Perception refers to the ability to organize the

message from the environment so that it can be processed and acted upon. Both working storage and semantic encoding relate to short-term memory. In working storage, rehearsal and repetition of information occur, allowing material to be coded for memory.

Working storage is limited by the amount of material that can be processed at any one time. Research suggests that not more than five messages can be prepared for storage at any one time. Semantic encoding refers to the actual coding process of incoming messages.

Different learning strategies influence how training content is coded. Learning strategies include rehearsal, organizing, and elaboration. Rehearsal, the simplest learning strategy, focuses on learning through repetition (memorization). Organizing requires the learner to find similarities and themes in the training material. Elaboration requires the trainee to relate the training material to other, more familiar knowledge, skills, or behaviors. Trainees use a combination of these strategies to learn. The "best" strategy depends on the learning outcome. For knowledge outcomes, rehearsal and organization are most appropriate. For skill application, elaboration is necessary. After messages have been attended to, rehearsed, and coded, they are ready for storage in long-term memory.

To use learned material (e.g., cognitive skills, verbal information), it must be retrieved. Retrieval involves identifying learned material in long-term memory and using it to influence performance. An important part of the learning process is not only being able to reproduce exactly what was learned but also being able to adapt the learning for use in similar but not identical situations. This is known as generalizing. Finally, gratifying refers to the feedback that the learner receives as a result of using learning content. Feedback is necessary to allow the learner to adapt responses so they are more appropriate. Feedback also provides information about the incentives or reinforcers that may result from performance.

The Learning Cycle

Learning can be considered a dynamic cycle that involves four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. First, a trainee encounters a concrete experience (e.g., a work problem). This is followed by thinking (reflective observation) about the problem, which leads to generation of ideas of how to solve the problem (abstract conceptualization) and finally to implementation of the ideas directly to the problem (active experimentation). Implementing the ideas provides feedback as to their effectiveness, so the learner can see the results and start the learning process over again. Trainees continually develop concepts, translate them into ideas, implement them, and adapt them as a result of their personal observations about their experiences.

Researchers have developed questionnaires to measure trainees' weak and strong points in the learning cycle. Some people have a tendency to over- or underemphasize one stage of the learning cycle or to avoid certain stages. The key to effective learning is to be competent in each of the four stages. Four fundamental learning styles are believed to exist. These learning styles combine elements of each of the four stages of the learning cycle. Table 2 shows the characteristics and dominant learning stage of these styles, called Divergers, Assimilators, Convergers, and Accommodators. Although the questionnaires have been widely used as part of training programs, few studies have investigated the reliability and validity of the learning styles.

Learning Styles

Learning Style Type	Dominant Learning Abilities	Learning Characteristics
Diverger	• Concrete experience • Reflective observation	• Is good at generating ideas, seeing a situation from multiple perspectives, and being aware of meaning and value • Tends to be interested in people, culture, and the arts
Assimilator	• Abstract conceptualization • Reflective observation	• Is good at inductive reasoning, creating theoretical models, and combining disparate observations into an integrated explanation • Tends to be less concerned with people than with ideas and abstract concepts
Converger	• Abstract conceptualization • Active experimentation	• Is good at decisiveness, practical application of ideas, and hypothetical deductive reasoning • Prefers dealing with technical tasks rather than interpersonal issues
Accommodator	• Concrete experience • Active experimentation	• Is good at implementing decisions, carrying out plans, and getting involved in new experiences • Tends to be at ease with people but may be seen as impatient or pushy

Source: Based on D. Kolb, *Learning Style Inventory, Version 3* (Boston, MA: Hay/McBer Training Resources Group, 1999).

Table 15

Trainers who are aware of trainees' learning styles can try to customize instruction to match their preferences. If a group of trainees tends to prefer hands-on learning, trying to teach the mechanics of a technical application online by having them read it will not result in learning. They need applications and the ability to get feedback from an instructor.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

LEARNING (continued)

Implications of the Learning Process for Instruction

Instruction refers to the trainer's manipulation of the environment in order to help trainees learn. The right side of Table 1 shows the forms of instruction that support learning. To provide trainees with the best chance to learn, it is important to ensure that these forms of instruction are included in training. Table 1 summarizes the features of good instruction that facilitate the learning process. The features of a positive learning environment need to be designed into training courses, programs, or specific training methods that might be used, whether lectures, e-learning, or on-the-job training. Below and in the rest of the chapter we discuss these features.

Features of Good Instruction That Facilitate Learning	• Objectives: Employees need to know why they should learn • Meaningful content • Opportunities to practice • Methods for committing training content to memory • Feedback • Observation, experience, and social interaction • Proper coordination and arrangement of the training program • Careful selection of instructors

Table 16

1Employees Need to Know Why They Should Learn

Employees learn best when they understand the objective of the training program. The objective refers to the purpose and expected outcome of training activities. There may be objectives for each training session as well as overall objectives for the program. Recall the discussion of goal setting theory earlier in the chapter. Because objectives can serve as goals, trainees need to understand, accept, and be committed to achieving the training objectives for learning to occur. Training objectives based on the training needs analysis help employees understand why they need training and what they need to learn. Objectives are also useful for identifying the types of training outcomes that should be measured to evaluate a training program's effectiveness.

A training objective has three components:

1. A statement of what the employee is expected to do (performance or outcome).
2. A statement of the quality or level of performance that is acceptable (criterion).
3. A statement of the conditions under which the trainee is expected to perform the desired outcome (conditions).

The objective should not describe performance that cannot be observed, such as "understand" or "know." Table 2 shows verbs that can be used for cognitive, affective, and psychomotor (physical abilities and skills) outcomes. For example, a training objective for a customer-service training program for retail salespeople might be "After training, the employee will be able to express concern [performance] to all irate customers by a brief

Examples of Performance or Outcomes for Objectives

Domain	Performance
Knowledge (recall of information)	Arrange, define, label, list, recall, repeat
Comprehension (interpret in own words)	Classify, discuss, explain, review, translate
Application (apply to new situation)	Apply, choose, demonstrate, illustrate, prepare
Analysis (break down into parts and show relationships)	Analyze, categorize, compare, diagram, test
Synthesis (bring together to form a whole)	Arrange, collect, assemble, propose, set up
Evaluation (judgments based on criteria)	Appraise, attack, argue, choose, compare
Receiving (pay attention)	Listen to, perceive, be alert to
Responding (minimal participation)	Reply, answer, approve, obey
Valuing (preferences)	Attain, assume, support, participate
Organization (development of values)	Judge, decide, identify with, select
Characterization (total philosophy of life)	Believe, practice, carry out
Reflexes (involuntary movement)	Stiffen, extend, flex
Fundamental movements (simple movements)	Crawl, walk, run, reach
Perception (response to stimuli)	Turn, bend, balance, crawl
Physical abilities (psychomotor movements)	Move heavy objects, make quick motions
Skilled movements (advanced learned movements)	Play an instrument, use a hand tool

Table 17

(fewer than 10 words) apology, only after the customer has stopped talking [criteria] and no matter how upset the customer is [conditions]." Table 3 shows the characteristics of good training objectives.

Employees Need Meaningful Training Content

Employees are most likely to learn when the training is linked to their current job experiences and tasks that is, when it is meaningful to them. To enhance the meaningfulness of training content, the message should be presented using concepts, terms, and examples familiar to trainees. Also, the training context should mirror the work environment. The training context refers to the physical, intellectual, and emotional environment in which training occurs.

- Telling stories about others' success in applying training content, especially former trainees.
- Showing how training relates to company goals and strategy.
- Showing how trainees can use training content ideas at work.
- Discussing examples or cases that remind trainees of the good and poor work they have seen.
- Repeating the application of ideas in different contexts.
- Presenting evidence of the effectiveness of knowledge, skills, and behaviors.
- Showing how the conditions that trainees face in training are similar to those on the job.
- Providing practice or application activities that can be used on the job.
- Providing hard copies or electronic access to well-organized materials so trainees can refer to them on the job or use them to teach others.
- Allowing trainees to choose their practice strategy and how they want training content presented (e.g., verbally, visually, problem-based, a combination of approaches).

Characteristics of Good Training Objectives	• Provide a clear idea of what the trainee is expected to be able to do at the end of training. • Include standards of performance that can be measured or evaluated. • State the specific resources (e.g., tools, equipment) that the trainee needs to perform the action or behavior specified. • Describe the conditions under which performance of the objective is expected to occur (e.g., the physical work environment, such as at night or in high temperatures; mental stresses, such as angry customers; equipment failure, such as malfunctioning computer equipment).

Table 18

Employees Need Opportunities to Practice

Practice refers to the physical or mental rehearsal of a task, knowledge, or skill to achieve proficiency in performing the task or skill or demonstrating the knowledge. Practice involves having the employee demonstrate the learned capability (e.g., cognitive strategy, verbal information) emphasized in the training objectives under conditions and performance standards specified by the objectives. For practice to be effective, it needs to actively involve the trainee, include overlearning (repeated practice), take the appropriate amount of time, and include the appropriate unit of learning (amount of material). Practice also needs to be relevant to the training objectives. It is best to include a combination of examples and practice rather than all practice. This helps to avoid overloading trainees' memory so they can engage in the cognitive processes needed for learning to occur (selecting, organizing, and integrating content). Viewing examples helps learners develop a new mental model of skills which they can then use in practice. Some examples of ways to practice include case studies, simulations, role plays, games, and oral and written questions.

Pre-practice

Conditions Trainers need to focus not just on training content but also on how to enable trainees to process information in a way that will facilitate learning and the use of training on the job. There are several steps trainers can take within the training course prior to practice to enhance trainees' motivation to learn and facilitate retention of training content. Before practice, trainers can:

1. Provide information about the process or strategy that will result in the greatest learning. For example, let trainees in a customer service class know about the types of calls they will receive (irate customer, request for information on a product, challenge of a bill), how to recognize such calls, and how to complete the calls.
2. Encourage trainees to develop a strategy (metacognition) to reflect on their own learning process. Metacognition refers to individual control over one's thinking. Two ways that individuals engage in metacognition are monitoring and control. Monitoring includes identifying the problem or task, evaluating one's own learning progress, and predicting what will occur as a result of learning. Control includes identifying the specific steps for completing a task or solving a problem, deciding how quickly or how much attention to devote to the task, and deciding how to prioritize learning. Trainees who engage in metacognition ask themselves questions such as, Why am I choosing this type of action? Do I understand the relationship between this material and my job? What is the next step in the task? Metacognition helps trainees monitor learning and decide what content needs more energy and attention.
3. Provide advance organizers—outlines, texts, diagrams, and graphs that help trainees organize the information that will be presented and practiced.
4. Help trainees set challenging mastery or learning goals.
5. Create realistic expectations for the trainees by communicating what will occur in training.
6. When training employees in teams, communicate performance expectations and clarify roles and responsibilities of team members.

Practice Involves

Experience Learning will not occur if employees practice only by talking about what they are expected to do. For example, using the objective for the customer service course previously discussed, practice would involve having trainees participate in role playing with unhappy customers (customers upset with poor service, poor merchandise, or unsatisfactory exchange policies). Training should involve an active learning approach in which trainees must explore and experiment to determine the rules, principles, and strategies for effective performance. Trainees need to continue to practice even if they have been able to perform the objective several times (overlearning). Overlearning helps the trainee become more comfortable using new knowledge and skills and increases the length of time the trainee will retain the knowledge, skill, or behavior.

Conventional wisdom is that we all learn the most from our errors. However, most people feel that errors are frustrating and lead to anger and despair. Research suggests that from a training perspective, errors can be useful. Error management training refers to giving trainees opportunities to make errors during training. In error management training, trainees are instructed that errors can help learning, and they are encouraged to make errors and learn from them. Trainees may actually commit more errors and may take longer to complete training that incorporates error management training. However, error management training helps improve employee performance on the job.

Error management training is effective because it provides the opportunity for trainees to engage in metacognition, that is, to plan how to use training content, to monitor use of training content, and to evaluate how training content was used. This results in a deeper level of cognitive processing, leading to better memory and recall of training. Trainers should consider using error management training in the training program along with traditional approaches by giving trainees the opportunity to make errors when they work alone on difficult problems and tasks while encouraging them to use errors as a way to learn.

It is important to note that allowing trainees simply to make errors does not help learning. For errors to have a positive influence on learning, trainees need to be taught to use errors as a chance to learn. Error management training may be particularly useful whenever the training content to be learned cannot be completely covered during a training session. As a result, trainees have to discover on their own what to do when confronted with new tasks or problems.

Massed versus Spaced Practice

The frequency of practice has been shown to influence learning, depending on the type of task being trained. Massed practice conditions are those in which individuals practice a task continuously without rest. Massed practice also involves having trainees complete practice exercises at one time within a lesson or class versus distributing the exercises within the lesson. In spaced practice conditions, individuals are given rest intervals within the practice session. Spaced practice is superior to massed practice. However, the effectiveness of massed versus spaced practice varies by the characteristics of the task. Task characteristics include overall task complexity, mental requirements, and physical requirements. Overall task complexity refers to the degree to which a task requires a number of distinct behaviors, the number of choices involved in performing the task, and the degree of uncertainty in performing the task. Mental requirements refer to the degree to which the task requires the subject to use or demonstrate mental skills or cognitive skills or abilities to perform the task. Physical requirements refer to the degree to which the task requires the person to use or demonstrate physical skills and abilities to perform and complete the task. Table 4 shows how tasks can differ. For more complex tasks (including those that are representative of training settings such as Web-based instruction, lecture, and distance learning), relatively long rest periods appear to be beneficial for task learning. After practice, trainees need specific feedback to enhance learning. This includes feedback from the task or job itself, trainers, managers, and peers.

Mental and Physical Requirements and Overall Complexity for Tasks

Mental Requirements	Overall Complexity	Physical Requirements	Tasks
Low	Low	High	Rotary pursuit, typing, ball toss, ladder climb, peg reversal, bilateral transfer, crank turning
High	Average	Low	Free recall task, video games, foreign language, slide bar task, voice recognition, classroom lecture, sound localization, word processing, stoop task, verbal discrimination, maze learning, connecting numbers, upside down alphabet printing, distance learning, Web training
Low	High	High	Gymnastic skills, balancing task
High	High	High	Air traffic controller simulation, milk pasteurization simulation, airplane control simulation, hand movement memorization, puzzle box task, music memorization and performance

Table 19

Whole versus Part Practice

A final issue related to practice is how much of the training should be practiced at one time. One option is that all tasks or objectives should be practiced at the same time (whole practice). Another option is that an objective or task should be practiced individually as soon as each is introduced in the training program (part practice). It is probably best to employ both whole and part practice in a training session. Trainees should have the opportunity to practice individual skills or behaviors. If the skills or behaviors introduced in training are related to one another, the trainee should demonstrate all of them in a practice session after they have been practiced individually.

For example, one objective of the customer service training for retail salespeople is learning how to deal with an unhappy customer. Salespeople are likely to have to learn three key behaviors: (1) greeting disgruntled customers, (2) understanding their complaints, and then (3) identifying and taking appropriate action. Practice sessions should be held for each of the three behaviors (part practice). Then another practice session should be held so that trainees can practice all three skills together (whole practice). If trainees are only given the opportunity to practice the behaviors individually, it is unlikely that they will be able to deal with an unhappy customer. Effective Practice Conditions For practice to be relevant to the training objectives, several conditions must be met. Practice must involve the actions emphasized in the training objectives, be completed under the conditions specified in the training objectives, help trainees perform to meet the criteria or standard that was set, provide some means to evaluate the extent to which trainees' performance meets the standards, and allow trainees to correct their mistakes.

Practice must be related to the training objectives. The trainer should identify what trainees will be doing when practicing the objectives (performance), the criteria for attainment of the objective, and the conditions under which they may perform. These conditions should be present in the practice session. Next, the trainer needs to consider the adequacy of the trainees' performance. That is, how will trainees know whether their performance meets performance standards? Will they see a model of desired performance? Will they be provided with a checklist or description of desired performance? Can the trainees decide if their performance meets standards, or will the trainer or a piece of equipment compares their performance with standards?

The trainer must also decide—if trainees' performance does not meet standards— whether trainees will be able to understand what is wrong and how to fix it. That is, trainers need to consider whether trainees will be able to diagnose their performance and take corrective action or if they will need help from the trainer or a fellow trainee.

Employees Need to Commit Training Content to Memory

Memory works by processing stimuli we perceive through our senses into short-term memory. If the

information is determined to be "important," it moves to long-term memory, where new interconnections are made between neurons or electrical connections in the brain. There are several ways that trainers can help employees store knowledge, skills, behavior, and other training in long-term memory. One way is to make trainees aware of how they are creating, processing, and accessing memory. It is important for trainees to understand how they learn. A presentation of learning styles can be a useful way to determine how trainees prefer to learn.

To create long-term memory, training programs must be explicit on content and elaborate on details. There are several ways to create long-term memory. One approach trainers use is to create a concept map to show relationships among ideas. Another is to use multiple forms of review including writing, drawings, and role plays to access memory through multiple methods. Teaching key words, a procedure, or a sequence, or providing a visual image gives trainees another way to retrieve information. Reminding trainees of knowledge, behavior, and skills that they already know that are relevant to the current training content creates a link to long-term memory that provides a framework for recalling the new training content. External retrieval cues can also be useful. Consider a time when you misplaced your keys or wallet. In trying to remember, we often review all the information we can recall that was close in time to the event or preceded the loss. We often go to the place where we were when we last saw the item because the environment can provide cues that aid in recall.

Research suggests that no more than four or five items can be attended to at one time. If a lengthy process or procedure is to be taught, instruction needs to be delivered in relatively small chunks or short sessions in order to not exceed memory limits. Long-term memory is also enhanced by going beyond one-trial learning. That is, once trainees correctly demonstrate a behavior or skill or correctly recall knowledge, it is often assumed that they have learned it, but this is not always true. Making trainees review and practice over multiple days (overlearning) can help them retain information in long-term memory. Overlearning also helps to automize a task.

Automatization refers to making performance of a task, recall of knowledge, or demonstration of a skill so automatic that it requires little thought or attention. Automatization also helps reduce memory demands. The more that automatization occurs, the more that memory is freed up to concentrate on other learning and thinking. The more active a trainee is in rehearsal and practice, the greater the amount of information retained in long-term memory and the less memory decay occurs over time.

Another way to avoid overwhelming trainees with complex material is to give them pre-training work that can be completed online or using workbooks. For example, trainees can become familiar with the "basics" such as names, definitions, principles, and characteristics of components before they are trained in how the principles are applied (e.g., dealing with angry customers) or how a process works (e.g., testing for pathogens in a blood sample, changing a car's water pump).

Employees Need Feedback

Feedback is information about how well people are meeting the training objectives. To be effective, feedback should focus on specific behaviors and be provided as soon as possible after the trainees' behavior. Also, positive trainee behavior should be verbally praised or reinforced. Videotape is a powerful tool for giving feedback. Trainers should view the videotape with trainees, provide specific information about how behaviors need to be modified, and praise trainee behaviors that meet objectives. Feedback can also come from tests and quizzes, on-the-job observation, performance data, a mentor or coach, written communications, or interpersonal interactions.

The specificity of the level of feedback provided to trainees needs to vary if trainees are expected to understand what leads to poor performance as well as good performance. For example, employees may need to learn how to respond when equipment is malfunctioning as well as when it is working properly; therefore, feedback provided during training should not be so specific that it leads only to employee knowledge about equipment that is working properly. Less specific feedback can cause trainees to make errors that lead to equipment problems, providing trainees with opportunities to learn which behaviors lead to equipment problems and how to fix those problems. Difficulties encountered during practice as a result

of errors or reduced frequency of feedback can help trainees engage more in exploration and information processing to identify correct responses.

Employees Learn through Observation, Experience, and Social Interaction

As mentioned earlier in the chapter, one way employees learn is through observing and imitating the actions of models. For the model to be effective, the desired behaviors or skills need to be clearly specified and the model should have characteristics (e.g., age or position) similar to the target audience. After observing the model, trainees should have the opportunity in practice sessions to reproduce the skills or behavior shown by the model. According to adult learning theory, employees also learn best if they learn by doing. This involves giving employees hands-on experiences or putting them with more experienced employees and providing them with the tools and materials needed to manage their knowledge gaps.

Learning also occurs through interacting with other trainees in small groups during the training session as well as back at work. By working in small groups, trainees can obtain diverse perspectives on problems and issues, perspectives they would never hear if they learned alone. Problem-based learning may be useful for stimulating and holding trainees' attention. In problem-based learning, trainees are divided into small groups. The groups are presented with a problem such as a real problem the company is facing or a case study. In each group, trainees are asked to identify the problem and to identify what they know and do not know (learning issues). Each group has to decide how it will better understand the learning issues. Part of the training program is designed to allow trainees to access the Web, experts in the field, and company records and documents to solve the learning issues. After trainees gather information, they discuss what they have learned and how to use that information to solve the problem. Table 5 shows the types of situations, with examples, in which learning through observation, experience, and interacting with others may be most valuable.

Communities of practice refer to groups of employees who work together, learn from each other, and develop a common understanding of how to get work accomplished. The idea of communities of practice suggests that learning occurs on the job as a result of social interaction. Every company has naturally occurring communities of practice that arise as a result of relationships employees develops to accomplish work and as a result of the design of the work environment.

Communities of practice also take the form of discussion boards, list servers, or other forms of computer-mediated communication in which employees communicate electronically. In doing so, each employee's knowledge can be accessed in a relatively quick manner. It is as if employees are having a conversation with a group of experts.

Despite the benefits of improved communication, a drawback to these communities is that participation is often voluntary, so some employees may not share their knowledge unless the organizational culture supports participation. That is, employees may be reluctant to participate without an incentive or may be fearful that if they share their knowledge with others, they will give away their personal advantage in salary and promotion

Situations, Skills, and Knowledge Best Learned through Observation, Experience, and Interacting with Others

Situations/Knowledge	Examples
Interpersonal Skills	Negotiating a merger, handling a problem employee
Personal Knowledge Based on Experience	Closing a sale, creating a new candy bar, reducing tension between employees
Context-Specific Knowledge	Managing in an international location, handling union grievances, manufacturing with special equipment
Uncertainty or New Situations	Marketing a new product or service, using a new technology for service or manufacturing

Table 20

decisions. Another potential drawback is information overload. Employees may receive so much

information that they fail to process it. This may cause them to withdraw from the community of practice.

Employees Need the Training Program to Be Properly Coordinated and Arranged

Training coordination is one of several aspects of training administration. Training administration refers to coordinating activities before, during, and after the program. Training administration involves:

1. Communicating courses and programs to employees.
2. Enrolling employees in courses and programs.
3. Preparing and processing any pre-training materials such as readings or tests.
4. Preparing materials that will be used in instruction (e.g., copies of overheads, cases).
5. Arranging for the training facility and room.
6. Testing equipment that will be used in instruction.
7. Having backup equipment (e.g., paper copy of slides, an extra overhead projector bulb) should equipment fail.
8. Providing support during instruction.
9. Distributing evaluation materials (e.g., tests, reaction measures, surveys).
10. Facilitating communications between trainer and trainees during and after training (e.g., coordinating exchange of e-mail addresses).
11. Recording course completion in the trainees' training records or personnel files.
12. Good coordination ensures that trainees are not distracted by events (such as an uncomfortable room or poorly organized materials) that could interfere with learning.

Activities before the program include communicating to trainees the purpose of the program, the place it will be held, the name of a person to contact if they have questions, and any pre-program work they are supposed to complete. Books, speakers, handouts, and videotapes need to be prepared. Any necessary arrangements to secure rooms and equipment (such as DVD players) should be made. The physical arrangement of the training room should complement the training technique. For example, it would be difficult for a team-building session to be effective if the seats could not be moved for group activities. If visual aids will be used, all trainees should be able to see them. Make sure that the room is physically comfortable with adequate lighting and ventilation. Trainees should be informed of starting and finishing times, break times, and location of bathrooms. Minimize distractions such as phone messages; request that trainees turn off cell phones and pagers. If trainees will be asked to evaluate the program or take tests to determine what they have learned, allot time for this activity at the end of the program. Following the program, any credits or recording of the names of trainees who completed the program should be done. Handouts and other training materials should be stored or returned to the consultant. The end of the program is also a good time to consider how the program could be improved if it will be offered again.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

LEARNING (continued)

INSTRUCTIONAL EMPHASIS FOR LEARNING OUTCOMES

The discussion of the implications of the learning process for instruction provides general principles regarding how to facilitate learning. However, you should understand the relationship between these general principles and the learning process. Different internal and external conditions are necessary for learning each outcome. Internal conditions refer to processes within the learner that must be present for learning to occur. These processes include how information is registered, stored in memory, and recalled. External conditions refer to processes in the learning environment that facilitate learning. These conditions include the physical learning environment as well as opportunities to practice and receive feedback and reinforcement. The external conditions should directly influence the design or form of instruction. Table 1 shows what is needed during instruction at each step of the learning process. For example, during the process of committing training content to memory, verbal cues, verbal links to a meaningful context, and diagrams and models are necessary. If training content is not coded (or is incorrectly coded), learning will be inhibited.

Internal and External Conditions Necessary for Learning Outcomes

Learning Outcome	Internal Conditions	External Conditions
Verbal Information		
Labels, facts, and propositions	Previously learned knowledge and verbal information Strategies for coding information into memory	Repeated practice Meaningful chunks Advance organizers Recall cues
Intellectual Skills		
Knowing how		Link between new and previously learned knowledge
Cognitive Strategies		
Process of thinking and learning	Recall of prerequisites, similar tasks, and strategies	Verbal description of strategy Strategy demonstration Practice with feedback Variety of tasks that provide opportunity to apply strategy
Attitudes		
Choice of personal action	Mastery of prerequisites Identification with model Cognitive dissonance	Demonstration by a model Positive learning environment Strong message from credible source Reinforcement
Motor Skills		
Muscular actions	Recall of part skills Coordination program	Practice Demonstration Gradual decrease of external feedback

Source: Based on R. M. Gagne and K. L. Medsker, *The Conditions of Learning* (Fort Worth, TX: Harcourt-Brace College Publishers, 1996).

Table 21

CONSIDERATIONS IN DESIGNING EFFECTIVE TRAINING PROGRAMS

The importance of objectives, meaningful material, properly coordinated and arranged training, and opportunities for practice and feedback has been emphasized. How do trainers ensure that these conditions are present in training programs? This last section of the chapter discusses the practical steps involved in designing effective training programs, courses, and lessons. This includes selecting and preparing the training site, selecting trainers, creating a positive learning environment and program design.

Selecting and Preparing the Training Site

The training site refers to the room where training will be conducted. A good training site offers the following features:

1. It is comfortable and accessible.
2. It is quiet, private, and free from interruptions.
3. It has sufficient space for trainees to move easily around in, offers enough room for trainees to have adequate work space, and has good visibility for trainees to see each other, the trainer, and any visual displays or examples that will be used in training (e.g., videos, product samples, charts, slides).

Details to Be Considered in the Training Room

Details to Consider When Evaluating a Training Room

Source: Based on C. L. Finkel, "Meeting Facilities," in *The ASTD Training and Development Handbook*, 3d ed., ed. R. L. Craig (New York: McGraw-Hill, 1996): 978–89.

Noise. Check for noise from heating and air conditioning systems, from adjacent rooms and corridors, and from outside the building.

Colors. Pastel hues such as oranges, greens, blues, and yellows are warm colors. Variations of white are cold and sterile. Blacks and brown shades will close the room in psychologically and become fatiguing.

Room structure. Use rooms that are somewhat square in shape. Long, narrow rooms make it difficult for trainees to see, hear, and identify with the discussion.

Lighting. Main source of lighting should be fluorescent lights. Incandescent lighting should be spread throughout the room and used with dimmers when projection is required.

Wall and floor covering. Carpeting should be placed in the meeting area. Solid colors are preferable because they are not distracting. Only meeting-related materials should be on the meeting room walls.

Meeting room chairs. Chairs should have wheels, swivels, and backs that provide support for the lower lumbar region.

Glare. Check and eliminate glare from metal surfaces, TV monitors, and mirrors.

Ceiling. Ten-foot-high ceilings are preferable.

Electrical outlets. Outlets should be available every six feet around the room. A telephone jack should be next to the outlets. Outlets for the trainer should be available.

Acoustics. Check the bounce or absorption of sound from the walls, ceiling, floor, and furniture. Try voice checks with three or four different people, monitoring voice clarity and level.

Table 22

Table 2 presents characteristics of the meeting room that a trainer, program designer, or manager should use to evaluate a training site. Keep in mind that many times trainers do not have the luxury of choosing the "perfect" training site. Rather, they use their evaluation of the training site to familiarize themselves with the site's strengths and weaknesses in order to adjust the training program and/or physical arrangements of the site (e.g., rearrange the trainer's position so it is closer to electrical outlets needed to run equipment).

Because of technology's impact on the delivery of training programs, many training sites include instructor and trainee controlled equipment. Figure 1 shows several types of seating arrangements.

Examples of Seating Arrangements

Source: Based on F. H. Margolis and C. R. Bell, *Managing the Learning Process* (Minneapolis, MN: Lakewood Publications, 1984).

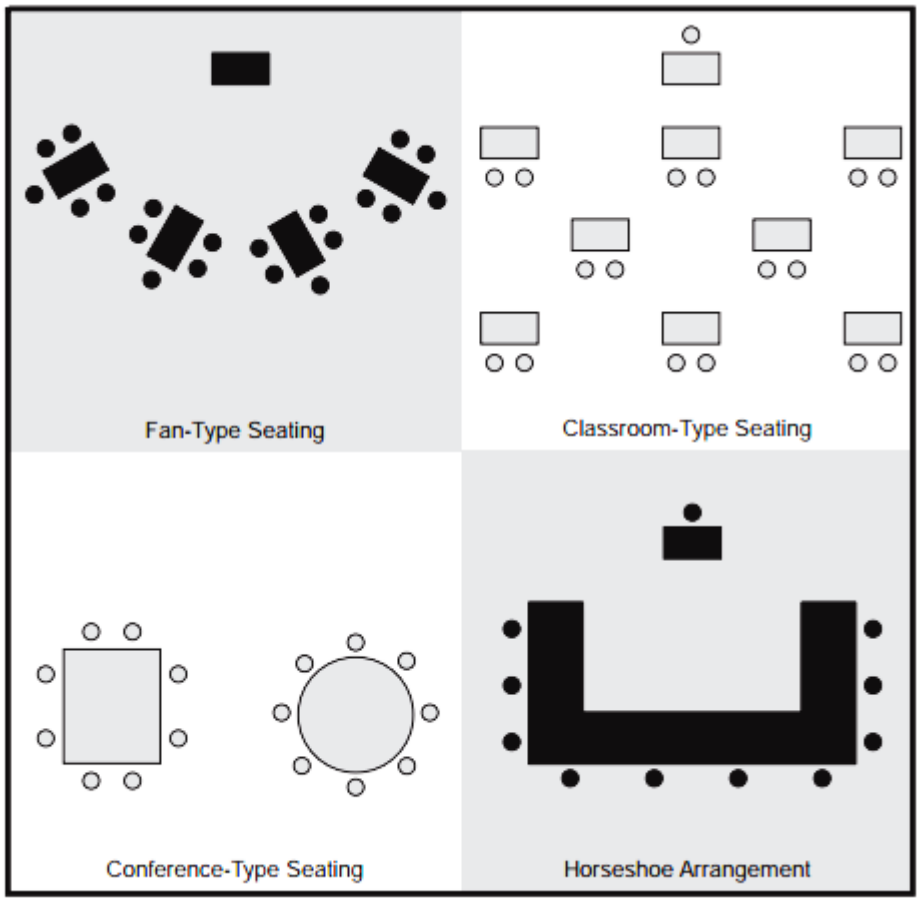

Figure 22

Fan-type seating is conducive to allowing trainees to see from any point in the room. Trainees can easily switch from listening to a presentation to practicing in groups, and trainees can communicate easily with everyone in the room. Fan-type seating is effective for training that includes trainees working in groups and teams to analyze problems and synthesize information.

If the training primarily involves knowledge acquisition, with lecture and audiovisual presentation being the primary training method used, traditional classroom-type seating is appropriate. Traditional classroom instruction allows for trainee interaction with the trainer but makes it difficult for trainees to work in teams (particularly if the seats are not movable to other locations in the room).

If training emphasizes total-group discussion with limited presentation and no small-group interaction, a conference-type arrangement may be most effective. If the training requires both presentation and total-group instruction, the horseshoe arrangement is useful.

Choosing Trainers

Selecting professional trainers or consultants is one obvious possibility for companies. Trainers, whether from inside or outside the company, should have expertise in the topic and experience in training. Train-the-trainer programs are necessary for managers, employees, and "experts" who may have content knowledge but need to improve presentation and communications skills, gain an understanding of the key components of the learning process (e.g., feedback, practice), or learn to develop lesson plans. This may involve having employees and managers earn a certificate that verifies they have the skills needed to be effective trainers. To increase their chances of success in their first courses, new trainers should be observed and should receive coaching and feedback from more experienced trainers. When companies use in-house experts for training, it is important to emphasize that these experts convey training content in as concrete a manner as possible (e.g., use examples), especially if the audience is unfamiliar with the content. Experts may have a tendency to use more abstract and advanced concepts that may confuse trainees.

Using managers and employees as trainers may help increase the perceived meaningfulness of the training content. Because they understand the company's business, employee and manager trainers tend to make the training content more directly applicable to the trainees' work. Also, use of managers and employees can help increase their support for learning and reduce the company's dependency on expensive outside consultants. Serving as trainers can be rewarding for employees and managers if they are recognized by the company or if the training experience is linked to their personal development plans.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

LEARNING (continued)

How Trainers Can Make the Training Site and Instruction Conducive to Learning

As a trainer, you can take several steps to make the room and instruction conducive to learning.

Creating a Learning Setting

Matching Training Rooms with Learning Requirements

Source: Based on "Workplace Issues: One in a Series. Learning Environments for the Information Age," available from the Steelcase Web site, www.steelcase.com (March 1, 2006).

For Learning that Requires:	Suggested Training Rooms
High Collaboration, Low Self-Direction	Classroom with breakout rooms Lecture hall with breakout rooms
High Collaboration, High Self-Direction	Breakout rooms Project room Conference room
Low Collaboration, Low Self-Direction	Classroom Computer classroom Lecture hall
Low Collaboration, High Self-Direction	Distance learning room Media lab Computer lab

Table 23

Before choosing a training room, consider how the trainees are expected to learn. That is, determine the extent to which trainees decide when, where, and how they will learn (self-direction) and whether learning will occur by interactions with others (collaboration). Table 1 describes the types of training rooms that are appropriate for the amount of self-direction and collaboration necessary for learning. For example, a classroom with easy-to-move furniture supports high collaboration but low self-direction; this classroom can be used for lectures, presentations, discussions, and small groups. A distance learning room that includes computers, cameras, and data equipment supports learning that requires low collaboration but high self-direction. Self-directed learning that requires little collaboration is best suited for labs equipped with computers and software that supports online learning, computer-based training, or software instruction. Of course, a dedicated training space may not be necessary for these learning requirements because trainees can work from their own personal computer at home or at work. Be aware that employees may not like the lack of face-to-face collaboration that occurs in online learning programs.

Think about the physical requirements of the training room. Do the trainees need to be able to concentrate and write? Do they need to be able to see detailed visuals? Choose a room large enough to meet your purpose, not just to accommodate a certain number of trainees. Avoid putting 25 people in a room that can seat 250. A small number of trainees in a large room makes it impersonal and leaves people feeling insignificant. Consider the room design well in advance of the session and work with the training site coordinator to design a setting that meets your learning needs.

Preparation

You need to know your content very well. Use mental and physical rehearsals to help build confidence and to evaluate the pace and timing of material. Observe master trainers to get new ideas. Design the training from the audience's perspective—ask "So what?" about everything you plan to do. If you are using computers, CD-ROMs, the Internet, distance learning, or other technologies, make sure you know how to work the equipment and have backup materials in case the technology fails. Make sure your visuals are available in at least two formats (e.g., PowerPoint slides and overheads). Arrive at the training room at least 15 minutes early to make sure the room is set up correctly, materials are available, and technology is functioning. Greet the trainees as they enter the room.

Classroom Management

Monitor the room for extra chairs, overflowing trash cans, and piles of materials left over from previous

training sessions. A messy, disorganized, uninviting training room creates learning distractions. Give trainees frequent breaks so they can leave the room and return ready to learn.

Interacting with Trainees

You as a trainer carry the responsibility for the trainees' learning experience. You need to communicate the topics that will be covered, the learning approach that will be used, and the expectations for trainees. You need to be dramatic to draw attention to important points. Research suggests that trainees have the best recall of training content when the trainer is enthusiastic and avoids vocal distractions (e.g., use of "er" and "um"). Also, you should use a relaxed style and make learners comfortable. As a trainer, you should recognize that your expectations for trainees' learning and your stereotypes can result in learners confirming those expectations (i.e., a self-fulfilling prophecy). Negative expectations held by instructors can lead to learners' negative evaluation of the training and the trainer. How you should engage trainees is based on both the size of the room and the number of trainees. The larger the room, the more your gestures and movements must be exaggerated to get the audience's attention. To create intimacy with the training group, you must move close to them. Standing in the front of the room is a way to establish authority. One of the best ways to gain trainees' attention is to facilitate discussion from different places in the room. Strive to lead the instruction but focus on the trainees. Help trainees develop their own answers, apply tools and techniques, and use reference materials to reach solutions that are effective in training and on the job. Use questions that lead trainees to answers or points you want to make. Continually strive for interaction with trainees— trainees may have more real-life experiences, exposure to, or applications related to training topics than you do. Create a training environment where trainees can learn from each other. Listen to trainees, summarize learning points, and provide feedback. Table 2 provides examples of how to get trainees involved in a training session.

Examples of How to Get Trainees Involved

Source: Based on J. Curtis, "Engage Me, Please!" *T + D* (November 2008): 68–73.

- Prepare and distribute content-related, open-ended questions to be discussed in breakout groups.
- Use creative activities or games that relate to the training content.
- Use assessment or measures that allow the trainees to learn about themselves and each other.
- Incorporate role-playing.
- Conclude the training session by asking trainees either individually or in teams from the same company or work group to consider the following question: "As a result of this session, what do you plan to start, stop, or continue doing? On what topic would you like to have more information?"

Table 24

Dealing with Disruptive Trainees

How can you deal with employees who don't want to be trained despite being informed in advance of the course and how it relates to the business? First, take charge of the session immediately, communicate your credentials, and in a friendly but assertive way tell employees why the training is important and how it will help them. Then let them vent their frustrations. Useful methods for this activity are to have trainees describe what they would be doing if they were not in the program, have trainees draw pictures of how the person next to them feels about attending the training, or have trainees break into groups and then ask some groups to make a list of the top 10 reasons not to be in the class and the other groups to list 10 reasons to be in the class. Reassemble the class and discuss first the reasons not to be in the class, and then end with the reasons why the trainees should be in the class. For trainees who disrupt, sleep through, or constantly interrupt the training sessions, consider using activities that get trainees moving, engaged, and energized.

Managing Group Dynamics

To ensure an even distribution of knowledge or expertise in groups, ask trainees to indicate whether they consider themselves novices, experienced, or experts on a topic. Arrange the groups so that they contain a

mix of novice, experienced, and expert trainees. Group dynamics can be changed by changing learners' positions in the room. Pay attention to group dynamics by wandering through the room and noticing which groups are frustrated or stalled, who is withdrawn, and who is dominating the group. Your role is to make sure that everyone in a group has an opportunity to contribute. Seating arrangements such as rectangular tables often give trainees authority based on where they are seated. For example, the end of a rectangular table is the position of authority. Putting a quiet person in the "power seat" creates an opportunity for that person to assume a leadership role within the group.

Program Design

For learning to occur, training programs require meaningful material, clear objectives, and opportunities for practice and feedback. However, even if a training program contains all these conditions, it still may not result in learning for several reasons. Proper equipment and materials may not be available during the session, trainers may be rushed to present content and fail to allow adequate time for practice, or the actual activities that occur in the training session may not relate to the learning objectives. Program design refers to the organization and coordination of the training program. A training program may include one or several courses. Each course may contain one or more lessons. Program design includes considering the purpose of the program as well as designing specific lessons within the program. Effective program design includes a design document template, a course or lesson plan, and a course or lesson plan overview. Keep in mind that although the responsibility for designing the training program may belong to the instructional designer, human resource professional, or manager, the "clients" of the program should also be involved in program design. Managers and employees should be involved in the needs assessment process. In addition, their role may include reviewing prototypes of the program, providing examples and program content, and participating in the program as instructors.

The following explanations of each feature of effective program design are accompanied by an example that is based on a training program developed by a company to increase its managers' effectiveness in conducting performance appraisal feedback interviews. Performance appraisal feedback sessions are meetings between managers and subordinates during which the strengths and weaknesses of an employee's performance are discussed and improvement goals are usually agreed upon. Based on a needs assessment, this company discovered that its managers were uncomfortable conducting performance appraisal feedback sessions. These managers often were very authoritarian in the sessions. That is, they tended to tell employees what aspects of their job performance needed to be improved rather than allowing the employees to participate in the session or working with them to identify and solve performance problems.

Design Document

Design Document Template

Source: Based on G. Piskurich, *Rapid Instructional Design* (San Francisco: Pfeiffer, 2006).

Scope of Project
• Goal • Audience • Design time and checkpoints • Length of the course
Delivery
• Content • Method • Training time • Problems and opportunities
Objectives
Resources
Who Is Involved
Topical Outline
Administration and Evaluation
Links to Other Programs

Table 25

A design document can be used to guide the development of training and to explain the training to managers, subject matter experts, reviewers, or other trainers. Table 3 shows a design document template.

The level of detail in the design document can vary. Scope of project includes the goals, outcomes, or what trainees are expected to achieve; a description of the trainees; a description of how long it will take to develop the course and the checkpoints or tasks that need to be completed as the course is developed; and the length of the course. The length of a course is determined by considering trainees' abilities and their availability for training, the resources needed for training, whether the course is part of a larger curriculum or is a standalone course, and the need to develop modules in order to provide an opportunity for trainees to practice concepts and skills to avoid being overwhelmed. Delivery includes what the course will cover, how it will be delivered (e.g., face-to-face, online), an estimate of the training time, and the identification of any special conditions or issues that may affect the course (e.g., problems getting equipment to video role-plays and provide feedback).

Objectives refer to the course objectives. It is important to realize that within a training program there are usually different types of objectives that vary in specificity and detail. Program objectives refer to broader summary statements of the purpose of the program. They are usually included on the design template. Course objectives or lesson objectives refer to the goals of the course or the lesson. These objectives are more specific in terms of expected behaviors, content, conditions, and standards.

Resources refers to the materials—cases, DVDs, videos, models, process maps, podcasts, lesson plans, or guides for use by the facilitator or participants—that need to be purchased or developed for the course. Who is involved includes trainers, program designers, and individuals who will be involved in the design, delivery, and evaluation of the program. The topical outline includes a brief outline of the topics that will be covered in the program. Administration and evaluation refers to who will be in charge of course scheduling, how trainees will enroll, how the course will be evaluated, and who will review and update the course. Links to other programs refers to any other needs, such as a train-the-trainer program or manager introduction or kick-off for the program. Table 4 shows a simple design document for the performance appraisal feedback course.

Design Document	
	Purpose: To prepare managers to conduct effective performance feedback sessions with their direct reports
	Goals: Managers will be able to conduct a performance feedback session using the problem-solving approach
	Target audience: Managers
	Training time: 1 day
	Method: Lecture, video, role plays
	Number of participants per session: 20–25
	Locations: Various
	Prerequisites: None
	Problems and opportunities: New Performance appraisal system introduced; manager dislikes conducting feedback sessions
	Instructor: Caroline O'Connell and facilitators

Table 26

Course or Lesson Plan

Lesson plans are typically more detailed than the design document. They include the specific steps involved in the lesson, instructor and trainee activities, and the time allocated to each topic included in the lesson.

Lesson plans can be designed for programs lasting a day, a week, or several hours. If training takes place over several days, a separate lesson plan is prepared for each day. The detailed lesson plan translates the content and sequence of training activities into a guide that is used by the trainer to help deliver the training. That is, lesson plans include the sequence of activities that will be conducted in the training session and identify the administrative details. Table 5 shows a lesson plan.

Sample of a Detailed Lesson Plan

Course title: Conducting an Effective Performance Feedback Session

Lesson title: Using the problem-solving style in the feedback interview

Lesson length: Full day

Learning objectives:

1. Describe the eight key behaviors used in the problem-solving style of giving appraisal feedback without error
2. Demonstrate the eight key behaviors in an appraisal feedback role play without error

Target audience: Managers

Prerequisites:

Trainee: None

Instructor: Familiarity with the tell-and-sell, tell-and-listen, and problem-solving approaches used in performance appraisal feedback interviews

Room arrangement: Fan-type

Materials and equipment needed: VCR, overhead projector, pens, transparencies, VCR tape titled "Performance Appraisal Interviews," role-play exercises

Evaluation and assignments: Role-play; read article titled, "Conducting Effective Appraisal Interviews"

Comment: Article needs to be distributed two weeks prior to session

Lesson Outline	Instructor Activity	Trainee Activity	Time
Introduction	Presentation	Listening	8–8:50 A.M.
View videos of three styles		Watching	8:50–10 A.M.
Break			10–10:20 A.M.
Discussion of strengths and weaknesses of each style	Facilitator	Participation	10:20–11:30 A.M.
Lunch			11:30 A.M.–1 P.M.
Presentation and video of eight key behaviors of problem-solving style	Presentation	Listening	1–2 P.M.
Role plays	Watch exercise	Practice using key behaviors	2–3 P.M.
Wrap-up	Answer questions	Ask questions	3–3:15 P.M.

Table 27

The lesson plan provides a table of contents for the training activity. This helps to ensure that training activities are consistent regardless of the trainer. Lesson plans also help to ensure that both the trainee and the trainer are aware of the course and program objectives. Most training departments have written lesson plans that are stored in notebooks or in electronic databases. Because lesson plans are documented, they can be shared with trainees and customers of the training department (i.e., managers who pay for training services) to provide them with detailed information regarding program activities and objectives.

Table 6 shows the features of an effective lesson plan. The lesson plan includes the learning objectives, topics to be covered, target audience, time of session, lesson outline, the activity involved, any required preparation or prerequisites, how learning will be evaluated, and steps to insure transfer of training.

Features of an Effective Lesson Plan

Feature	
Learning Objectives or Outcomes	What is the lesson designed to accomplish? What is the standard for successful learning?
Target Audience	Who is in the lesson? What are the characteristics of the audience?
Prerequisites (trainees and instructor)	What will trainees need to be able to do before they can benefit from the course? Who is qualified to be in the program? Who is qualified to be an instructor?
Time	How much time is devoted to each part of the lesson?
Lesson Outline	What topics will be covered? In what sequence?
Activity	What will trainees' and instructor's role be during each topic covered?
Support Materials	What materials and/or equipment is needed for delivery of instruction or to facilitate instruction?
Physical Environment	Is a certain size or arrangement of room necessary?
Preparation	Do the trainees have homework that needs to be completed before the lesson? What does the instructor need to do?
Lesson Topic	What topic is the lesson going to cover?
Evaluation	How will learning be evaluated (e.g., tests, role plays)?
Transfer and Retention	What will be done to ensure that training content is used on the job?

Source: Based on R. Vaughn, *The Professional Trainer* (Euclid, OH: Williams Custom Publishing, 2000); R. F. Mager, *Making Instruction Work*, 2d ed. (Atlanta, GA: Center for Effective Performance, 1997); L. Nadler and Z. Nadler, *Designing Training Programs*, 2d ed. (Houston, TX: Gulf Publishing, 1992); Big Dog's Human Resource Development page, www.nwlink.com/donclark/hrd.html

Table 28

In developing the lesson outline, trainers need to consider the proper sequencing of topics. Trainers must answer questions such as, "What knowledge and skills need to be learned first?" "In what order should the knowledge, skills, and behavior be taught?" "What order will make sense to the trainees?" It is also important to consider the target audience. Any information about their training and experience, their motivation for taking the course, and their interests, learning styles, and background (e.g., education, work experience) will be useful for choosing meaningful examples, determining program content, deciding on support materials, and building the credibility of the training. Information about the target audience should be available from the person analysis of the needs assessment. Additional information can be collected by talking to the "clients" (e.g., managers) who requested the training program and to past program participants, if available. Support materials include any equipment needed for delivery of instruction, such as computers, overhead projectors, or DVD, CD, or video players. Trainers should arrange for the purchase of any whiteboards, flip charts, or markers that may be used in instruction. Any exercises needed for trainees' practice or preparation, such as readings, role-play exercises, assessments, or pretests, need to be ordered or reproduced (after copyright permission is obtained). In considering instructor and trainee activity, the focus should be on ensuring that the lesson has as many features of a positive learning process as possible, including communication of objectives, feedback, opportunities for practice, opportunities for trainees to share experiences and ask questions, and modeling or demonstration. Transfer and retention strategies might include chat rooms, follow-up meetings with the manager, and action planning.

The two learning objectives for the course, "Conducting an Effective Performance Feedback Session," are shown in Table 5. The eight key behaviors referred to in the learning objectives section are as follows: (1) explain the purpose of the meeting; (2) ask the employee to describe what he has done to deserve recognition; (3) ask the employee to describe what he should stop doing, start doing, or do differently; (4) ask the employee for areas in which you can provide assistance; (5) give the employee your opinion of his performance; (6) ask for and listen to the employee's concerns about your evaluation; (7) agree on steps/actions to be taken by each of you; and (8) agree to a follow-up date.

Features of an Effective Lesson Plan

Feature	
Learning Objectives or Outcomes	What is the lesson designed to accomplish? What is the standard for successful learning?
Target Audience	Who is in the lesson? What are the characteristics of the audience?
Prerequisites (trainees and instructor)	What will trainees need to be able to do before they can benefit from the course? Who is qualified to be in the program? Who is qualified to be an instructor?
Time	How much time is devoted to each part of the lesson?
Lesson Outline	What topics will be covered? In what sequence?
Activity	What will trainees' and instructor's role be during each topic covered?
Support Materials	What materials and/or equipment is needed for delivery of instruction or to facilitate instruction?
Physical Environment	Is a certain size or arrangement of room necessary?
Preparation	Do the trainees have homework that needs to be completed before the lesson? What does the instructor need to do?
Lesson Topic	What topic is the lesson going to cover?
Evaluation	How will learning be evaluated (e.g., tests, role plays)?
Transfer and Retention	What will be done to ensure that training content is used on the job?

Table 29

The prerequisites include (1) arrangement of the training site, equipment, and materials needed; (2) instructor preparation; and (3) trainee prerequisites. In the example, the trainer needs a VCR to show a video of performance appraisal feedback styles. The trainer also needs an overhead projector to record points made by the trainees during the planned discussion of the strengths and weaknesses of the appraisal styles presented on the video. The room needs to be fan-shaped so trainees can see the trainer and each other. Also, the fan arrangement is good for role-play exercises that involve trainees working in groups of two or three.

Trainee prerequisites refer to any preparation, basic skills, or knowledge that the trainee needs prior to participating in the program. Trainee prerequisites may include basic math and reading skills, completion of prior training sessions, or successful completion of tests or certificate or degree programs. Instructor prerequisites indicate what the instructor needs to do to prepare for the session (e.g., rent equipment, review previous day's training session) and any educational qualifications the instructor needs. Lesson plans also may cover how the lesson will be evaluated and any assignments that the trainees need to complete. In the example, trainees are required to read an article on effective performance appraisal feedback interviews. The instructor needs to be familiar with the eight key behaviors for conducting problem-solving appraisal feedback interviews.

Lesson Plan Overview

Sample Lesson Overview

8–8:50 A.M.	Introduction
8:50–10 A.M.	Watch videos of three styles of appraisal feedback
10–10:20 A.M.	Break
10:20–11:30 A.M.	Discussion of strengths and weaknesses of each style
11:30 A.M.–1 P.M.	Lunch
1–2 P.M.	Presentation and video of eight key behaviors of problem-solving approach
2–3 P.M.	Role plays
3–3:15 P.M.	Wrap-up (questions and answers)

Table 30

The lesson plan overview matches major activities of the training program and specific times or time intervals. Table 8 provides an example of a lesson plan overview for the performance appraisal feedback

training.

Completing a lesson plan overview helps the trainer determine the amount of time that needs to be allocated for each topic covered in the program. The lesson plan overview is also useful in determining when trainers are needed during a program; time demands on trainees; program breaks for snacks, lunch, and dinner; and opportunities for practice and feedback. For the performance appraisal feedback training, the lesson plan shows that approximately half of the training time is devoted to active learning by the trainees (discussion, role plays and question-and-answer session).

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 138 - 184.

TRANSFER OF TRAINING

After conducting a needs assessment, ensuring that employees are ready for training, and creating a learning environment, the next step is to ensure that what is learned in training is applied on the job. Transfer of training refers to trainees' effectively and continually applying what they learned in training (knowledge, skills, behaviors, cognitive strategies) to their jobs. As the nonprofit organizations in the opening vignette illustrate the work environment and trainee characteristics play an important role in ensuring that transfer of training occurs. Transfer of training is also influenced by training design. Despite the importance of transfer of training and the emphasis that some companies are placing on it, research suggests that only 62 percent of employees transfer training immediately after completing training programs. This statistic decreases to 34 percent one year after training.

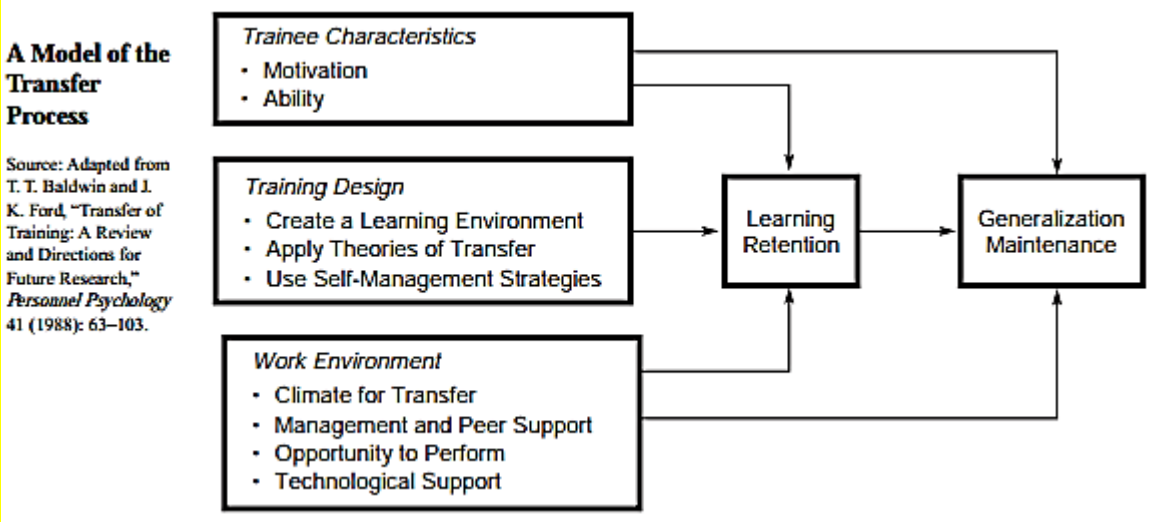

Figure 23

Figure 1 presents a model of the transfer process. This model is useful for considering what you can do to ensure that trainee characteristics, training design, and the work environment are conducive to transfer of training. The chapter is organized based on this model. As the model shows, transfer of training includes both the generalization of training to the job and the maintenance of learned material. Generalization refers to a trainee's ability to apply learned capabilities (verbal knowledge, motor skills, etc.) to on-the-job work problems and situations that are similar but not identical to those problems and situations encountered in the learning environment. Maintenance refers to the process of continuing to use newly acquired capabilities over time.

For generalization and maintenance to occur, capabilities must be learned and retained. The model shows three factors that influence learning and transfer of training. Training design, trainee characteristics, and the work environment influence learning, retention, maintenance, and generalization. Training design refers to the characteristics of the learning environment.

Another factor that influences learning and retention is trainee characteristics. Trainee characteristics include ability and motivation. If trainees lack the basic skills needed to master learned capabilities (e.g., cognitive ability, reading skills), are not motivated to learn, and do not believe that they can master the learned capabilities (low self-efficacy), it is doubtful that learning and transfer of training will occur. The third factor that influences learning, retention, and transfer is the work environment. The work environment includes factors on the job that influence transfer of training, such as managers' support, peer support, technology support, the climate for transfer, and the opportunity to use newly acquired capabilities on the job.

Although transfer of training sounds like something to be considered after training occurs, it should be planned for before the training. Transfer of training does occur after the training occurs. However, the

conditions that facilitate transfer need to be provided before the training actually occurs. For example, to motivate trainees to attend a training program, communications about the program need to emphasize the benefit of the training. Design of the learning process needs to include desirable features such as objectives, meaningful material, and opportunities to practice and receive feedback. Managers' and peers' attitudes toward training can influence trainees' level of motivation to learn.

TRAINING DESIGN

Training design refers to factors built into the training program to increase the chances that transfer of training will occur. For transfer of training to occur, managers need to apply transfer of training theories and encourage trainees to take responsibility for learning and to engage in self-management strategies.

Applications of Transfer of Training Theory

Three theories of transfer of training have implications for training design (the learning environment): the theory of identical elements, the stimulus generalization approach, and the cognitive theory of transfer. Table 1 shows each theory's primary emphasis and the conditions under which it is most appropriate to consider.

Transfer of Training Theories

Theory	Emphasis	Appropriate Conditions	Type of Transfer
Identical Elements	Training environment is identical to work environment.	Work environment features are predictable and stable. *Example:* training to use equipment.	Near
Stimulus Generalization	General principles are applicable to many different work situations.	Work environment is unpredictable and highly variable. *Example:* training in interpersonal skills.	Far
Cognitive Theory	Meaningful material and coding schemes enhance storage and recall of training content.	All types of training and environments.	Near and far

Table 31

Theory of Identical Elements

The theory of identical elements proposes that transfer of training occurs when what is being learned in the training session is identical to what the trainee has to perform on the job. Transfer will be maximized to the degree that the tasks, materials, equipment, and other characteristics of the learning environment are similar to those encountered in the work environment.

The use of identical elements theory is shown in the hostage training simulation used by the Baltimore Police Department. The Baltimore Police Department needed to teach police sergeants the skills to handle hostage-barricade situations in which lives are at stake— skills such as negotiating with a troubled husband holding his wife and/or children hostage. The first hour of a hostage situation is critical. The sergeant must quickly organize resources to achieve a successful end to the situation with minimal or no injuries. A simulation was chosen because it provides a model of reality, a mock-up of a real situation without the danger. Multiple scenarios can be incorporated into the simulation, allowing the sergeants to practice the exact skills they will need when faced with a hostage crisis.

The simulation begins by having the trainees briefed on the hostage situation. Then they are directed to take charge of resolving the incident in the presence of an instructor who has personally been involved in similar real-life incidents. Each trainee supervises one difficult and one easy scenario. The simulation is

designed to emphasize the importance of clear thinking and decision making in a situation in which time is critical. It is essential that the trainees take actions according to a set of priorities. These priorities place the greatest value on minimizing the risks to the hostages and isolating suspects before communicating with them. The simulation scenarios include elements of many actual hostage incidents such as forced entry, taking persons against their will, the presence of a weapon, and threats. As trainees work in the simulation, their actions are evaluated by the instructor. The instructor provides feedback to the trainees in writing after they complete the simulation or the instructor can correct mistakes as they happen.

The training simulation mirrors the exact circumstances of actual hostage situations encountered by police officers. Also, the checklist of activities and behaviors that the sergeants are provided with in training is the exact checklist used in hostage situations that occur on the street. Evidence of generalization is provided by police sergeants who have successfully dealt with a bank-hostage situation by using the skills emphasized in the simulation. The Baltimore Police Department is also concerned with maintenance. At the conclusion of the simulation, officers may be able to demonstrate how to successfully free hostages. However, the incidence of hostage situations is fairly low compared to other tasks that police officers perform (e.g., issuing traffic citations, investigating burglaries). As a result, the police department is concerned that officers may forget what they learned in training and therefore has difficulties in hostage situations. To ensure that officers have opportunities to practice these infrequently used but important skills, the training department occasionally schedules mock hostage situations.

Another application of the theory of identical elements is found in the use of simulators for training airline pilots. Pilots are trained in a simulator that looks exactly like the cockpit of a commercial aircraft. All aspects of the cockpit in the simulator (e.g., gauges, dials, lights) are the same as in a real aircraft. In psychological terms, the learning environment has complete fidelity with the work environment. Fidelity refers to the extent to which the training environment is similar to the work environment. If skills in flying, taking off, landing, and dealing with emergency situations are learned in the simulator, they will be transferred to the work setting (commercial aircraft).

The identical elements approach has also been used to develop instruments designed to measure the similarity of jobs. Job similarity can be used as one measure of the extent to which training in the knowledge and skills required for one job prepares an employee to perform a different job.

The theory of identical elements has been applied to many training programs, particularly those that deal with the use of equipment or that involve specific procedures that must be learned. Identical elements theory is particularly relevant in making sure that near transfer occurs. Near transfer refers to trainees' ability to apply learned capabilities exactly to the work situation. Programs that emphasize near transfer should include the following training designs:

- The program should teach specific concepts and procedures.
- Trainees should be given an explanation as to any differences between training tasks and work tasks.
- Trainees should be encouraged to focus only on important differences between training tasks and work tasks (e.g., speed of completion) rather than unimportant differences (e.g., equipment with the same features but a different model).
- Behaviours or skills that trainees learn in the program should contribute to effective performance.

For example, in police officer training, new hires (cadets) practice shooting targets. During practice sessions, cadets fire a round of shells, empty the cartridges into their hands, and dispose of the empty cartridges into the nearest garbage can. This process is repeated several times. After graduation from the police academy, one new officer was involved in a shooting. He fired his gun, emptied the cartridges into his hand, and proceeded to look for a garbage can for the empty cartridges. As a result, he was seen by the gunman, shot, and killed!

Identical elements theory does not encourage transfer where the learning environment and the training environment are not necessarily identical. This situation arises particularly in interpersonal skills training. For example, a person's behavior in a conflict situation is not easily predictable. Therefore, trainees must

learn general principles of conflict resolution that they can apply to a wide variety of situations as the circumstances dictate (e.g., an irate customer versus a customer who lacks product knowledge).

Stimulus Generalization Approach

The stimulus generalization approach suggests that the way to understand the transfer of training issue is to construct training so that the most important features or general principles are emphasized. It is also important to identify the range of work situations in which these general principles can be applied. The stimulus generalization approach emphasizes far transfer. Far transfer refers to the trainee's ability to apply learned capabilities to the work environment, even though the work environment (equipment, problems and tasks) is not identical to that of the training session. Programs that emphasize far transfer should include the following training designs:

- The program should teach general concepts and broad principles.
- Trainees should be made aware of examples from their experiences that are similar to those emphasized in training so that connections can be made among strategies that have been effective in different situations.
- The program should emphasize that the general principles might be applied to a greater set of contexts than those presented in the training setting.

The stimulus generalization approach can be seen in the design of managerial skill training programs, known as behavior modeling training, which are based on social learning theory. One step in developing behavior modeling programs is to identify key behaviors that are needed to be successful in a situation. Key behaviors refer to a set of behaviors that can be used successfully in a wide variety of situations. The model demonstrates these key behaviors on a video, and trainees have opportunities to practice the behaviors. In behavior modeling training, the key behaviors are believed to be applicable to a wide variety of situations. In fact, the practice sessions in behavior modeling training require the trainee to use the behaviors in a variety of situations that are not identical.

Cognitive Theory of Transfer

The cognitive theory of transfer is based on the information processing theory of learning. Recall that the storage and retrieval of information are key aspects of this model of learning. According to the cognitive theory of transfer, the likelihood of transfer depends on the trainees' ability to retrieve learned capabilities. This theory suggests that the likelihood of transfer is increased by providing trainees with meaningful material that enhances the chances that they will link what they encounter in the work environment to the learned capability. Also important is providing the trainee with cognitive strategies for coding the learned capabilities in memory so that they are easily retrievable.

The influence of cognitive theory is seen in training design that encourages trainees, as part of the program, to consider potential applications of the training content to their jobs. Many training programs include having trainees identify a work problem or situation and discuss the potential application of training content. Application assignments increase the likelihood that trainees will recall the training content and apply it to the work setting when they encounter the appropriate cues (problems, situations) in the environment. Application assignments are work problems or situations in which trainees are asked to apply training content to solve them. The use of application assignments in training helps the trainee understand the link between the learned capability and real-world application, which makes it easier to recall the capability when needed.

Encourage Trainee Responsibility and Self-Management

Trainees need to take responsibility for learning and transfer. This includes preparing for training, being involved and engaged during training, and using training content back on the job. Before training, trainees need to consider why they are attending training and set specific learning goals (either alone or, preferably, in a discussion with their manager) as part of completing an action plan (action plans are discussed in more detail later in the chapter). Also, trainees need to complete any assigned pre-training assignments. During training, trainees need to be involved. That is, they need to participate and share experiences in discussions,

to practice, and to ask questions if they are confused. After training, trainees need to review and work toward reaching the goals established in their action plan. They need to be willing to change (e.g., try new behaviors, apply new knowledge) and ask peers and managers for help if they need it.

Self-management refers to a person's attempt to control certain aspects of decision making and behavior. Training programs should prepare employees to self-manage their use of new skills and behaviors on the job. Self-management involves:

1. Determining the degree of support and negative consequences in the work setting for using newly acquired capabilities.
2. Setting goals for using learned capabilities.
3. Applying learned capabilities to the job.
4. Monitoring use of learned capabilities on the job.
5. Engaging in self-reinforcement.

Research suggests that trainees exposed to self-management strategies exhibit higher levels of transfer of behavior and skills than do trainees who are not provided with self-management strategies. Self-management is important because the trainee is likely to encounter several obstacles in the work environment that inhibit transfer of training. Table 2 shows these obstacles. They include (1) lack of support from peers and managers and (2) factors related to the work itself (e.g., time pressure). Given the restructuring, downsizing, and cost cutting occurring in many companies, these obstacles are often a reality for trainees.

Examples of Obstacles in the Work Environment That Inhibit Transfer of Training

Obstacle	Description of Influence
Work Conditions	
Time pressures Inadequate equipment Few opportunities to use skills Inadequate budget	Trainee has difficulty using new knowledge, skills, or behavior.
Lack of Peer Support	
Peers:	
Discourage use of new knowledge and skills on the job Are unwilling to provide feedback See training as waste of time	Peers do not support use of new knowledge, skills, or behavior.
Lack of Management Support	
Management:	
Does not accept ideas or suggestions that are learned in training Does not discuss training opportunities Opposes use of skills learned in training Communicates that training is a waste of time Is unwilling to provide reinforcement, feedback, and encouragement needed for trainees to use training content	Managers do not reinforce training or provide opportunities to use new knowledge, skills, or behavior.

Source: Based on R. D. Marx, "Self-Managed Skill Retention," *Training and Development Journal* (January 1986): 54–57.

Table 32

For example, new technologies allow employees to gain access to resources and product demonstrations using the World Wide Web or personal computers equipped with CD-ROM drives. But while employees are being trained to use these resources with state-of-the-art technology, they often become frustrated because comparable technology is not available to them at their work site. Employees' computers may lack sufficient memory or links to the World Wide Web for them to use what they have learned. Learning and development in the protean career are increasingly likely to involve relationships and job experiences rather than formal courses.

The emphasis on continuous learning and learning beyond knowing how as well as changes in the psychological contract are resulting in changes in direction and frequency of movement within careers (career pattern). Traditional career patterns consisted of a series of steps arranged in a linear hierarchy, with higher steps in the hierarchy related to increased authority, responsibility, and compensation. Expert career patterns involve a lifelong commitment to a field or specialization (e.g., law, medicine, management). These types of career patterns will not disappear. Rather, career patterns involving movement across specializations or disciplines (spiral career patterns) will become more prevalent. Also, careers in which the person moves from job to job every three to five years (transitory career patterns) are likely to become more common. For many employees, changing jobs can be satisfying because it offers them an opportunity for new challenges and skill development.

The most appropriate view of today's careers is that they are "boundary less" and often change. Boundary less means that careers may involve identifying more with a job or profession than with the present employer. A career can also be considered boundary less in the sense that career plans or goals are influenced by personal or family demands and values. One way that employees cope with changes in their personal lives and their employment relationships is by rearranging and shifting their roles and responsibilities. Employees can change their careers throughout their lives based on an awareness of their strengths and weaknesses, the perceived need to balance work and life, and the need to find stimulating and exciting work. Career success may be tied to achieving goals that are personally meaningful to the employee rather than promotions or goals set by parents, peers, or the company. As we will discuss later in the chapter, careers are best managed through employee–company partnerships in which employees are committed to the organization but take personal control for managing their own careers to benefit themselves and company.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 185 - 214.

TRANSFER OF TRAINING (continued)

WORK ENVIRONMENT OBSTACLES THAT INFLUENCE TRANSFER

Research suggests that trainees exposed to self-management strategies exhibit higher levels of transfer of behavior and skills than do trainees who are not provided with self-management strategies. Self-management is important because the trainee is likely to encounter several obstacles in the work environment that inhibit transfer of training. Table 1 shows these obstacles. They include (1) lack of support from peers and managers and (2) factors related to the work itself (e.g., time pressure). Given the restructuring, downsizing, and cost cutting occurring in many companies, these obstacles are often a reality for trainees.

These obstacles inhibit transfer because they cause lapses. Lapses take place when the trainee uses previously learned, less effective capabilities instead of trying to apply the capability emphasized in the training program. Lapses into old behavior and skill patterns are common. Trainees should try to avoid a consistent pattern of slipping back or using old, ineffective learned capabilities (e.g., knowledge, skills, behaviors, strategies). Also, trainees should understand that lapses are common and be prepared to cope with them. Trainees who are unprepared for lapses may give up trying to use new capabilities—especially trainees with low self-efficacy and self-confidence.

Examples of Obstacles in the Work Environment That Inhibit Transfer of Training

Obstacle	Description of Influence
Work Conditions	
Time pressures Inadequate equipment Few opportunities to use skills Inadequate budget	Trainee has difficulty using new knowledge, skills, or behavior.
Lack of Peer Support	
Peers:	
Discourage use of new knowledge and skills on the job Are unwilling to provide feedback See training as waste of time	Peers do not support use of new knowledge, skills, or behavior.
Lack of Management Support	
Management:	
Does not accept ideas or suggestions that are learned in training Does not discuss training opportunities Opposes use of skills learned in training Communicates that training is a waste of time Is unwilling to provide reinforcement, feedback, and encouragement needed for trainees to use training content	Managers do not reinforce training or provide opportunities to use new knowledge, skills, or behavior.

Source: Based on R. D. Marx, "Self-Managed Skill Retention," *Training and Development Journal* (January 1986): 54–57.

Table 33

One way to prepare trainees to deal with these obstacles is to provide instruction in self-management techniques at the end of the training program. Table 2 shows an example of self-management instruction. The module begins with a discussion of lapses, emphasizing that lapses are not evidence of personal inadequacy; rather, they result from habits of usage of knowledge and skill that have developed over time. Lapses provide information necessary for improvement. They help identify the circumstances that will have the most negative influence on transfer of training. Next, a specific behavior, skill, or strategy is targeted for transfer. The skill should be measurable and countable. Then, obstacles that inhibit transfer of training are identified; these can include both work environment characteristics and personal characteristics (such as low self-efficacy). Trainees are then provided with an overview of coping skills or strategies that they can

use to deal with these obstacles. These skills and strategies include time management,

Sample Content of Self-Management Module

1. **Discuss lapses.**
   - Note evidence of inadequacy
   - Provide direction for improvement
2. **Identify skills targeted for transfer.**
   - Specify the skills
   - Make them measurable and countable
3. **Identify personal or environment factors contributing to lapse.**
   - Low self-efficacy
   - Time pressure
   - Lack of manager or peer support
4. **Discuss coping skills and strategies.**
   - Time management
   - Setting priorities
   - Self-monitoring
   - Self-rewards
   - Creating a personal support network
5. **Identify when lapses are likely.**
   - Situations
   - Actions to deal with lapses
6. **Discuss resources to ensure transfer of skills.**
   - Manager
   - Trainer
   - Other trainees

Table 34

creating a personal support network (persons to talk with about how to transfer skills to the work setting), and self-monitoring to identify successes in transferring skills to the job. Next, to deal with lapses trainees are instructed to be aware of where the situations are most likely to occur. The final part of the module deals with the use of resources to aid transfer of training. These resources may include communications with the trainer or fellow trainees via e-mail as well as discussions with their boss.

For example, a manager may have attended a training program designed to increase her leadership skills. After a discussion of lapses, the manager identifies a target skill, say, participative decision making—that is, discussing problems and potential solutions with subordinates before making decisions that will affect the work group. The manager defines the skill and how to measure it: "Discussing problems and solutions with my subordinates at least two times each week." Next, the manager identifies factors that may contribute to a lapse. One factor may be the manager's lack of confidence in being able to deal with subordinates who disagree with her view. Potential coping strategies that the manager identifies may include (1) scheduling time on the calendar to meet with subordinates (time management), (2) communicating to the boss the transfer goal and asking for help (create a support group), and (3) taking an assertiveness training course. In what situation may the manager be especially likely to experience a lapse? The manager identifies that she may be most likely to lapse back into an autocratic style when faced with a short time frame for making a decision (time pressure being an obstacle). The manager recognizes that it may be inappropriate to try to gain consensus for a decision when time constraints are severe and subordinates lack expertise. In the last step of the module, the manager suggests that she will (1) meet with her mentor to review her progress, 2) talk with other managers about how they effectively use participative decision making, and (3) resolve to communicate with other managers who attended the training session with her. The manager also commits to monitoring her use of participative decision making, noting successes and failures in a diary.

WORK ENVIRONMENT CHARACTERISTICS THAT INFLUENCE TRANSFER

Several work environment characteristics influence transfer of training, including the climate for transfer, managerial and peer support, opportunity to perform, and technological support.

Climate for Transfer

Climate for transfer refers to trainees' perceptions about a wide variety of characteristics of the work environment that facilitate or inhibit use of trained skills or behavior. These characteristics include manager

and peer support, opportunity to use skills, and the consequences for using learned capabilities. Table 3 shows characteristics of a positive climate for transfer of training. Research has shown that transfer of training climate is significantly related to positive changes in managers' administrative and interpersonal behaviors following training.

Characteristics of a Positive Climate for Transfer of Training

Characteristic	Example
Supervisors and co-workers encourage and set goals for trainees to use new skills and behaviors acquired in training.	Newly trained managers discuss how to apply their training on the job with their supervisors and other managers.
Task cues: Characteristics of a trainee's job prompt or remind him or her to use new skills and behaviors acquired in training.	The job of a newly trained manager is designed in such a way as to allow him or her to use the skills taught in training.
Feedback consequences: Supervisors support the application of new skills and behaviors acquired in training.	Supervisors notice newly trained managers who use their training.
Lack of punishment: Trainees are not openly discouraged from using new skills and behaviors acquired in training.	When newly trained managers fail to use their training, they are not reprimanded.
Extrinsic reinforcement consequences: Trainees receive extrinsic rewards for using new skills and behaviors acquired in training.	Newly trained managers who successfully use their training will receive a salary increase.
Intrinsic reinforcement consequences: Trainees receive intrinsic rewards for using new skills and behaviors acquired in training.	Supervisors and other managers appreciate newly trained managers who perform their job as taught in training.

Source: Adapted from J. B. Tracey, S. I. Tannenbaum, and M. J. Kavanagh, "Applying Trained Skills on the Job: The Importance of the Work Environment," *Journal of Applied Psychology* 80 (1995): 235–52; E. Holton, "What's *Really* Wrong: Diagnosis for Learning Transfer System Change," in *Improving Learning Transfer in Organizations*, ed. E. Holton and T. Baldwin (San Francisco: Jossey-Bass, 2003): 59–79.

Table 35

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 185 - 214.

TRANSFER OF TRAINING (continued)

Factors that support transfer of training

Manager Support

Manager support refers to the degree to which trainees' managers (1) emphasize the importance of attending training programs and (2) stress the application of training content to the job. Managers can communicate expectations to trainees as well as provide the encouragement and resources needed to apply training on the job. One company asked trainees and their bosses to prepare and send memos to each other. The memos described what the other person should "start to do," "continue to do," "do less," or "stop doing" to improve learning transfer.

Levels of Management Support for Training

Level		*Description*
Teaching in program	HIGH SUPPORT	Participate as trainer
Practice skills		Allow trainees opportunity to practice
Reinforcement		Discuss progress with trainees; Ask how to support trainees' use of new capabilities
Participation		Attend session
Encouragement		Accommodate attendance at training through rearranging work schedule; endorse employees' attending training
Acceptance	LOW SUPPORT	Permit employees to attend training; acknowledge importance of training

Figure 24

Managers can provide different levels of support for training activities, as illustrated in Figure 1. The greater the level of support, the more likely that transfer of training will occur. Managers should be actively involved in the design and delivery of training pro- grams. The basic level of support that a manager can provide is acceptance, allowing trainees to attend training. The greatest level of support is to participate in training as an instructor (teaching in the program). Managers who serve as instructors are more likely to provide many of the lower-level support functions, such as reinforcing use of newly learned capabilities, discussing progress with trainees, and providing opportunities to practice. To maximize transfer of training, trainers need to achieve the highest level of support possible. Managers can also facilitate transfer through reinforcement (use of action plans). An action plan is a written document that includes the steps that the trainee and manager will take to ensure that training transfers to the job (see Figure 2).

The action plan includes (1) a goal identifying what training content will be used and how it will be used (project, problem), (2) strategies for reaching the goal (including what the trainee will do differently, resources needed, and type of support from managers and peers), (3) strategies for receiving feedback, and (4) expected results. The action plan also provides a progress check schedule of specific dates and times when the manager and trainee agree to meet to discuss the progress being made in using learned capabilities on the job. The action planning process should start by identifying the goal and the strategies for reaching the goal. Once those are determined, strategies for obtaining feedback and identifying what goal accomplishment will look like are completed. To complete their action plans, trainees may need additional technical support, such as access to experts who can answer questions or reference materials. Trainers or project managers can help trainees get the resources they need to complete their action plans through either face-to- face or electronic meetings.

Sample Action Plan

Training Topic _____
Goal *Include training content (knowledge, skill, behavior, competency, etc.) and application (project, problem, etc.)*

Strategies for reaching goal
Modifying behavior (What will I do differently?)

Resources needed (equipment, financial)

Support from peers and manager (Be as specific as possible.)

Strategies for receiving feedback about my progress *(Include meetings with peers and managers, self-monitoring of progress, customer reactions, etc.)*

Expected Results *(When I reach the goal, what will be different? Who will notice the difference? What will they notice?)*

What will be different?

Who will notice?

What will they notice?

Progress Date Checks _____ _____ _____

Figure 25

Checklist for Determining Level of Manager Support for Training

Source: Based on A. Rossett, "That Was a Great Class, But . . . ," *Training and Development* (July 1997): 21.

	Agree	Disagree
I have a good sense of what the class is about.		
I know how the training matches what I need employees to do.		
There are tangible ways that the training will help employees.		
There are tangible ways that the training will help our unit.		
I can see why the organization is interested in providing the training.		
In performance appraisals, I can evaluate employees on what they learn in the class.		
I know enough about the training to support employees when they return to work.		
We have the tools and technologies that will be discussed in the class.		
I'm glad employees are attending the class.		
I've discussed the topic and the class with the employees who will participate.		
Employees know that I care about what will be taught in the class.		
I am accountable for employees using the training content in their jobs.		

Table 36

Table 1 presents a checklist that can be used to determine the level of manager support for training. The more statements that managers agree with, the greater their level of support for the training program. There are several ways to gain managers' support for training. First, managers need to be briefed on the purpose of the program and its relationship to business objectives and the business strategy. Managers should be

given the schedule of topics and a checklist of what they should do after the training to ensure that transfer occurs. Second, trainees should be encouraged to bring to the training session work problems and situations they face on the job. These can be used as practice exercises or put into action plans. Trainees should jointly identify the problems and situations with their manager. Third, information regarding the benefits of the course collected from past participants should be shared with managers. Fourth, trainers can assign trainees to complete action plans with their managers. Fifth, if possible, use managers as trainers. That is, train the managers first, and then give them responsibility to train their subordinates.

Peer Support

Transfer of training can also be enhanced by a support network among the trainees. A support network is a group of two or more trainees who agree to meet and discuss their progress in using learned capabilities on the job. This may involve face-to-face meetings or communications via e-mail. Trainees may share successful experiences in using training content on the job. They might also discuss how they obtained resources needed to use training content or how they coped with a work environment that interfered with use of training content.

Trainers might also use a newsletter to show how trainees are dealing with transfer of training issues. Distributed to all trainees, the newsletter might feature interviews with trainees who have been successful in using new skills. Trainers may also provide trainees with a mentor—a more experienced employee who previously attended the same training program, or a peer. The mentor can provide advice and support related to transfer of training issues (e.g., how to find opportunities to use the learned capabilities).

Opportunity to Use Learned Capabilities

Opportunity to use learned capabilities (opportunity to perform) refers to the extent to which the trainee is provided with or actively seeks experiences that allow for application of the newly learned knowledge, skill, and behaviors from the training program. Opportunity to perform is influenced by both the work environment and trainee motivation. One way trainees have the opportunity to use learned capabilities is through assigned work experiences (e.g., problems, tasks) that require their use. The trainees' manager usually plays a key role in determining work assignments. Opportunity to perform is also influenced by the degree to which trainees take personal responsibility to actively seek out assignments that allow them to use newly acquired capabilities.

Opportunity to perform is determined by breadth, activity level, and task type. Breadth includes the number of trained tasks performed on the job. Activity level is the number of times or the frequency with which trained tasks are performed on the job. Task type refers to the difficulty or criticality of the trained tasks that are actually performed on the job. Trainees who are given opportunities to use training content on the job are more likely to maintain learned capabilities than trainees given few opportunities.

Opportunity to perform can be measured by asking former trainees to indicate (1) whether they perform a task, (2) how many times they perform the task, and (3) the extent to which they perform difficult and challenging tasks. Individuals who report low levels of opportunity to perform may be prime candidates for "refresher courses" (courses designed to let trainees practice and review training content). Refresher courses are necessary because these persons have likely experienced a decay in learned capabilities because they have not had opportunities to perform. Low levels of opportunity to perform may also indicate that the work environment is interfering with using new skills. For example, the manager may not support training activities or give the employee the opportunity to perform tasks using skills emphasized in training. Finally, low levels of opportunity to perform may indicate that training content is not important for the employee's job.

Technological Support

Electronic performance support systems (EPSSs) are computer applications that can provide, as requested, skills training, information access, and expert advice. An EPSS may be used to enhance transfer of training by providing trainees with an electronic information source that they can refer to on an as-needed basis while they attempt to apply learned capabilities on the job.

Trainers can also monitor trainees' use of EPSS, which provides the trainer with valuable information about the transfer of training problems that trainees are encountering. These problems might relate to the training design (e.g., lack of understanding of process or procedure) or work environment (e.g., trainees either not having or not being able to find resources or equipment needed to complete an assignment).

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 185 - 214.

LESSON 22

TRAINING EVALUATION

Training effectiveness refers to the benefits that the company and the trainees receive from training. Benefits for trainees may include learning new skills or behavior. Benefits for the company may include increased sales and more satisfied customers. A training evaluation measures specific outcomes or criteria to determine the benefits of the program. Training outcomes or criteria refer to measures that the trainer and the company use to evaluate training programs. To determine the effectiveness of the program, the hospital had to conduct an evaluation. Training evaluation refers to the process of collecting the outcomes needed to determine whether training is effective. The evaluation design refers to the collection of information—including what, when, how, and from whom—that will be used to determine the effectiveness of the training program. Information about the evaluation design used by the hospital is not provided in the opening vignette. However, any organization that evaluates training has to be confident that training—rather than same other factor—is responsible for changes in the outcomes of interest (e.g., patient care and satisfactory earnings).

Recall the Instructional Systems Design model. The information from the needs assessment, the characteristics of the learning environment, and the steps taken to ensure transfer of training should all be used to develop an evaluation plan. In order to identify appropriate training outcomes, a company needs to look at its business strategy, its organizational analysis (Why are we conducting training? How is it related to the business?), its person analysis (Who needs training?), its task analysis (What is the training content?), the learning objectives of the training, and its plan for training transfer.

REASONS FOR EVALUATING TRAINING

Companies are investing millions of dollars in training programs to help gain a competitive advantage. Companies invest in training because learning creates knowledge; often, it is this knowledge that distinguishes successful companies and employees from those who are not. Research summarizing the results of studies that have examined the linkage between training and human resource outcomes (attitudes and motivation, behaviors, human capital), organizational performance outcomes (performance and productivity), or financial outcomes (profits and financial indicators) has found that companies that conduct training are likely to have more positive human resource outcomes and greater performance outcomes. The influence of training is largest for organizational performance outcomes and human resource outcomes and weakest for financial outcomes. This result is not surprising, given that training can least affect an organization's financial performance and may do so through its influence on human resource practices. Training is more strongly related to organizational outcomes when it is matched with the organization's business strategy and capital intensity. Because companies have made large dollar investments in training and education and view training as a strategy to be successful, they expect the outcomes or benefits related to training to be measurable.

Training evaluation provides a way to understand the investments that training produces and provides information needed to improve training. If the company receives an inadequate return on its investment in training, the company will likely reduce its investment in training or look for training providers outside the company who can provide training experiences that improve performance, productivity, customer satisfaction, or whatever other outcomes the company is interested in achieving. Training evaluation provides the data needed to demonstrate that training does offer benefits to the company. Training evaluation involves both formative and summative evaluation.

Formative Evaluation

Formative evaluation refers to the evaluation of training that takes place during program design and development. That is, formative evaluation helps to ensure that (1) the training program is well organized and runs smoothly and (2) trainees learn and are satisfied with the program. Formative evaluation provides information about how to make the program better; it usually involves collecting qualitative data about the program. Qualitative data include opinions, beliefs, and feelings about the program. Formative evaluations

ask customers, employees, managers, and subject-matter experts their opinions on the description of the training content and objectives and the program design. These people are also asked to evaluate the clarity and ease of use of a part of the training program that is provided to them in the way that it will be delivered (e.g., online, face-to-face, video). The formative evaluation is conducted either individually or in groups before the program is made available to the rest of the company. Trainers may also be involved to measure the time requirements of the program. As a result of the formative evaluation, training content may be changed to be more accurate, easier to understand, or more appealing. The training method can be adjusted to improve learning (e.g., provide trainees with more opportunities to practice or give feedback). Also, introducing the training program as early as possible to managers and customers helps in getting them to buy into the program, which is critical for their role in helping employees learn and transfer skills. It also allows their concerns to be addressed before the program is implemented.

Pilot testing refers to the process of previewing the training program with potential trainees and managers or with other customers (persons who are paying for the development of the program). Pilot testing can be used as a "dress rehearsal" to show the program to managers, trainees, and customers. It should also be used for formative evaluation. For example, a group of potential trainees and their managers may be asked to preview or pilot test a Web-based training program. As they complete the program, trainees and managers may be asked to provide their opinions as to whether graphics, videos, or music used in the program contributed to (or interfered with) learning. They may also be asked how easy it was to move through the program and complete the exercises, and they may be asked to evaluate the quality of feedback the training program provided after they completed the exercises. The information gained from this preview would be used by program developers to improve the program before it is made available to all employees.

Summative Evaluation

Summative evaluation refers to an evaluation conducted to determine the extent to which trainees have changed as a result of participating in the training program. That is, have trainees acquired knowledge, skills, attitudes, behavior, or other outcomes identified in the training objectives? Summative evaluation may also include measuring the monetary benefits (also known as return on investment) that the company receives from the program. Summative evaluation usually involves collecting quantitative (numerical) data through tests, ratings of behavior, or objective measures of performance such as volume of sales, accidents, or patents.

From the discussion of summative and formative evaluation, it is probably apparent to you why a training program should be evaluated:

1. To identify the program's strengths and weaknesses. This includes determining if the program is meeting the learning objectives, if the quality of the learning environment is satisfactory, and if transfer of training to the job is occurring.
2. To assess whether the content, organization, and administration of the program— including the schedule, accommodations, trainers, and materials—contribute to learning and the use of training content on the job.
3. To identify which trainees benefit most or least from the program.
4. To assist in marketing programs through the collection of information from participants about whether they would recommend the program to others, why they attended the program, and their level of satisfaction with the program.
5. To determine the financial benefits and costs of the program.
6. To compare the costs and benefits of training versus non-training investments (such as work redesign or a better employee selection system).
7. To compare the costs and benefits of different training programs to choose the best program.

OVERVIEW OF THE EVALUATION PROCESS

You need to understand the evaluation process, which is summarized in Figure 1. The previous discussion of formative and summative evaluation suggests that training evaluation involves scrutinizing the program both before and after the program is completed. Figure 1 emphasizes that training evaluation must be considered by managers and trainers before training has actually occurred. As was suggested earlier, information gained from the training design process is valuable for training evaluation.

The Evaluation Process

Source: Based on D. A. Grove and C. Ostroff, "Program Evaluation," in *Developing Human Resources*, ed. K. N. Wexley (Washington, DC: Bureau of National Affairs, 1991): 5–185 to 5–220; K. Kraiger, D. McLinden, and W. Casper, "Collaborative Planning for Training Impact," *Human Resource Management* (Winter 2004): 337–51.

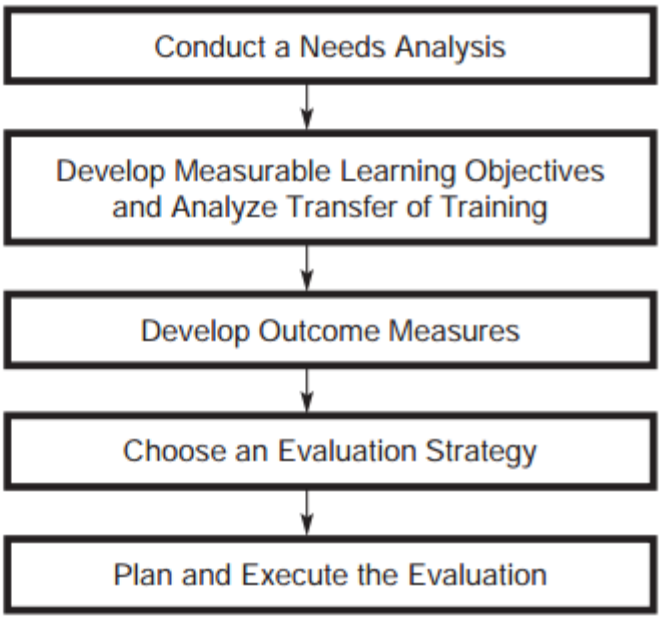

Figure 26

The evaluation process should begin with determining training needs. Needs assessment helps identify what knowledge, skills, behavior, or other learned capabilities are needed. Needs assessment also helps identify where the training is expected to have an impact. Needs assessment helps focus the evaluation by identifying the purpose of the program, the resources needed (human, financial, company), and the outcomes that will provide evidence that the program has been effective. The next step in the process is to identify specific, measurable training objectives to guide the program. The more specific and measurable these objectives are, the easier it is to identify relevant outcomes for the evaluation. Besides considering the learning and program objectives in developing learning outcomes, it is also important to consider the expectations of those individuals who support the program and have an interest in it (stakeholders such as trainees, managers, and trainers). If the needs assessment was done well, the stakeholders' interests likely overlap considerably with the learning and program objectives. Analysis of the work environment to determine transfer of training can be useful for determining how training content will be used on the job. Based on the learning objectives and analysis of transfer of training, outcome measures are designed to assess the extent to which learning and transfer have occurred.

Once the outcomes have been identified, the next step is to determine an evaluation strategy. Factors such as expertise, how quickly the information is needed, change potential, and the organizational culture should be considered in choosing a design. Planning and executing the evaluation involves previewing the program (formative evaluation) as well as collecting training outcomes according to the evaluation design. The results of the evaluation are used to modify, market, or gain additional support for the program. The results of the evaluation should also be used to encourage all stakeholders in the training process— including managers, employees, and trainers—to design or choose training that helps the company meet its business strategy and helps managers and employees meet their goals.

OUTCOMES USED IN THE EVALUATION OF TRAINING PROGRAMS

To evaluate its training program, a company must decide how it will determine the program's effectiveness; that is, it must identify what training outcomes or criteria it will measure.

One of the original frameworks for identifying and categorizing training outcomes was developed by Kirkpatrick. Table 1 shows Kirkpatrick's four-level framework for categorizing training outcomes.

Kirkpatrick's Four-Level Framework of Evaluation Criteria	Level	Criteria	Focus
	4	Results	Business results achieved by trainees
	3	Behavior	Improvement of behavior on the job
	2	Learning	Acquisition of knowledge, skills, attitudes, behavior
	1	Reactions	Trainee satisfaction

Table 37

The hierarchical nature of Kirkpatrick's framework suggests that higher level outcomes should not be measured unless positive changes occur in lower level outcomes. For example, if trainees do not like a course, no learning will occur. Also, the framework implies that changes at a higher level (e.g., results) are more beneficial than changes at a lower level (e.g., learning). However, the framework has been criticized for a number of reasons. First, research has not found that each level is caused by the level that precedes it in the framework, nor does evidence suggest that the levels differ in importance. Second, the approach does not take into account the purpose of the evaluation. The outcomes used for evaluation should relate to the training needs, the program learning objectives, and the strategic reasons for training. Third, use of the approach suggests that outcomes can and should be collected in an orderly manner, that is, measures of reaction followed by measures of learning, behavior, and results. Realistically, learning measures need to be collected at approximately the same time as reaction measures, near the end of the training program, in order to determine whether learning has occurred.

As a result of these criticisms, both training practitioners and academic researchers have developed a more comprehensive model of training criteria; that is, additional training outcomes have been added to Kirkpatrick's original framework. Accordingly, training outcomes have been classified into six categories, as shown in Table.2: reaction outcomes, learning or cognitive outcomes, behavior and skill-based outcomes, affective outcomes, results, and return on investment.

Evaluation Outcomes

Outcome or Criteria	Level	What Is Measured	Example	Method of Measurement
Reactions	1	Learners' satisfaction	Comfortable training room Useful materials and program content	Surveys Interviews
Learning or Cognitive	2	Principles, facts, techniques, procedures, or processes the learners have acquired	Electrical principles Safety rules Steps in interviewing	Tests Work samples
Behavior and skills	2 or 3	Technical or motor skills or behaviors acquired by learners	Preparing a dessert Sawing wood Landing an airplane Listening	Tests Observations Self, peer, customer, and/or managers' ratings Work samples
Affective	2 or 3	Learners' attitudes and motivation	Tolerance for diversity Safety attitudes Customer service orientation	Attitude surveys Interviews Focus groups
Results	4	Payoffs for the company	Productivity Quality Costs Repeat customers Customer satisfaction Accidents	Observation Performance data from records or company databases
Return on Investment	5	Identification and comparison of learning benefits with costs	Dollar value of productivity divided by training costs	Economic value

Table 38

Table 2 shows training outcomes, D.L. Kirkpatrick's five-level framework for categorizing training outcomes, and a description of each of the outcomes and how they are measured. Both level 1 and level 2 outcomes (reactions and learning) are collected at the completion of training, before trainees return to the job. Level 3 outcomes (behavior/skills) can also be collected at the completion of training to determine trainees' behavior or skill level at the completion of training. To determine whether trainees are using training content back on the job (i.e., whether transfer of training has occurred), level 3, level 4, and/or level 5 outcomes can be collected. Level 3 criteria can be collected to determine whether behavior/skills are being used on the job. Level 4 and level 5 criteria (results and return on investment) can also be used to determine whether training has resulted in an improvement in business results such as productivity or customer satisfaction. These criteria also help to determine whether the benefits of training exceed their costs.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 215 - 256.

TRAINING EVALUATION (continued)

Reaction Outcomes

Reaction outcomes refer to trainees' perceptions of the program, including the facilities, trainers, and content. (Reaction outcomes are often referred to as a measure of "creature comfort.") They are often called class or instructor evaluations. This information is typically collected at the program's conclusion. You probably have been asked to complete class or instructor evaluations either at the end of a college course or a training program at work. Reactions are useful for identifying what trainees thought was successful or what inhibited learning. Reaction outcomes are level 1 (reaction) criteria in Kirkpatrick's framework.

Reaction outcomes are typically collected via a questionnaire completed by trainees. A reaction measure should include questions related to the trainee's satisfaction with the instructor, training materials, and training administration (ease of registration, accuracy of course description) as well as the clarity of course objectives and usefulness of the training content. Table 1 shows a reaction measure that contains questions about these areas.

Sample Reaction Measure

Read each statement below. Indicate the extent to which you agree or disagree with each statement using the scale below.

Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1	2	3	4	5

1. I had the knowledge and skills needed to learn in this course.
2. The facilities and equipment made it easy to learn.
3. The course met all of the stated objectives.
4. I clearly understood the course objectives.
5. The way the course was delivered was an effective way to learn.
6. The materials I received during the course were useful.
7. The course content was logically organized.
8. There was enough time to learn the course content.
9. I felt that the instructor wanted us to learn.
10. I was comfortable asking the instructor questions.
11. The instructor was prepared.
12. The instructor was knowledgeable about the course content.
13. I learned a lot from this course.
14. What I learned in this course is useful for my job.
15. The information I received about the course was accurate.
16. Overall, I was satisfied with the instructor.
17. Overall, I was satisfied with the course.

Table 39

An accurate evaluation needs to include all the factors related to a successful learning environment. Most instructor or class evaluations include items related to the trainer's preparation, delivery, ability to lead a discussion, organization of the training materials and content, use of visual aids, presentation style, ability and willingness to answer questions, and ability to stimulate trainees' interest in the course. These items come from trainer's manuals, trainer certification programs, and observation of successful trainers. Conventional wisdom suggests that trainees who like a training program (who have positive reactions) learn more and are more likely to change behaviors and improve their performance (transfer of training). Is this the case? Recent research results suggest that reactions have the largest relationship with changes in affective learning outcomes. Also, research has found that reactions are significantly related to changes in declarative and procedural knowledge, which challenges previous research suggesting that reactions are unrelated to learning. For courses such as diversity training or ethics training, trainee reactions are especially important because they affect learners receptivity to attitude change. Reactions have been found to have

the strongest relationship with post-training motivation, trainee self-efficacy, and declarative knowledge when technology is used for instructional delivery. This suggests that for online or e-learning training methods, it is important to ensure that it is easy for trainees to access them and the training content is meaningful, i.e., linked to their current job experiences, tasks, or work issues.

Learning or Cognitive Outcomes

Cognitive outcomes are used to determine the degree to which trainees are familiar with principles, facts, techniques, procedures, or processes emphasized in the training program. Cognitive outcomes measure what knowledge trainees learned in the program. Cognitive outcomes are level 2 (learning) criteria in Kirkpatrick's framework. Typically, pencil-and- paper tests are used to assess cognitive outcomes. Table 2 provides an example of items from a pencil-and-paper test used to measure trainees' knowledge of decision-making skills. These items help to measure whether a trainee knows how to make a decision (the process he or she would use). They do not help to determine if the trainee will actually use decision-making skills on the job.

Behavior and Skill-Based Outcomes

Skill-based outcomes are used to assess the level of technical or motor skills and behaviors. Skill-based outcomes include acquisition or learning of skills (skill learning) and use of skills on the job (skill transfer). Skill-based outcomes relate to Kirkpatrick's level 2 (learning) and level 3 (behavior). The extent to which trainees have learned skills can be evaluated by observing their performance in work samples such as simulators. Skill transfer is usually determined by observation. For example, a resident medical student may perform surgery while the surgeon carefully observes, giving advice and assistance as needed. Trainees may be asked to provide ratings of their own behavior or skills (self-ratings). Peers, managers, and subordinates may also be asked to rate trainees' behavior or skills based on their observations. Because research suggests that the use of only self-ratings likely results in an inaccurately positive assessment of skill or behavior transfer of training, it is recommended that skill or behavior ratings be collected from multiple perspectives (e.g., managers and subordinates or peers). Table 3 shows a sample rating form. This form was used as part of an evaluation of a training program developed to improve school principals' management skills.

Affective Outcomes

Affective outcomes include attitudes and motivation. Affective outcomes that might be collected in an evaluation include tolerance for diversity, motivation to learn, safety attitudes, and customer service orientation. Affective outcomes can be measured using surveys. Table 4 shows an example of questions on a survey used to measure career goals, plans, and interests. The specific attitude of interest depends on the program objectives. Affective outcomes relate to Kirkpatrick's level 2 (learning) or level 3 (behavior) depending on how they are evaluated. If trainees were asked about their attitudes on a survey, that

Sample Test Items Used to Measure Learning

Source: Based on A. P. Carnevale, L. J. Gainer, and A. S. Meltzer, *Workplace Basics Training Manual* (San Francisco: Jossey-Bass, 1990): 8.12.

For each question, check all that apply.

1. If my boss returned a piece of work to me and asked me to make changes on it, I would:

__ Prove to my boss that the work didn't need to be changed.
__ Do what the boss said, but show where changes are needed.
__ Make the changes without talking to my boss.
__ Request a transfer from the department.

2. If I were setting up a new process in my office, I would:

__ Do it on my own without asking for help.
__ Ask my boss for suggestions.
__ Ask the people who work for me for suggestions.
__ Discuss it with friends outside the company.

Table 40

Sample Rating Form Used to Measure Behavior

Rating task: Consider your opportunities over the past three months to observe and interact with the principal/assistant principal you are rating. Read the definition and behaviors associated with the skill. Then complete your ratings using the following scale:

Always	Usually	Sometimes	Seldom	Never
1	2	3	4	5

I. *Sensitivity:* Ability to perceive the needs, concerns, and personal problems of others; tact in dealing with persons from different backgrounds; skill in resolving conflict; ability to deal effectively with people concerning emotional needs; knowing what information to communicate to whom.

To what extent in the past three months has the principal or assistant principal:

__ 1. Elicited perceptions, feelings, and concerns of others?
__ 2. Expressed verbal and nonverbal recognition of the feelings, needs, and concerns of others?
__ 3. Taken actions that anticipated the emotional effects of specific behaviors?
__ 4. Accurately reflected the point of view of others by restating it, applying it, or encouraging feedback?
__ 5. Communicated all information to others that they needed to perform their job?
__ 6. Diverted unnecessary conflict with others in problem situations?

II. *Decisiveness:* Ability to recognize when a decision is required and act quickly. (Disregard the quality of the decision.)

To what extent in the past three months has this individual:

__ 7. Recognized when a decision was required by determining the results if the decision was made or not made?
__ 8. Determined whether a short- or long-term solution was most appropriate to various situations encountered in the school?
__ 9. Considered decision alternatives?
__10. Made a timely decision based on available data?
__11. Stuck to decisions once they were made, resisting pressures from others?

would be considered a learning measure. For example, attitudes toward career goals and interests might be an appropriate outcome to use to evaluate training focusing on employees self-managing their careers.

Results

Results are used to determine the training program's payoff for the company. Examples of results outcomes include increased production and reduced costs related to employee turnover, accidents, and equipment downtime as well as improvements in product quality or customer service. Results outcomes are level 4 (results) criteria in

Example of Affective Outcomes: Career Goals, Plans, and Interests

1. At this time I have a definite career goal in mind.
2. I have a strategy for achieving my career goals.
3. My manager is aware of my career goals.
4. I have sought information regarding my specific areas of career interest from friends, colleagues, or company career sources.
5. I have initiated conversations concerning my career plans with my manager.

Kirkpatrick's framework. For example, Kroger, the supermarket chain, hires more than 100,000 new employees each year who need to be trained. Kroger collected productivity data for an evaluation comparing cashiers who received computer-based training to those who were trained in the classroom and on the job. The measures of productivity included rate of scanning grocery items, recognition of produce that had to be identified and weighed at the checkout and the amount of time that store offices spent helping the cashiers deal with more complex transactions such as food stamps and checks.

Return on Investment

Return on investment (ROI) refers to comparing the training's monetary benefits with the cost of the training. ROI is often referred to as level 5 evaluation. Training costs can be direct and indirect. Direct costs include salaries and benefits for all employees involved in training, including trainees, instructors,

consultants, and employees who design the program; program material and supplies; equipment or classroom rentals or purchases; and travel costs. Indirect costs are not related directly to the design, development, or delivery of the training program. They include general office supplies, facilities, equipment, and related expenses; travel and expenses not directly billed to one program; training department management and staff salaries not related to any one program; and administrative and staff support salaries. Benefits are the value that the company gains from the training program.

The Northwest Airlines technical operations training department includes 72 instructors who are responsible for training thousands of aircraft technicians and more than 10,000 outside vendors who work on maintaining the Northwest aircraft fleet. Each of the training instructors works with one type of aircraft, such as the Airbus 320. Most of the department's training is instructor-led in a classroom, but other instruction programs use a simulator or take place in an actual airplane.

By tracking department training data, which allowed for training evaluation, the technical operations department was able to demonstrate its worth by showing how its services contribute to the airline's business. For example, the technical operations department reduced the cost of training an individual technician by 16 percent; increased customer satisfaction through training; increased training productivity; made the case for upper management to provide financial resources for training; and improved post-course evaluations, knowledge, and performance gains.

To achieve these results, the technical operations training department developed the Training Quality Index (TQI). The TQI is a computer application that collects data about training department performance, productivity, budget, and courses and allows for detailed analysis of the data. TQI tracks all department training data into five categories: effectiveness, quantity, perceptions, financial impact, and operational impact. The quality of training is included under the effectiveness category. For example, knowledge gain relates to the difference in trainees' pre-training and post-training knowledge measured by exams. The system can provide performance reports that relate to budgets and the cost of training per student per day and other costs of training. The measures that are collected are also linked to department goals, to department strategy, and ultimately, to Northwest Airline's overall strategy. Questions that were often asked before TQI was developed but couldn't easily be answered—such as how can the cost of training be justified, what is the operational impact of training, and what amount of training have technicians received—can now be answered through the TQI system. Training demand can be compared against passenger loads and the number of flying routes to determine the right number of trainers in the right locations to support business needs. These adjustments increase customer satisfaction and result in positive views of the training operations.

This excerpt has been extracted in modified form from;

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TRAINING EVALUATION (continued)

How to select appropriate outcomes

An important issue in choosing outcomes is to determine whether they are appropriate. That is, are these outcomes the best ones to measure to determine whether the training program is effective? Appropriate training outcomes need to be relevant, reliable, discriminative, and practical.

Relevance

Criteria relevance refers to the extent to which training outcomes are related to the learned capabilities emphasized in the training program. The learned capabilities required to succeed in the training program should be the same as those required to be successful on the job. The outcomes collected in training should be as similar as possible to what trainees learned in the program. That is, the outcomes need to be valid measures of learning. One way to ensure the relevancy of the outcomes is to choose outcomes based on the learning objectives for the program. The learning objectives show the expected action, the conditions under which the trainee is to perform, and the level or standard of performance.

Figure 1 shows two ways that training outcomes may lack relevance. Criterion contamination refers to the extent that training outcomes measure inappropriate capabilities or is affected by extraneous conditions. For example, if managers' evaluations of job performance are used as a training outcome, trainees may receive higher ratings of job performance simply because the managers know they attended the training program, believe the program is valuable, and therefore give high ratings to ensure that the training looks like it positively affects performance. Criteria may also be contaminated if the conditions under which the outcomes are measured vary from the learning environment. That is, trainees may be asked to perform their learned capabilities using equipment, time constraints, or physical working conditions that are not similar to those in the learning environment. For example, trainees may be asked to demonstrate spreadsheet skills using a newer version of spreadsheet software than they used in the training program. This demonstration

Criterion Deficiency, Relevance, and Contamination

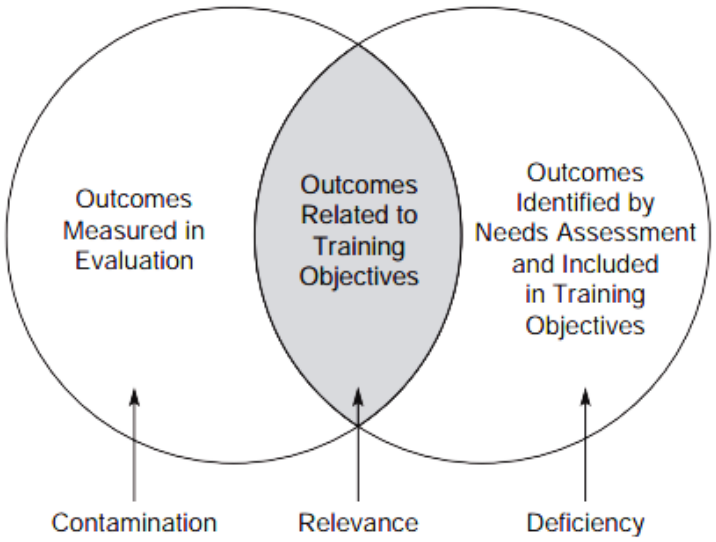

Figure 27

likely will result in no changes in their spreadsheet skills from pre-training levels. In this case, poor-quality training is not the cause for the lack of change in their spreadsheet skills. Trainees may have learned the necessary spreadsheet skills, but the environment for the evaluation differs substantially from the learning environment, so no change in skill level is observed.

Criteria may also be deficient. Criterion deficiency refers to the failure to measure training outcomes that were emphasized in the training objectives. For example, the objectives of a spreadsheet skills training

program emphasize that trainees both understand the commands available on the spreadsheet (e.g., compute) and use the spreadsheet to calculate statistics using a data set. An evaluation design that uses only learning outcomes such as a test of knowledge of the purpose of keystrokes is deficient, because the evaluation does not measure outcomes that were included in the training objectives (e.g., use spreadsheet to compute the mean and standard deviation of a set of data).

Reliability

Reliability refers to the degree to which outcomes can be measured consistently over time. For example, a trainer gives restaurant employees a written test measuring knowledge of safety standards to evaluate a safety training program they attended. The test is given before (pre-training) and after (post-training) employees attend the program. A reliable test includes items for which the meaning or interpretation does not change over time. A reliable test allows the trainer to have confidence that any improvements in post-training test scores from pre-training levels are the result of learning that occurred in the training program, not test characteristics (e.g., items are more understandable the second time) or the test environment (e.g., trainees performed better on the post-training test because the classroom was more comfortable and quieter).

Discrimination

Discrimination refers to the degree to which trainees' performance on the outcome actually reflects true differences in performance. For example, a paper-and-pencil test that measures electricians' knowledge of electrical principles must detect true differences in trainees' knowledge of electrical principles. That is, the test should discriminate on the basis of trainees' knowledge of electrical principles. (People who score high on the test have a better understanding of the principles of electricity than do those who score low.)

Practicality

Practicality refers to the ease with which the outcome measures can be collected. One reason companies give for not including learning, performance, and behavior outcomes in their evaluation of training programs is that collecting them is too burdensome. (It takes too much time and energy, which detracts from the business.) For example, in evaluating a sales training program, it may be impractical to ask customers to rate the salesperson's behavior because this would place too much of a time commitment on the customer (and probably damage future sales relationships).

EVALUATION PRACTICES

Figure 2 shows outcomes used in training evaluation practices. Surveys of companies' evaluation practices indicate that reactions (an affective outcome) and cognitive outcomes are the most frequently used outcomes in training evaluation. Despite the less frequent use of cognitive, behavioral, and results outcomes, research suggests that training can have a positive effect on these outcomes. Keep in mind that while most companies are conducting training evaluations, some surveys indicate that 20 percent of all companies are not!

Which Training Outcomes Should Be Collected?

From our discussion of evaluation outcomes and evaluation practices you may have the mistaken impression that it is necessary to collect all five levels of outcomes to evaluate a training program. While collecting all five levels of outcomes is ideal, the training program objectives determine which ones should be linked to the broader business strategy.

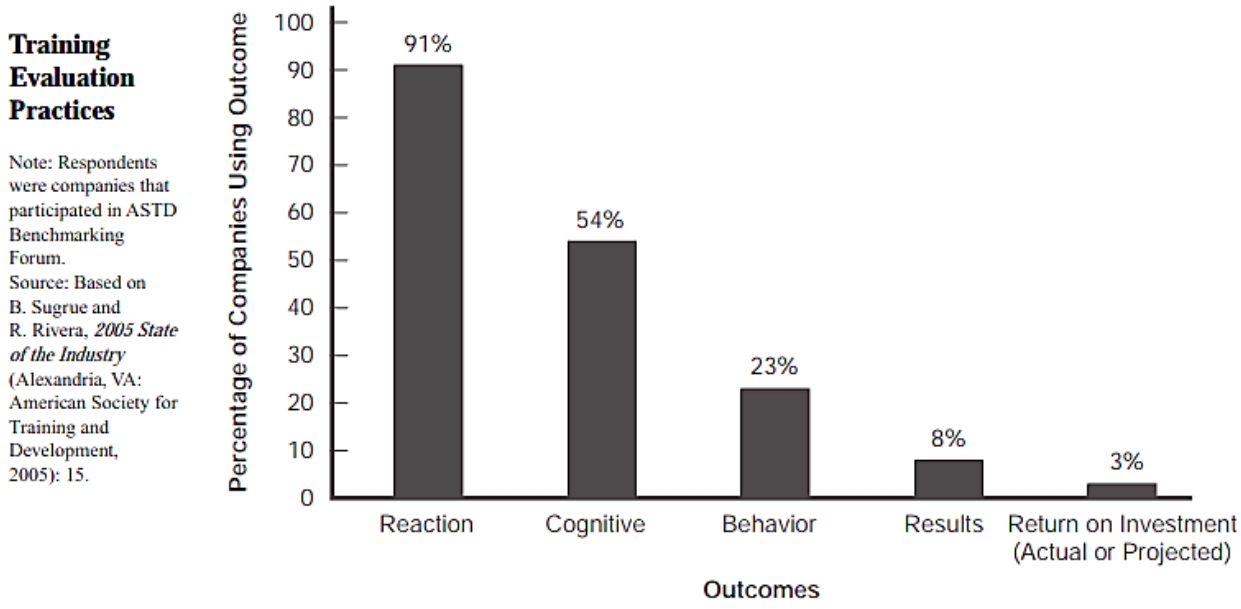

Figure 28

To ensure adequate training evaluation, companies should collect outcome measures related to both learning (levels 1 and 2) and transfer of training (levels 3, 4, or 5).

It is important to recognize the limitations of choosing to measure only reaction and cognitive outcomes. Consider the previous discussions of learning and transfer of training. Remember that for training to be successful, learning and transfer of training must occur. Figure 3 shows the multiple objectives of training programs and their implication for choosing evaluation outcomes. Training programs usually have objectives related to both learning and transfer. That is, they want trainees to acquire knowledge and cognitive skill and also to demonstrate the use of the knowledge or strategy in their on-the-job behavior. As a result, to ensure an adequate training evaluation, companies must collect outcome measures related to both learning and transfer.

Ernst Young's training function uses knowledge testing (level 2) for all of the company's e-learning courses, which account for 50 percent of training. New courses and programs use behavior transfer (level 3) and business results (level 4). Regardless of the program, the company's leaders are interested in whether the trainees feel that training has been a good use of their time, money, and whether they would recommend it to other employees (level 1). The training function automatically tracks these outcomes. Managers use training and development to encourage observable behavior changes in employees that will result in business results such as client satisfaction and lower turnover, which they also monitor.

Note that outcome measures are not perfectly related to each other. That is, it is tempting to assume that satisfied trainees learn more and will apply their knowledge and skill to the job, resulting in behavior change and positive results for the company. However, research indicates that the relationships among reaction, cognitive, behavior, and results outcomes are small.

Training Program Objectives and Their Implications for Evaluation

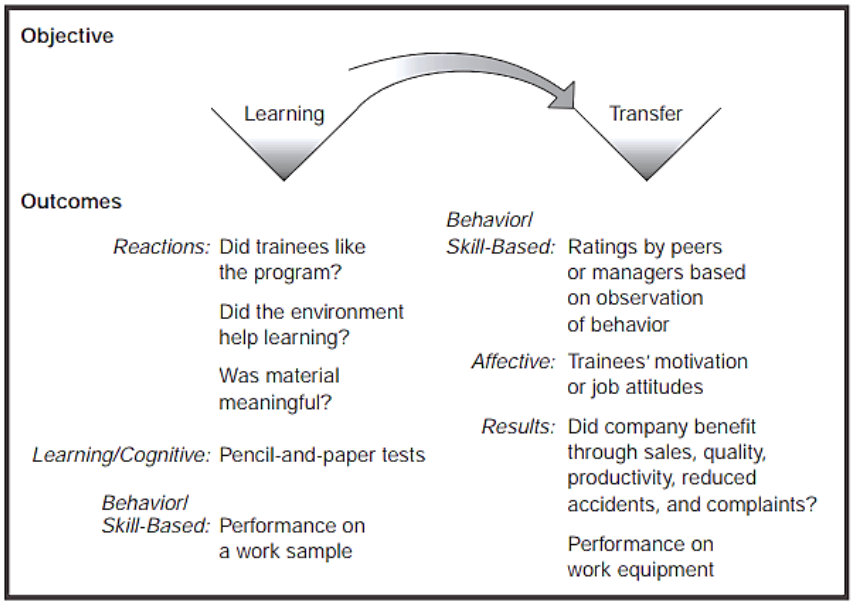

Figure 29

Which training outcomes measure is best? The answer depends on the training objectives. For example, if the instructional objectives identified business-related outcomes such as increased customer service or product quality, then results outcomes should be included in the evaluation. As Figure 3 shows, both reaction and cognitive outcomes may affect learning. Reaction outcomes provide information regarding the extent to which the trainer, facilities, or learning environment may have hindered learning. Learning or cognitive outcomes directly measure the extent to which trainees have mastered training content. However, reaction and cognitive outcomes do not help determine how much trainees actually use the training content in their jobs. As much as possible, evaluation should include behavior or skill-based, affective, or results outcomes to determine the extent to which transfer of training has occurred—that is, whether training has influenced a change in behavior, skill, or attitude or has directly influenced objective measures related to company effectiveness (e.g., sales).

How long after training should outcomes be collected? There is no accepted standard for when the different training outcomes should be collected. In most cases, reactions are usually measured immediately after training. Learning, behavior, and results should be measured after sufficient time has elapsed to determine whether training has had an influence on these outcomes. Positive transfer of training is demonstrated when learning occurs and positive changes in skill-based, affective, or results outcomes are also observed. No transfer of training is demonstrated if learning occurs but no changes are observed in skill- based, affective, or learning outcomes. Negative transfer is evident when learning occurs but skills, affective outcomes, or results are less than at pre-training levels. Results of evaluation studies that find no transfer or negative transfer suggest that the trainer and the manager need to investigate whether a good learning environment (e.g., opportunities for feedback and practice) was provided in the training program, trainees were motivated and able to learn, and the needs assessment correctly identified training needs.

EVALUATION DESIGNS

The design of the training evaluation determines the confidence that can be placed in the results, that is, how sure a company can be that training is either responsible for changes in evaluation outcomes or has failed to influence the outcomes. No evaluation design can ensure that the results of the evaluation are completely due to training. What the evaluator strives for is to use the most rigorous design possible (given the circumstances under which the evaluation occurs) to rule out alternative explanations for the results of the evaluation.

This discussion of evaluation designs begins by identifying these "alternative explanations" that the evaluator should attempt to control for. Next, various evaluation designs are compared. Finally, this section discusses practical circumstances that the trainer needs to consider in selecting an evaluation design.

Threats to Validity: Alternative Explanations for Evaluation Results

Table 1 presents threats to validity of an evaluation. Threats to validity refer to factors that will lead an evaluator to question either (1) the believability of the study results or (2) the extent to which the evaluation results are generalizable to other groups of trainees

Threats to Validity

Threats to Internal Validity	**Description**
Company	
History	Event occurs, producing changes in training outcomes.
Persons	
Maturation	Changes in training outcomes result from trainee's physical growth or emotional state.
Mortality	Study participants drop out of study (e.g., leave company).
Initial group differences	Training group differs from comparison group on individual differences that influence outcomes (knowledge, skills, ability, behavior).
Outcome Measures	
Testing	Trainees are sensitized to perform well on posttest measures.
Instrumentation	Trainee interpretation of outcomes changes over course of evaluation.
Regression toward the mean	High-and low-scoring trainees move toward middle or average on posttraining measure.
Threats to External Validity	**Description**
Reaction to pretest	Use of test before training causes trainee to pay attention to material on test.
Reaction to evaluation	Being evaluated causes trainee to try harder in training program.
Interaction of selection and training	Characteristics of trainee influence program effectiveness.
Interaction of methods	Results of trainees who received different methods can be generalized only to trainees who receive same training in the same order.

Table 41

and situations. The believability of study results refers to internal validity. The internal threats to validity relate to characteristics of the company (history), the outcome measures (instrumentation, testing), and the persons in the evaluation study (maturation, regression toward the mean, mortality, initial group differences). These characteristics can cause the evaluator to reach the wrong conclusions about training effectiveness. An evaluation study needs internal validity to provide confidence that the results of the evaluation (particularly if they are positive) are due to the training program and not to another factor. For example, consider a group of managers who have attended a communication skills training program. At the same time that they attend the program, it is announced that the company will be restructured. After the program, the managers may become better communicators simply because they are scared that otherwise they will lose their jobs. Perhaps no learning actually occurred in the training program!

Trainers are also interested in the generalizability of the study results to other groups and situations (i.e., they are interested in the external validity of the study). As shown in Table 1, threats to external validity relate to how study participants react to being included in the study and the effects of multiple types of training. Because evaluation usually does not involve all employees who have completed a program (or who may take training in the future), trainers want to be able to say that the training program will be effective in the future with similar groups.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 215 - 256.

LESSON 25

TRAINING EVALUATION (continued)

Methods to Control for Threats to Validity

Because trainers often want to use evaluation study results as a basis for changing training programs or demonstrating that training does work (as a means to gain additional funding for training from those who control the training budget), it is important to minimize the threats to validity. There are three ways to minimize threats to validity: the use of pretests and posttests in evaluation designs, comparison groups, and random assignment. Pretests and Posttests One way to improve the internal validity of the study results is to first establish a baseline or pre-training measure of the outcome. Another measure of the outcomes can be taken after training. This is referred to as a post-training measure. A comparison of the post-training and pre-training measures can indicate the degree to which trainees have changed as a result of training. Use of Comparison Groups Internal validity can be improved by using a control or comparison group. A comparison group refers to a group of employees who participate in the evaluation study but do not attend the training program. The comparison employees have personal characteristics (e.g., gender, education, age, tenure, skill level) as similar to the trainees as possible. Use of a comparison group in training evaluation helps to rule out the possibility that changes found in the outcome measures are due to factors other than training. The Hawthorne effect refers to employees in an evaluation study performing at a high level simply because of the attention they are receiving. Use of a comparison group helps to show that any effects observed are due specifically to the training rather than the attention the trainees are receiving. Use of a comparison group helps to control for the effects of history, testing, instrumentation, and maturation because both the comparison group and the training group are treated similarly, receive the same measures, and have the same amount of time to develop.

For example, consider an evaluation of a safety training program. Safe behaviors are measured before and after safety training for both trainees and a comparison group. If the level of safe behavior improves for the training group from pre-training levels but remains relatively the same for the comparison group at both pre-training and post-training, the reasonable conclusion is that the observed differences in safe behaviors are due to the training and not some other factor, such as the attention given to both the trainees and the comparison group by asking them to participate in the study. Random Assignment Random assignment refers to assigning employees to the training or comparison group on the basis of chance. That is, employees are assigned to the training program without consideration of individual differences (ability, motivation) or prior experiences. Random assignment helps to ensure that trainees are similar in individual differences such as age, gender, ability, and motivation. Because it is often impossible to identify and measure all the individual characteristics that might influence the outcome measures, random assignment ensures that these characteristics are equally distributed in the comparison group and the training group. Random assignment helps to reduce the effects of employees dropping out of the study (mortality) and differences between the training group and comparison group in ability, knowledge, skill, or other personal characteristics.

Keep in mind that random assignment is often impractical. Companies want to train employees who need training. Also, companies may be unwilling to provide a comparison group. One solution to this problem is to identify the factors in which the training and comparison groups differ and control for these factors in the analysis of the data (a statistical procedure known as analysis of covariance). Another method is to determine trainees' characteristics after they are assigned and ensure that the comparison group includes employees with similar characteristics.

Types of Evaluation Designs

A number of different designs can be used to evaluate training programs. Table 1 compares each design on the basis of who is involved (trainees, comparison group), when measures are collected (pre-training, post-training), the costs, the time it takes to conduct the evaluation, and the strength of the design for ruling out alternative explanations for the results. As shown in Table 1, research designs vary based on whether they include pre-training and post-training measurement of outcomes and a comparison group. In general,

designs that use pre-training and post-training measures of outcomes and include a comparison group reduce the risk that alternative factors (other than the training itself) are responsible for the results of the evaluation. This increases the trainer's confidence in using the results to make decisions. Of course, the trade-off is that evaluations using these designs are more costly and take more time to conduct than do evaluations not using pre-training and post-training measures or comparison groups.

Posttest Only

The posttest-only design refers to an evaluation design in which only post-training outcomes are collected. This design can be strengthened by adding a comparison group (which helps to rule out alternative explanations for changes). The posttest-only design is appropriate when trainees (and the comparison group, if one is used) can be expected to have similar levels of knowledge, behavior, or results outcomes (e.g., same number of sales, equal awareness of how to close a sale) prior to training.

Comparison of Evaluation Designs

		Measures				
Design	**Groups**	**Pretraining**	**Posttraining**	**Cost**	**Time**	**Strength**
Posttest only	Trainees	No	Yes	Low	Low	Low
Pretest/posttest	Trainees	Yes	Yes	Low	Low	Med.
Posttest only with comparison group	Trainees and comparison	No	Yes	Med.	Med.	Med.
Pretest/posttest with comparison group	Trainees and comparison	Yes	Yes	Med.	Med.	High
Time series	Trainees	Yes	Yes, several	Med.	Med.	Med.
Time series with comparison group and reversal	Trainees and comparison	Yes	Yes, several	High	Med.	High
Solomon Four-Group	Trainees A	Yes	Yes	High	High	High
	Trainees B	No	Yes			
	Comparison A	Yes	Yes			
	Comparison B	No	Yes			

Table 42

Pretest/Posttest

The pretest/posttest refers to an evaluation design in which both pre-training and post-training outcome measures are collected. There is no comparison group. The lack of a comparison group makes it difficult to rule out the effects of business conditions or other factors as explanations for changes. This design is often used by companies those wants to evaluate a training program but are uncomfortable with excluding certain employees or that only intend to train a small group of employees.

Pretest/Posttest with Comparison Group

The pretest/posttest with comparison group refers to an evaluation design that includes trainees and a comparison group. Pre-training and post-training outcome measures are collected from both groups. If improvement is greater for the training group than the comparison group, this finding provides evidence that training is responsible for the change. This type of design controls for most of the threats to validity.

Table 2 presents an example of a pretest/posttest comparison group design. This evaluation involved determining the relationship between three conditions or treatments and learning, satisfaction, and use of computer skills. The three conditions or treatments (types of computer training) were behavior modeling, self-paced study, and lecture. A comparison group was also included in the study. Behavior modeling involved watching a video showing a model performing key behaviors necessary to complete a task. In this case the task was procedures on the computer.

Forty trainees were included in each condition. Measures of learning included a test consisting of 11 items designed to measure information that trainees needed to know to operate the computer system (e.g., "Does formatting destroy all data on the disk?"). Also, trainees' comprehension of computer procedures

(procedural comprehension) was measured by presenting trainees with scenarios on the computer screens and asking them what

Example of a Pretest/Posttest Comparison Group Design

	Pretraining	Training	Posttraining Time 1	Posttraining Time 2
Lecture	Yes	Yes	Yes	Yes
Self-paced study	Yes	Yes	Yes	Yes
Behavior modeling	Yes	Yes	Yes	Yes
No training (Comparison)	Yes	No	Yes	Yes

Table 43

would appear next on the screen. Use of computer skills (skill-based learning outcome) was measured by asking trainees to complete six computer tasks (e.g., changing directories). Satisfaction with the program (reaction) was measured by six items (e.g., "I would recommend this program to others").

As shown in Table 2, measures of learning and skills were collected from the trainees prior to attending the program (pre-training). Measures of learning and skills were also collected immediately after training (post-training time 1) and four weeks after training (post-training time 2). The satisfaction measure was collected immediately following training.

The post-training time 2 measures collected in this study help to determine the occurrence of training transfer and retention of the information and skills. That is, immediately following training, trainees may have appeared to learn and acquire skills related to computer training. Collection of the post-training measures four weeks after training provides information about trainees' level of retention of the skills and knowledge.

Statistical procedures known as analysis of variance and analysis of covariance were used to test for differences between pre-training measures and post-training measures for each condition. Also, differences between each of the training conditions and the comparison group were analyzed. These procedures determine whether differences between the groups are large enough to conclude with a high degree of confidence that the differences were caused by training rather than by chance fluctuations in trainees' scores on the measures.

Time Series

Time series refers to an evaluation design in which training outcomes are collected at periodic intervals both before and after training. (In the other evaluation designs discussed here, training outcomes are collected only once after and maybe once before training.) The strength of this design can be improved by using reversal, which refers to a time period in which participants no longer receive the training intervention. A comparison group can also be used with a time series design. One advantage of the time series design is that it allows an analysis of the stability of training outcomes over time. Another advantage is that using both the reversal and comparison group helps to rule out alternative explanations for the evaluation results. The time series design is frequently used to evaluate training programs that focus on improving readily observable outcomes (such as accident rates, productivity, and absenteeism) that vary over time.

Table 3 shows a time series design that was used to evaluate how much a training program improved the number of safe work behaviors in a food manufacturing plant. This plant was experiencing an accident rate similar to that of the mining industry, the most dangerous area of work. Employees were engaging in unsafe behaviors such as putting their hands into conveyors to unjam them (resulting in crushed limbs).

Example of a Time Series Design

Source: J. Komaki, K. D. Badwick, and L. R. Scott, "A Behavioral Approach to Occupational Safety: Pinpointing Safe Performance in a Food Manufacturing Plant," *Journal of Applied Psychology* 63 (1978). Copyright 1978 by the American Psychological Association. Adapted by permission.

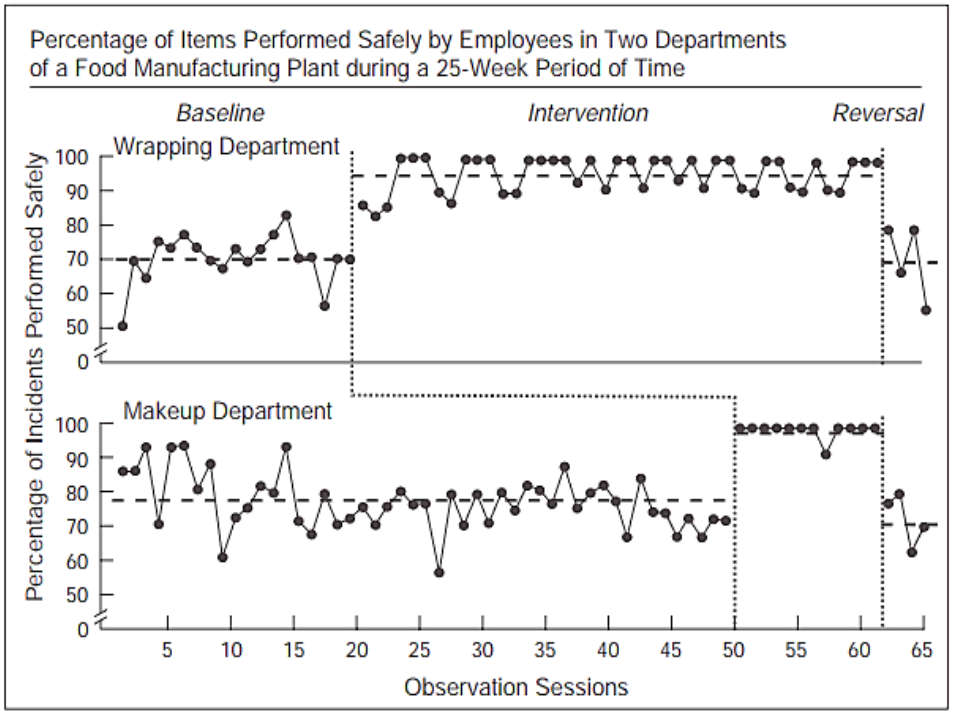

Table 44

To improve safety, the company developed a training program that taught employees safe behaviors, provided them with incentives for safe behaviors, and encouraged them to monitor their own behavior. To evaluate the program, the design included a comparison group (the Makeup Department) and a trained group (the Wrapping Department). The Makeup Department is responsible for measuring and mixing ingredients, preparing the dough, placing the dough in the oven and removing it when it is cooked, and packaging the finished product. The Wrapping Department is responsible for bagging, sealing, and labeling the packaging and stacking it on skids for shipping. Outcomes included observations of safe work behaviors. These observations were taken over a 25-week period.

The baseline shows the percentage of safe acts prior to introduction of the safety training program. Training directed at increasing the number of safe behaviors was introduced after approximately five weeks (20 observation sessions) in the Wrapping Department and 10 weeks (50 observation sessions) in the Makeup Department. Training was withdrawn from the Wrapping and Makeup Departments after approximately 62 observation sessions. The withdrawal of training resulted in a reduction of the work incidents performed safely (to pre-training levels). As shown, the number of safe acts observed varied across the observation period for both groups. However, the number of safe behaviors increased after the

training program was conducted for the trained group (Wrapping Department). The level of safe acts remained stable across the observation period. (See the intervention period.) When the Makeup Department received training (at 10 weeks, or after 50 observations), a similar increase in the percentage of safe behaviors was observed.

Solomon Four-Group

The Solomon four-group design combines the pretest/posttest comparison group and the posttest-only control group design. In the Solomon four-group design, a training group and a comparison group are measured on the outcomes both before and after training. Another training group and control group are measured only after training. This design controls for most threats to internal and external validity.

An application of the Solomon four-group design is shown in Table 4. This design was used to compare the effects of training based on integrative learning (IL) with traditional (lecture-based) training of manufacturing resource planning. Manufacturing resource planning is a method for effectively planning, coordinating, and integrating the use of all resources of a manufacturing company. The IL-based training

differed from the traditional training in several ways. IL-based training sessions began with a series of activities intended to create a relaxed, positive environment for learning. The students were asked what manufacturing resource planning meant to them, and attempts were made to reaffirm their beliefs and unite the trainees around a common understanding of manufacturing resource planning. Students presented training material and participated in group discussions, games, stories, and poetry related to the manufacturing processes.

Because the company was interested in the effects of IL related to traditional training, groups who received traditional training were used as the comparison group (rather than groups who received no training). A test of manufacturing resource planning (knowledge test) and a reaction measure were used as outcomes. The study found that participants in the IL-based learning groups learned slightly less than participants in the traditional training groups. However, IL-group participants had much more positive reactions than did those in the traditional training program.

Considerations in Choosing an Evaluation Design

There is no one appropriate evaluation design. An evaluation design should be chosen based on an evaluation of the factors shown in Table 5. There are several reasons why no evaluation or a less rigorous evaluation design may be more appropriate than a more rigorous design that includes a comparison group, random assignment, or pretraining and posttraining measures. First, managers and trainers may be unwilling to devote the time and effort necessary to collect training outcomes. Second, managers or trainers may lack the expertise to conduct an evaluation study. Third, a company may view training as an investment from which it expects to receive little or no return. A more rigorous evaluation design (pretest/posttest with comparison group) should be considered if any of the following conditions are true:

1. The evaluation results can be used to change the program.
2. The training program is ongoing and has the potential to have an important influence on (employees or customers).
3. The training program involves multiple classes and a large number of trainees.
4. Cost justification for training is based on numerical indicators. (Here the company has a strong orientation toward evaluation.)
5. Trainers or others in the company have the expertise (or the budget to purchase expertise from outside the company) to design and evaluate the data collected from an evaluation study.
6. The cost of the training creates a need to show that it works.
7. There is sufficient time for conducting an evaluation. Here, information regarding training effectiveness is not needed immediately.
8. There is interest in measuring change (in knowledge, behavior, skill, etc.) from pre-training levels or in comparing two or more different programs. For example, if the company is interested in determining how much employees' communications skills have changed as a result of a training program, a pretest/posttest comparison group design is necessary. Trainees should be randomly assigned to training and no-training conditions. These evaluation design features offer a high degree of confidence that any communication skill change is the result of participation in the training program. This type of evaluation design is also necessary if the company wants to compare the effectiveness of two training programs.

Example of a Solomon Four-Group Design

Source: Based on R. D. Bretz and R. E. Thompsett, "Comparing Traditional and Integrative Learning Methods in Organizational Training Programs," *Journal of Applied Psychology* 77 (1992): 941–51.

	Pretest	Training	Posttest
Group 1	Yes	IL-based	Yes
Group 2	Yes	Traditional	Yes
Group 3	No	IL-based	Yes
Group 4	No	Traditional	Yes

Table 45

Factors That Influence the Type of Evaluation Design

Source: Based on S. I. Tannenbaum and S. B. Woods, "Determining a Strategy for Evaluating Training: Operating within Organizational Constraints," *Human Resource Planning* 15 (1992): 63–81.

Factor	How the Factor Influences the Type of Evaluation Design
Change potential	Can program be modified?
Importance	Does ineffective training affect customer service, safety, product development, or relationships among employees?
Scale	How many trainees are involved?
Purpose of training	Is training conducted for learning, results, or both?
Organization culture	Is demonstrating results part of company norms and expectations?
Expertise	Can a complex study be analyzed?
Cost	Is evaluation too expensive?
Time frame	When is the information needed?

Table 46

9. Trainers or others in the company have the expertise (or the budget to purchase expertise from outside the company) to design and evaluate the data collected from an evaluation study.
10. The cost of the training creates a need to show that it works.
11. There is sufficient time for conducting an evaluation. Here, information regarding training effectiveness is not needed immediately.
12. There is interest in measuring change (in knowledge, behavior, skill, etc.) from pretraining levels or in comparing two or more different programs. For example, if the company is interested in determining how much employees' communications skills have changed as a result of a training program, a pretest/posttest comparison group design is necessary. Trainees should be randomly assigned to training and no-training conditions. These evaluation design features offer a high degree of confidence that any communication skill change is the result of participation in the training program. This type of evaluation design is also necessary if the company wants to compare the effectiveness of two training programs.

Evaluation designs without pretest or comparison groups are most appropriate in situations in which the company is interested in identifying whether a specific level of performance has been achieved. (For example, are employees who participated in training able to adequately communicate their ideas?) In these situations, companies are not interested in determining how much change has occurred but rather in whether the trainees have achieved a certain proficiency level.

DETERMINING RETURN ON INVESTMENT

Return on investment (ROI) is an important training outcome. This section discusses how to calculate ROI through a cost-benefit analysis. Cost-benefit analysis in this situation is the process of determining the economic benefits of a training program using accounting methods that look at training costs and benefits. Training cost information is important for several reasons:

1. To understand total expenditures for training, including direct and indirect costs.

2. To compare the costs of alternative training programs.
3. To evaluate the proportion of money spent on training development, administration, and evaluation as well as to compare monies spent on training for different groups of employees (exempt versus nonexempt, for example).
4. To control costs.

There is an increased interest in measuring the ROI of training and development programs because of the need to show the results of these programs to justify funding and to increase the status of the training and development function. Most trainers and managers believe that there is a value provided by training and development activities, such as productivity or customer service improvements, cost reductions, time savings, and decreased employee turnover. ROI provides evidence of the economic value provided by training and development programs. However, it is important to keep in mind that ROI is not a substitute for other program outcomes that provide data regarding the success of a program based on trainees' reactions and whether learning and training transfer have occurred.

The process of determining ROI begins with an understanding of the objectives of the training program. Plans are developed for collecting data related to measuring these objectives. The next step is to isolate, if possible, the effects of training from other factors that might influence the data. Last, the data are converted to a monetary value and ROI is calculated. Choosing evaluation outcomes and designing an evaluation that helps isolate the effects of training were explained earlier in the chapter. The following sections discuss how to determine costs and benefits and provide examples of cost-benefit analysis and ROI calculations.

Because ROI analysis can be costly, it should be limited only to certain training programs. ROI analysis is best for training programs that are focused on an operational issue (measurable identifiable outcomes are available), are linked to a companywide strategy (e.g., better customer service), are expensive, are highly visible, have management interest, are attended by many employees, and are permanent.

Determining Costs

One method for comparing costs of alternative training programs is the resource requirements model. The resource requirements model compares equipment, facilities, personnel, and materials costs across different stages of the training process (needs assessment, development, training design, implementation, and evaluation). Use of the resource requirements model can help determine overall differences in costs among training programs. Also, costs incurred at different stages of the training process can be compared across programs.

Accounting can also be used to calculate costs. Seven categories of cost sources are costs related to: program development or purchase, instructional materials for trainers and trainees, equipment and hardware, facilities, travel and lodging, salary of trainer and support staff, and the cost of lost productivity while trainees attend the program (or the cost of temporary employees who replace the trainees while they are at training). This method also identifies when the costs are incurred. One-time costs include those related to needs assessment and program development. Costs per offering relate to training site rental fees, trainer salaries, and other costs that are realized every time the program is offered. Costs per trainee include meals, materials, and lost productivity or expenses incurred to replace the trainees while they attend training.

Determining Benefits

To identify the potential benefits of training, the company must review the original reasons that the training was conducted. For example, training may have been conducted to reduce production costs or overtime costs or to increase the amount of repeat business. A number of methods may be helpful in identifying the benefits of training:

1. Technical, academic, and practitioner literature summarizes the benefits that have been shown to relate to a specific training program.
2. Pilot training programs assess the benefits from a small group of trainees before a company

commits more resources.

3. Observance of successful job performers helps a company determine what successful job performers do differently than unsuccessful job performers.
4. Trainees and their managers provide estimates of training benefits.

Example of a Cost-Benefit Analysis

A cost-benefit analysis is best explained by an example. A wood plant produced panels that contractors used as building materials. The plant employed 300 workers, 48 supervisors, 7 shift superintendents, and a plant manager. The business had three problems. First, 2 percent of the wood panels produced each day were rejected because of poor quality. Second, the production area was experiencing poor housekeeping, such as improperly stacked finished panels that would fall on employees. Third, the number of preventable accidents was higher than the industry average. To correct these problems, the supervisors, shift superintendents, and plant manager attended training in (1) performance management and interpersonal skills related to quality problems and poor work habits of employees and (2) rewarding employees for performance improvement. Training was conducted in a hotel close to the plant. The training program was a purchased videotape, and the instructor for the program was a consultant. Table 6 shows each type of cost and how it was determined.

The benefits of the training were identified by considering the objectives of the training program and the type of outcomes the program was to influence. These outcomes included the quality of panels, housekeeping in the production area, and the accident rate. Table 7 shows how the benefits of the program were calculated.

Once the costs and benefits of the program are determined, ROI is calculated by dividing return or benefits by costs. In this example, ROI was 6.7. That is, every dollar invested in the program returned approximately seven dollars in benefits. How can the company determine if the ROI is acceptable? One way is for managers and trainers to agree on what level of ROI is acceptable. Another method is to use the ROI that other companies obtain from similar types of training. Table 8 provides examples of ROI obtained from several types of training programs.

Determining Costs for a Cost-Benefit Analysis

Direct Costs	
Instructor	$ 0
In-house instructor (12 days @ $125 per day)	1,500
Fringe benefits (25% of salary)	375
Travel expenses	0
Materials ($60 × 56 trainees)	3,360
Classroom space and audiovisual equipment (12 days @ $50 per day)	600
Refreshments ($4 per day × 3 days × 56 trainees)	672
Total direct costs	$ 6,507
Indirect Costs	
Training management	$ 0
Clerical and administrative salaries	750
Fringe benefits (25% of salary)	187
Postage, shipping, and telephone	0
Pre- and posttraining learning materials ($4 × 56 trainees)	224
Total indirect costs	$ 1,161
Development Costs	
Fee for program purchase	$ 3,600
Instructor training	
Registration fee	1,400
Travel and lodging	975
Salary	625
Benefits (25% of salary)	156
Total development costs	$ 6,756
Overhead Costs	
General organizational support, top management time (10% of direct, indirect, and development costs)	$ 1,443
Total overhead costs	$ 1,443
Compensation for Trainees	
Trainees' salaries and benefits (based on time away from job)	$ 16,969
Total training costs	$ 32,836
Cost per trainee	$ 587

Table 47

Other Methods for Cost-Benefit Analysis

Other more sophisticated methods are available for determining the dollar value of training. For example, utility analysis is a cost-benefit analysis method that involves assessing the dollar value of training based on estimates of the difference in job performance between trained and untrained employees, the number of individuals trained, the length of time a training program is expected to influence performance, and the variability in job performance in the untrained group of employees. Utility analysis requires the use of a

Determining Benefits for a Cost-Benefit Analysis

Operational Results Area	How Measured	Results before Training	Results after Training	Differences (+ or –)	Expressed in Dollars
Quality of panels	Percentage rejected	2 percent rejected—1,440 panels per day	1.5 percent rejected—1,080 panels per day	.5 percent—360 panels	$720 per day, $172,800 per year
Housekeeping	Visual inspection using 20-item checklist	10 defects (average)	2 defects (average)	8 defects	Not measurable in $
Preventable accidents	Number of accidents	24 per year	16 per year	8 per year	$48,000 per year
	Direct cost of accidents	$144,000 per year	$96,000 per year	$48,000 per year	

$$\text{ROI} = \frac{\text{Return}}{\text{Investment}} = \frac{\text{Operational results}}{\text{Training costs}} = \frac{\$220{,}800}{\$32{,}836} = 6.7$$

Total savings: $187,964

Source: Adapted from D. G. Robinson and J. Robinson, "Training for Impact," *Training and Development Journal* (August 1989): 30–42.

Table 48

Pre-test/post-test design with a comparison group to obtain an estimate of the difference in job performance for trained versus untrained employees. Other types of economic analyses evaluate training as it benefits the firm or the government using direct and indirect training costs, government incentives paid for training, wage increases received by trainees as a result of completion of training, tax rates, and discount rates.

Examples of Return on Investment

Source: Based on J.J. Philips, "ROI: The Search for Best Practices," *Training and Development* (February 1996): 45.

Industry	Training Program	ROI
Bottling company	Workshops on managers' roles	15:1
Large commercial bank	Sales training	21:1
Electric and gas utility	Behavior modification	5:1
Oil company	Customer service	4.8:1
Health maintenance organization	Team training	13.7:1

Table 49

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 215 - 256.

TRAINING METHODS

Training Methods

There are numerous methods and materials available to help you prepare and equip employees to better do their jobs. Indeed, with so many choices out there, it can be daunting to determine which methods to use and when to use them. And using several methods for each training session may actually be the most effective way to help employees learn and retain information. In this lecture, we take a close look at each of the myriad techniques, and examine their advantages and disadvantages. We also explain how you can combine the various methods into an effective blended learning approach.

Figure 1 provides an overview of the frequency with which various training methods are used. Instructor-led classroom training still remains the most frequently used method. Regardless of whether the training method is traditional or technology-based, for training to be effective it needs to be based on the training design model. Needs assessment, a positive learning environment, and transfer of training are critical for training program effectiveness.

Overview of Use of Training Methods

Source: From "2008 Industry Report: Gauges & Drivers," *Training* (November/December 2008): 24.

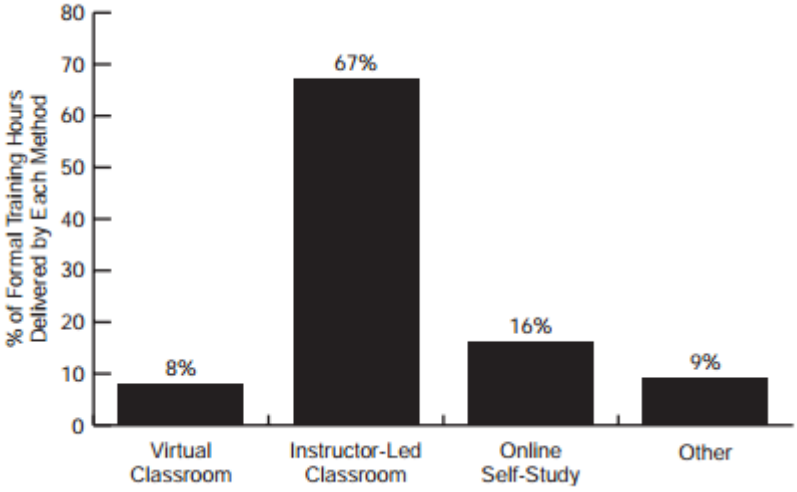

Figure 30

PRESENTATION METHODS

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

Lecture

In a lecture, trainers communicate through spoken words what they want the trainees to learn. The communication of learned capabilities is primarily one-way—from the trainer to the audience. As Figure 1 shows, instructor-led classroom presentation remains a popular training method despite new technologies such as interactive video and computer-assisted instruction.

A lecture is one of the least expensive, least time-consuming ways to present a large amount of information efficiently in an organized manner. The lecture format is also useful because it is easily employed with large groups of trainees. Besides being the primary means to communicate large amounts of information, lectures are also used to support other training methods such as behavior modeling and technology-based techniques. For example, a lecture may be used to communicate information regarding the purpose of the training program, conceptual models, or key behaviors to trainees prior to their receiving training that is more interactive and customized to their specific needs.

Table 1 describes several variations of the standard lecture method. All have advantages and disadvantages. Team teaching brings more expertise and alternative perspectives to the training session. Team teaching does require more time on the part of trainers to not only prepare their particular session but also coordinate with other trainers, especially when there is a great deal of integration between topics. Panels are good for showing trainees different viewpoints in a debate. A potential disadvantage of a panel is that trainees who are relatively naive about a topic may have difficulty understanding the important points. Guest speakers can motivate learning by bringing to the trainees relevant examples and applications. For guest speakers to be effective, trainers need to set expectations with speakers regarding how their presentation should relate to the course content. Student presentations may increase the material's meaningfulness and trainees' attentiveness, but it can inhibit learning if the trainees do not have presentation skills.

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

Variations of the Lecture Method

Method	Description
Standard Lecture	Trainer talks while trainees listen and absorb information.
Team Teaching	Two or more trainers present different topics or alternative views of the same topic.
Guest Speakers	Speaker visits the session for a predetermined time period. Primary instruction is conducted by the instructor.
Panels	Two or more speakers present information and ask questions.
Student Presentations	Groups of trainees present topics to the class.

Table 50

Audiovisual Techniques

Audiovisual instruction includes overheads, slides, and video. Video is a popular instructional method. It has been used for improving communications skills, interviewing skills, and customer-service skills and for illustrating how procedures (e.g., welding) should be followed. Video is, however, rarely used alone. It is usually used in conjunction with lectures to show trainees real-life experiences and examples. Here is how one company is using video in its training program.

Video is also a major component of behavior modeling and, naturally, interactive video instruction. The use of video in training has a number of advantages. First, trainers can review, slow down, or speed up the lesson, which gives them flexibility in customizing the session depending on trainees' expertise. Second, trainees can watch the video multiple times if they have access to it during and after the training session. This gives them control over their learning. Third, trainees can be exposed to equipment, problems, and events that cannot be easily demonstrated, such as equipment malfunctions, angry customers, or emergencies. Fourth, trainees are provided with consistent instruction. Program content is not affected by the interests and goals of a particular trainer. Fifth, videotaping trainees allows them to see and hear their own performance without the interpretation of the trainer. That is, video provides immediate objective feedback. As a result, trainees cannot attribute poor performance to the bias of external evaluators such as the trainer or peers. Sixth, video requires minimal knowledge of technology and equipment. Most trainers and trainees can easily use a VCR or DVD player.

Most problems in video result from the creative approach used. These problems include too much content for the trainee to learn, poor dialogue between the actors (which hinders the credibility and clarity of the message), overuse of humor or music, and drama that makes it confusing for the trainee to understand the

important learning points emphasized in the video.

HANDS-ON METHODS

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

On-the-Job Training (OJT)

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

OJT takes various forms, including apprenticeships and self-directed learning programs. (Both are discussed later in this section.) OJT has several advantages over other training methods.13 It can be customized to the experiences and abilities of trainees. Training is immediately applicable to the job because OJT occurs on the job using actual tools and equipment. As a result, trainees are highly motivated to learn. Both trainees and trainers are at the job site and continue to work while training occurs. This means that companies save the costs related to bringing trainees to a central location, hiring trainers, and renting training facilities. OJT can be offered at any time, and trainers will be available because they are peers or managers. Finally, OJT uses actual job tasks and occurs at work. As a result, skills learned in OJT more easily transfer to the job.

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

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

OJT must be structured to be effective. Table 2 shows the principles of structured OJT. Because OJT involves learning by observing others, successful OJT is based on the principles emphasized by social learning theory. These include the use of a credible trainer, a man- ager or peer who models the behavior or skill, communication of specific key behaviors, practice, feedback, and reinforcement.

Regardless of the specific type, effective OJT programs include:

1. A policy statement that describes the purpose of OJT and emphasizes the company's support for it.
2. A clear specification of who is accountable for conducting OJT. If managers conduct OJT, this is mentioned in their job descriptions and is part of their performance evaluations.
3. A thorough review of OJT practices (program content, types of jobs, length of program, cost savings) at other companies in similar industries.
4. Training of managers and peers in the principles of structured OJT (see Table 2).
5. Availability of lesson plans, checklists, procedure manuals, training manuals, learning contracts, and progress report forms for use by employees who conduct OJT.

6. Evaluation of employees' levels of basic skills (reading, computation, writing) before OJT.

Principles of On-the-Job Training

Preparing for Instruction

1. Break down the job into important steps.
2. Prepare the necessary equipment, materials, and supplies.
3. Decide how much time you will devote to OJT and when you expect the employees to be competent in skill areas.

Actual Instruction

1. Tell the trainees the objective of the task and ask them to watch you demonstrate it.
2. Show the trainees how to do it without saying anything.
3. Explain the key points or behaviors. (Write out the key points for the trainees, if possible.)
4. Show the trainees how to do it again.
5. Have the trainees do one or more single parts of the task and praise them for correct reproduction (optional).
6. Have the trainees do the entire task and praise them for correct reproduction.
7. If mistakes are made, have the trainees practice until accurate reproduction is achieved.
8. Praise the trainees for their success in learning the task.

Source: Based on W. J. Rothwell and H. C. Kazanas, "Planned OJT Is Productive OJT," *Training and Development Journal* (October 1990): 53–55; P. J. Decker and B. R. Nathan, *Behavior Modeling Training* (New York: Praeger Scientific, 1985).

Table 51

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 258 - 293.

LESSON 27

TRAINING METHODS (Continued)

Self-Directed Learning

Self-directed learning has employees take responsibility for all aspects of learning— including when it is conducted and who will be involved. Trainees master predetermined training content at their own pace without an instructor. Trainers may serve as facilitators. That is, trainers are available to evaluate learning or answer questions for the trainee. The trainer does not control or disseminate instruction. The learning process is controlled by the trainee. Self-directed learning for salespersons could involve reading newspapers or trade publications, talking to experts, or surfing the Internet to find new ideas related to the salesperson industry. Also, self-directed learning could involve the company providing salespersons with information such as databases, training courses, and seminars while still holding the employees responsible for taking the initiative to learn. Because the effectiveness of self-directed learning is based on an employee's motivation to learn, companies may want to provide seminars on the self-directed learning process, self-management, and how to adapt to the environment, customers, and technology.

Self-directed learning has several advantages and disadvantages. It allows trainees to learn at their own pace and receive feedback about the learning performance. For a company, self-directed learning requires fewer trainers, reduces costs associated with travel and meeting rooms, and makes multiple-site training more realistic. Self-directed learning provides consistent training content that captures the knowledge of experts. Self-directed learning also makes it easier for shift employees to gain access to training materials.

A major disadvantage of self-directed learning is that trainees must be willing to learn on their own and feel comfortable doing so. That is, trainees must be motivated to learn. From the company perspective, self-directed learning results in higher development costs, and development time is longer than with other types of training programs.

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

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

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

Apprenticeship

Apprenticeship is a work-study training method with both on-the-job and classroom training. Apprenticeships can be sponsored by individual companies or by groups of companies cooperating with a

union

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

A major advantage of apprenticeship programs is that learners can earn pay while they learn. This is important because programs can last several years. Learners' wages usually increase automatically as their skills improve. Also, apprenticeships are usually effective learning experiences because they involve learning why and how a task is performed through classroom instruction provided by local trade schools, high schools, or community colleges. Apprenticeships also usually result in full-time employment for trainees when the program is completed.

Apprentice-like programs are also used to prepare new managers. The president and chief executive officer of Goldcorp, a company in the mining industry, offers the chance for MBAs to apply for a nine-month apprenticeship.

Besides the development costs and time commitment that management and journey workers have to make to apprenticeship programs, another disadvantage of many programs is limited access for minorities and women. Also, there is no guarantee that jobs will be available when the program is completed. Finally, apprenticeship programs prepare trainees who are well trained in one craft or occupation. Due to the changing nature of jobs (thanks to new technology and use of cross-functional teams), many employers may be reluctant to employ workers from apprenticeship programs. Employers may believe that because apprentices are narrowly trained in one occupation or with one company, program graduates may have only company-specific skills and may be unable to acquire new skills or adapt their skills to changes in the workplace.

Simulations

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

Simulators replicate the physical equipment that employees use on the job. Simulations are also used to develop managerial skills.

A key aspect of simulators is the degree to which they are similar to the equipment and situations that the trainee will encounter on the job. Simulators need to have elements identical to those found in the work environment. The simulator needs to respond exactly like the equipment would under the conditions and response given by the trainee. For example, flight simulators include distractions that pilots have to deal with, such as hearing chimes in the cockpit from traffic alerts generated by an onboard computer warning system while listening to directions from an air traffic controller. For this reason simulators are expensive to develop and need constant updating as new information about the work environment is obtained.

Case Studies

A case study is a description about how employees or an organization dealt with a difficult situation. Trainees are required to analyze and critique the actions taken, indicating the appropriate actions and suggesting what might have been done differently. A major assumption of the case study approach is that

employees are most likely to recall and use knowledge and skills if they learn through a process of discovery. Cases may be especially appropriate for developing higher order intellectual skills such as analysis, synthesis, and evaluation. These skills are often required by managers, physicians, and other professional employees. Cases also help trainees develop the willingness to take risks given uncertain outcomes, based on their analysis of the situation. To use cases effectively, the learning environment must give trainees the opportunity to prepare and discuss their case analyses. Also, face-to-face or electronic communication among trainees must be arranged. Because trainee involvement is critical for the effectiveness of the case method, learners must be willing and able to analyze the case and then communicate and defend their positions.

Table 1 presents the process used for case development. The first step in the process is to identify a problem or situation. It is important to consider if the story is related to the instructional objectives, will provoke a discussion, forces decision making, can be told in a reasonable time period, and is generalizable to the situations that trainees may face. Information on the problem or situation must also be readily accessible. The next step is to research documents, interview participants, and obtain data that provide the details of the case. The third step is to outline the story and link the details and exhibits to relevant points in the story. Fourth, the media used to present the case should be determined. Also, at this point in case development, the trainer should consider how the case exercise will be conducted. This may involve determining if trainees will work individually or in teams, and how the students will report results of their analyses. Finally, the actual case materials need to be prepared. This includes assembling exhibits (figures, tables, articles, job descriptions, etc.), writing the story, preparing questions to guide trainees' analysis, and writing an interesting, attention-getting case opening that will attract trainees' attention and provide a quick orientation to the case.

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

Table 52

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 258 - 293.

TRAINING METHODS (Continued)

Business Games

Business games require trainees to gather information, analyze it, and make decisions. Business games are primarily used for management skill development. Games stimulate learning because participants are actively involved and because games mimic the competitive nature of business. The types of decisions that participants make in games include all aspects of management practice: labor relations (agreement in contract negotiations), ethics, marketing (the price to charge for a new product), and finance (financing the purchase of new technology).

Typical games have the following characteristics. The game involves a contest among trainees or teams of trainees or against an established criterion such as time or quantity. The game is designed to demonstrate an understanding of or application of a knowledge, skill, or behavior. Several alternative courses of action are available to trainees, and trainees can estimate the consequences of each alternative, but only with some uncertainty. Trainees do not know for certain what the consequences of their actions will be because the consequences are partially based on the decisions of other game participants. Finally, rules limit participant behavior. To ensure learning and transfer of training, games used in training should be simple enough that trainees can play them in a short period of time. The best games generate excitement among the participants and interest in the game. Meaningfulness of the game is enhanced if it is realistic. Trainees need to feel that they are participating in a business and acquiring knowledge, skills, and behaviors that are useful on the job. Debriefing from a trainer can help trainees understand the game experience and facilitate learning and transfer. Debriefing can include feedback, discussions of the concepts presented during the game, and instructions in how to use at work the knowledge, skills, or behavior emphasized in the game. Table 1 contains some questions that can be used for debriefing.

Questions to Use for Debriefing a Game	How did the score of the game affect your behavior and the behavior of the team? What did you learn from the game? What aspects of the game remind you of situations at work? How does the game relate to your work? What did you learn from the game that you plan to use at work?

Table 53

The University of Texas at Austin has created Executive Challenge, a three-day game in which teams of students are divided into three companies, each given a limited amount of production capacity and employees with different skills. The intent of the game is to teach students how to balance business and ethics and how to interpret the results of too much cost cutting. Teams compete for $11,000 and the chance to perform in front of an executive panel. Companies can borrow money, spend money to increase production capacity, or add products or employees. Companies also have to nurture existing projects and make decisions about whether to spend resources on diversity training or on quality programs.

Many companies are using board games to teach employees finance because employee pay is based on the financial performance of the business function employees work in. In pay-for-performance plans, companies must ensure that employees understand basic financial concepts such as how to read balance sheets and income statements. Employees also need to understand how their actions and decisions affect profits. Most of the board games are similar to the game Monopoly. Trainees guide their companies through a series of decisions challenged by various obstacles such as a rival introducing a competing product or a strike by plant workers. Trainees have to track key financial measures over two years.

Harley-Davidson, the motorcycle company, uses a business game to help prospective dealers understand how dealerships make money. The game, which involves 15 to 35 people working in teams, consists of five simulated rounds, each round challenging a team to manage a Harley dealership in competition with other teams. Between rounds of the game, lectures and case studies reinforce key concepts. The facilitators change the business situation in each round of the game. The facilitators can increase or decrease interest

rates, add new products, cause employee turnover, or even set up a bad event such as a fire at the business. The game helps dealers develop skills needed for business success. Participants must work well as a team, listen to each other, and think strategically.

Documentation of learning from games is anecdotal. Games may give team members a quick start at developing a framework for information and may help develop cohesive groups. For some groups (such as senior executives), games may be more meaningful training activities (because the game is realistic) than are presentation techniques such as classroom instruction.

Role Plays

Role plays have trainees act out characters assigned to them. Information regarding the situation (e.g., work or interpersonal problem) is provided to the trainees. Role plays differ from simulations on the basis of response choices available to the trainees and the level of detail of the situation given to trainees. Role plays may provide limited information regarding the situation, whereas the information provided for simulation is usually quite detailed. A simulation focuses on physical responses (e.g., pull a lever, move a dial). Role plays focus on interpersonal responses (e.g., ask for more information, resolve conflict). In a simulation, the outcome of the trainees' response depends on a fairly well-defined model of reality. (If a trainee in a flight simulator decreases the angle of the flaps, that action influences the direction of the aircraft.) In a role play, outcomes depend on the emotional (and subjective) reactions of the other trainees.

For role plays to be effective, trainers need to engage in several activities before, during, and after the role play. Before the role play, it is critical to explain the purpose of the activity to the trainees. This increases the chances that they will find the activity meaningful and be motivated to learn. Second, the trainer needs to clearly explain the role play, the characters' roles, and the time allotted for the activity. A short video may also be valuable for quickly showing trainees how the role play works. During the activity, the trainer needs to monitor the time, degree of intensity, and focus of the group's attention. (Is the group playing the roles or discussing other things unrelated to the exercise?) The more meaningful the exercise is to the participants, the less trouble the trainer should have with focus and intensity. At the conclusion of the role play, debriefing is critical. Debriefing helps trainees understand the experience and discuss their insights with each other. Trainees should also be able to discuss their feelings, what happened in the exercise, what they learned, and how the experience, their actions, and resulting outcomes relate to incidents in the workplace.

Behavior Modeling

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

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

Table 2 presents the activities in a behavior modeling training session. These activities include an introduction, skill preparation and development, and application planning. Each training session, which typically lasts four hours, focuses on one interpersonal skill such as coaching or communicating ideas. Each session includes a presentation of the rationale behind the key behaviors, a videotape of a model performing the key behaviors, practice opportunities using role playing, evaluation of a model's performance in the videotape, and a planning session devoted to understanding how the key behaviors can be used on the job. In the practice sessions, trainees are provided with feedback regarding how closely their behavior matches the key behaviors demonstrated by the model. The role playing and modeled performance are based on actual incidents in the employment setting in which the trainee needs to demonstrate success.

Activities in a Behavior Modeling Training Program

Introduction (45 mins.)

- Watch video that presents key behaviors.
- Listen to rationale for skill module.
- Discuss experiences in using skill.

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

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

Application Planning (1 hr.)

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

Table 54

Well-prepared behavior modeling training programs identify the key behaviors, create the modeling display, provide opportunities for practice, and facilitate transfer of training. The first step in developing behavior modeling training programs is to determine

(1) the tasks that are not being adequately performed due to lack of skill or behavior and

(2) the key behaviors that are required to perform the task.

A key behavior is one of a set of behaviors that are necessary to complete a task. In behavior modeling, key behaviors are typically performed in a specific order for the task to be completed. Key behaviors are identified through a study of the skills and behaviors necessary to complete the task and the skills or behaviors used by employees who are effective in completing the task. Table 3 presents key behaviors for a behavior modeling training program on problem analysis. The table specifies behaviors that the trainee needs to engage in to be effective in problem analysis skills. Note that the key behaviors do not specify the exact behaviors needed at every step of solving a problem. Rather, the key behaviors in this skill module specify more general behaviors that are appropriate across a wide range of situations. If a task involves a clearly defined series of specific steps that must be accomplished in a specific order, then the key behaviors that are provided are usually more specific and explained in greater detail. For example, tennis players learning how to serve must follow a detailed sequence of activities (e.g., align feet on service line, take the racquet back over the head, toss the ball, bring the racquet over the head, pronate the wrist, and strike the ball). People learning interpersonal skills must develop more general key behaviors because there is always more than one way to complete the task. The development of general key behaviors promotes far transfer. That is, trainees are prepared to use the key behaviors in a variety of situations.

Example of Key Behaviors in Problem Analysis

Get all relevant information by:
- Rephrasing the question or problem to see if new issues emerge.
- Listing the key problem issues.
- Considering other possible sources of information.

Identify possible causes.
If necessary, obtain additional information.
Evaluate the information to ensure that all essential criteria are met.
Restate the problem considering new information.
Determine what criteria indicate that the problem or issue has been resolved.

Table 55

Another important consideration in developing behavior modeling programs is the modeling display. The modeling display provides the key behaviors that the trainees will practice to develop the same set of behaviors. Videotape is the predominant method used to present modeling displays, although computerized modeling displays are also being used. Effective modeling displays have six characteristics:

1. The display clearly presents the key behaviors. The music and the characteristics of the situation

shown in the display do not interfere with the trainee seeing and understanding the key behaviors.

2. The model is credible to the trainees.
3. An overview of the key behaviors is presented.
4. Each key behavior is repeated. The trainee is shown the relationship between the behavior of the model and each key behavior.
5. A review of the key behaviors is included.
6. The display presents models engaging in both positive use of key behaviors and negative use (ineffective models not using the key behaviors).

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

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

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

This excerpt has been extracted in modified form from;

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TRAINING METHODS (Continued)

GROUP BUILDING METHODS

Group building methods are training methods designed to improve team or group effectiveness. Training is directed at improving the trainees' skills as well as team effectiveness.

In group building methods, trainees share ideas and experiences, build group identity, understand the dynamics of interpersonal relationships, and get to know their own strengths and weaknesses and those of their co-workers. Group techniques focus on helping teams increase their skills for effective teamwork. A number of training techniques are available to improve work group or team performance, to establish a new team, or to improve interactions among different teams. All involve examination of feelings, perceptions, and beliefs about the functioning of the team; discussion; and development of plans to apply what was learned in training to the team's performance in the work setting. Group building methods include adventure learning, team training, and action learning.

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

For experiential training programs to be successful, several guidelines should be followed. The program needs to tie in to a specific business problem. The trainees need to be moved outside their personal comfort zones but within limits so as not to reduce trainee motivation or ability to understand the purpose of the program. Multiple learning modes should be used, including audio, visual, and kinesthetic. When preparing activities for an experiential training program, trainers should ask trainees for input on the program goals. Clear expectations about the purpose, expected outcomes, and trainees' role in the program are important. Finally, the training program needs to be evaluated. Training programs that include experiential learning should be linked to changes in employee attitudes, behaviors, and other business results. If training programs that involve experiential learning do not follow these guidelines, they may be questioned.

Adventure Learning

Adventure learning focuses on the development of teamwork and leadership skills through structured activities.54 Adventure learning includes wilderness training, outdoor training, drum circles, and even cooking classes. Adventure learning appears to be best suited for developing skills related to group effectiveness such as self-awareness, problem solving, conflict management, and risk taking. Adventure learning may involve strenuous, challenging physical activities such as dogsledding or mountain climbing. Adventure learning can also use structured individual and group outdoor activities such as wall climbing, rope courses, trust falls, ladder climbing, and traveling from one tower to another using a device attached to a wire that connects the two towers.

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

In one adventure learning program, a Chili's restaurant manager was required to scale a three-story-high wall. About two-thirds of the way from the top of the wall, the manager became very tired. She successfully reached the top of the wall using the advice and encouragement shouted from team members on the ground below. When asked to consider what she learned from the experience, she reported that the exercise made her realize that reaching personal success depends on other people. At her restaurant, everyone has to work together to make the customers happy.

Adventure learning can also include demanding activities that require coordination but place less of a physical strain on team members. In drum circles, each team member is given a drum, and facilitators work with the team to create a drumming orchestra.

For adventure learning programs to be successful, exercises should relate to the types of skills that participants are expected to develop. Also, after the exercises a skilled facilitator should lead a discussion about what happened in the exercise, what was learned, how events in the exercise relate to the job situation, and how to set goals and apply what was learned on the job. Trust falls require each trainee to stand on a platform five to six feet above the ground and fall backward into the arms of fellow group members. If trainees are reluctant to fall, this suggests they don't trust the team members. After completing the trust fall, the facilitator may question trainees to identify sources of their anxiety and to relate this anxiety to specific workplace incidents (e.g., a project delegated to a peer was not completed on time, resulting in distrust of the peer).

The physical demands of some types of adventure learning and the requirement that trainees often touch each other in the exercises may increase a company's risk for negligence claims due to personal injury, intentional infliction of emotional distress, and invasion of privacy.

Given the physically demanding nature of adventure learning, it is important to consider when to use it instead of another training method. Adventure learning allows trainees to interact interpersonally in a situation not governed by formal business rules. This type of environment may be important for employees to mold themselves into a cohesive work team. Also, adventure learning exercises allow trainees to share a strong emotional experience. Significant emotional experiences can help trainees break difficult behavior patterns and open trainees to change their behaviors. One of the most important characteristics of adventure learning is that the exercises can serve as metaphors for organizational behavior. That is, trainees will behave in the same way in the exercises that they would when working as a team (e.g., developing a product launch plan). As a result, by analyzing behaviors that occur during the exercise, trainees gain insight into ineffective behaviors.

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

Team Training

Team training coordinates the performance of individuals who work together to achieve a common goal. Figure 1 shows the three components of team performance: knowledge, attitudes, and behavior. The behavioral requirement means that team members must perform

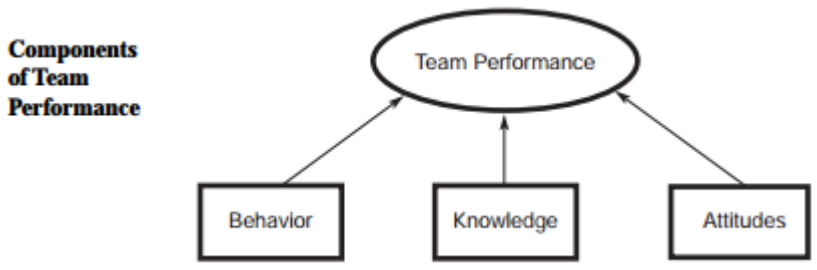

Figure 31

actions that allow them to communicate, coordinate, adapt, and complete complex tasks to accomplish their objective. The knowledge component requires team members to have mental models or memory structures that allow them to function effectively in unanticipated or new situations. Team members' beliefs about the task and feelings toward each other relate to the attitude component. Team morale, cohesion,

and identity are related to team performance. Successful performance depends on coordination of individual activities to make decisions, on team performance, and on readiness to deal with potentially dangerous situations (e.g., an overheating nuclear reactor). Research suggests that teams that are effectively trained develop procedures to identify and resolve errors, coordinate information gathering, and reinforce each other.

Figure 2 illustrates the four main elements of the structure of team training (tools, methods, strategies, and team training objectives). Several tools help to define and

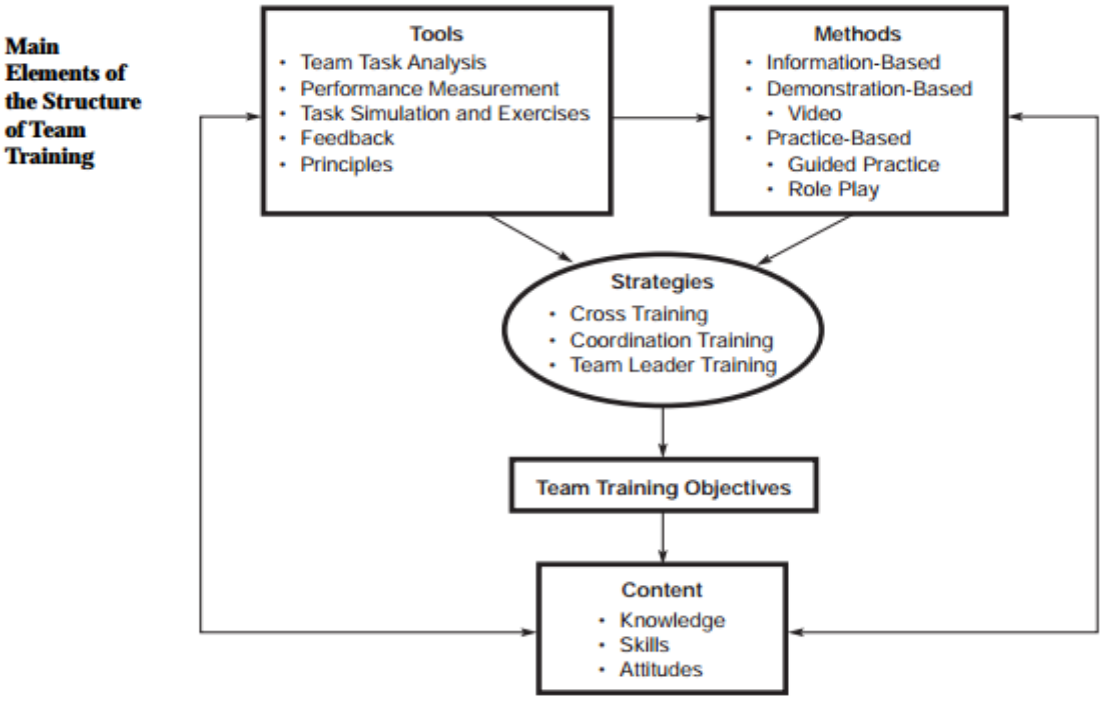

Figure 32

organize the delivery of team training. These tools also provide the environment (e.g., feedback) needed for learning to occur. These tools work in combination with different training methods to help create instructional strategies. These strategies are a combination of the methods, tools, and content required to perform effectively.

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

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

Action Learning

Action learning gives teams or work groups an actual problem, has them work on solving it and committing to an action plan, and then holds them accountable for carrying out the plan. Companies use action learning to solve important problems, develop leaders, quickly build high-performance teams, and transform the organizational culture. Table 1 shows the steps involved in action learning. Several types of problems are addressed in action learning, including how to change the business, better utilize technology, remove barriers between the customer and company, and develop global leaders. Typically, action learning involves between 6 and 30 employees. It may also include customers and vendors. There are several variations in the composition of the group. One variation is that the group includes a single customer for the problem being dealt with. Sometimes the groups include cross-functional representatives who all have a stake in the problem.

Steps in Action Learning

Source: Based on M. Marquardt, "Harnessing the Power of Action Learning," *T + D* (June 2004): 26–32; D. Dotlich and J. Noel, *Action Learning* (San Francisco: Jossey-Bass, 1998).

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

Table 56

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 258 - 293.

E-LEARNING AND USE OF TECHNOLOGY

E-Learning and Use of Technology in Training

Several surveys of company training practices suggest that although face-to-face classroom instruction is used by almost all companies, new technologies are gaining in popularity. Table 1 provides a snapshot of the use of technology in training. The use of training technologies is expected to increase dramatically in the next decade as technology improves, the cost of technology decreases, companies recognize the potential cost savings of training via desktop and personal computers (PCs), and the need for customized training increases. As you will see later in this chapter, new training technologies are unlikely to totally replace face-to-face instruction. Rather, face-to-face instruction will be combined with new training technologies (a combination known as blended training) to maximize learning.

This chapter begins by discussing the influence of new technology on training delivery, support, and administration. How technology has changed the learning environment also is addressed. Next, the chapter explores emerging multimedia training techniques (computer-based training, CD-ROM, interactive video, the Internet). E-learning, a comprehensive training strategy that can include several multimedia training techniques (Internet, CD-ROM), is discussed. E-learning emphasizes learning through interaction with training content, sharing with other trainees, and using Internet

Use of New Technology in Training
• 10 percent of training is delivered in a virtual classroom and 18 percent is delivered online. • 71 percent of companies use structured collaboration such as communities of practice. • Communities of practice are the most frequently used collaborative learning tool (22 percent), followed by podcasts and mobile learning (14 percent), blogs (8 percent), and wikis (7 percent). • 32.1 percent of learning hours involve technology-based training methods. • 38 percent of companies use learning management systems. Broken down by size, 79 percent of large (10,000 or more employees), 57 percent of midsize (1,000–9,999 employees), and 36 percent of small companies (100–999 employees) use learning management systems. • 21 percent of large companies (10,000 or more employees) use e-learning to deliver training, compared to 17 percent of midsize (1,000–9,999 employees) and small (100 or less employees) companies.

Table 57

resources. More sophisticated technologies that are just beginning to be marketed commercially for training delivery (expert systems, virtual reality, virtual worlds, intelligent tutoring systems) are introduced. The use of expert systems and groupware exemplifies how technology supports training through its role as a storage place for intellectual capital (information and learned capabilities), which facilitates access to information and communication of knowledge among employees. The chapter also shows how technology such as interactive voice responses and imaging is used in training administration. The last section of the chapter compares the various training methods that are based on new technology employing the characteristics used to evaluate the traditional training methods. As you will see, several training methods discussed in this chapter can replace or be substituted for traditional training methods under certain conditions.

TECHNOLOGY'S INFLUENCE ON TRAINING AND LEARNING

For training to help a company gain a competitive advantage, it needs to support business goals and be delivered as needed to geographically dispersed employees who may be working at home or in another country. Training costs (such as travel costs) should be minimized and maximum benefits gained, including learning and transfer of training. For learning and transfer to occur (i.e., for the benefits of training to be realized), the training environment must include learning principles such as practice, feedback, meaningful material, and the ability to learn by interacting with others.

New technologies have made it possible to reduce the costs associated with delivering training to employees, to increase the effectiveness of the learning environment, and to help training contribute to

business goals. New training delivery and instructional methods include online learning (also called e-learning), distance learning, simulations, virtual reality, expert systems, electronic support systems, and learning management systems. New technologies have influenced the delivery of training, training administration, and training support. Technology has made several benefits possible:

- Employees can gain control over when and where they receive training.
- Employees can access knowledge and expert systems on an as-needed basis.
- Through the use of avatars, virtual reality, and simulations, the learning environment can look, feel, and sound just like the work environment.
- Employees can choose the type of media (print, sound and video) they want to use in a training program.
- Course enrollment, testing, and training records can be handled electronically, reducing the paperwork and time needed for administrative activities.
- Employees' accomplishments during training can be monitored.
- Traditional training methods such as classroom instruction and behavior modeling can be delivered to trainees rather than requiring them to come to a central training location.

Technology and Collaboration

Technology allows digital collaboration to occur. Digital collaboration is the use of technology to enhance and extend employees' abilities to work together regardless of their geographic proximity. Digital collaboration includes electronic messaging systems, electronic meeting systems, online communities of learning organized by subject where employees can access interactive discussion areas and share training content and Web links, and document-handling systems with collaboration technologies that allow interpersonal interaction. Digital collaboration requires a computer, but collaborative applications for handheld devices and personal digital assistants are becoming available that will allow employees to collaborate anytime or anywhere. Digital collaboration can be synchronous or asynchronous. In synchronous communication, trainers, experts, and learners interact with each other live and in real time the same way they would in face-to-face classroom instruction. Technologies such as video teleconferencing and live online courses (virtual classrooms) make synchronous communication possible. Asynchronous communication refers to non–real-time interactions. That is, persons are not online and cannot communicate with each other without a time delay, but learners can still access information resources when they desire them. E-mail, self-paced courses on the Web or on CD-ROM, discussion groups, and virtual libraries allow asynchronous communication.

Technology and Learning Environment

The Internet is primarily responsible for creating our revolution in learning. Internet technology has permitted the development of electronic networks that integrate voice, video, and data connections among learners, instructors, and experts. Figure 1 shows three different types of learning environments. Learning used to be a very linear process. That is, instructors presented information to the learners; practice and applications then occurred after instruction was completed (see the classroom learning environment in Figure 1). Traditionally, the learning environment included only the instructor or trainer and the learners. The trainer was responsible for delivering content, answering questions, and testing learning. Trainees played a passive role in learning. Communication on course content was one-way: from the instructor to the learner. Experts and resource materials were separate from the learning environment. Contact with resource materials and experts beyond the instructor and course materials assigned for the course required learners to go outside the formal learning environment. Also, learners had to wait to access resource materials and experts until instruction was completed. Interaction among learners occurred primarily outside the training room and tended to be limited to those who worked in the same geographic area.

Technology has allowed learning to become a more dynamic process. As shown on the right side of Figure 1, the learning environment can be expanded to include greater interaction between learners and the training content as well as between learners and the instructor. The trainer may help design the instruction, but the instruction is primarily delivered to the learners through technology such as online learning,

simulations, or iPods. The instructor becomes more of a coach and resource person to answer students' questions and is less involved in delivery of training content. Learning occurs primarily through communicating with other learners, working on virtual team projects, participating in games, listening, exchanging ideas, interacting with experts (engineers, managers, etc.), and discovering ideas and applications using hyperlinks that take the learner to other Web sites. Experts and resource materials may be part of the learning environment. While learners interact with the training content through exercises, applications, and simulations, they can discuss what they are learning with other learners or access experts or resource materials available on the Internet. Training delivery and administration (e.g., tracking learner progress) is all done by the computer. In the blended learning environment, shown at the bottom of Figure 1, trainees have access to a blended training curriculum that consists of both online and classroom instruction. Collaboration can occur between learners, between learners and instructors, and between learners and experts. Although new technologies

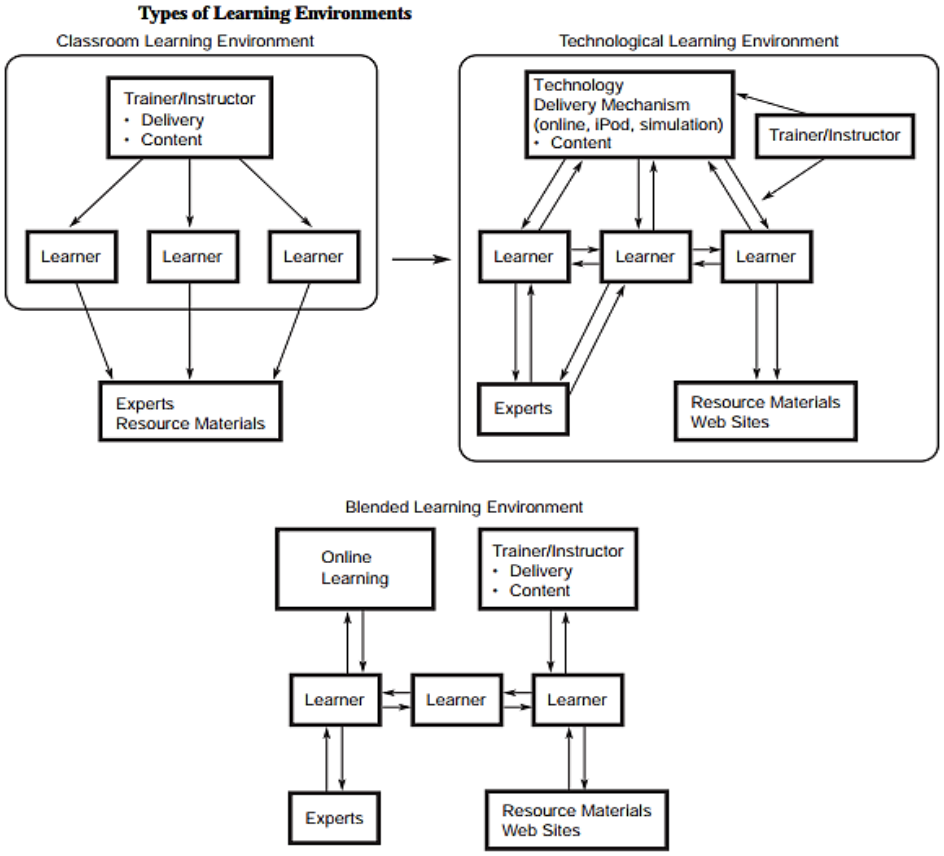

Figure 33

allow for the creation of a dynamic learning environment, it is important to include collaboration, active learner involvement, and access to other resources in the design and development of the training program. Use of new technology requires building these capabilities into the training program. For example, Web 2.0 refers to user-created social networking features on the Internet, including blogs, wikis, and Twitter.

Technology has enabled training to be delivered to different geographical locations, to accompany trainees whether they are at work or at home (mobile technology), and to be completed online using a personal computer. Many of the training methods discussed in this chapter have these features. For example, online learning, or e-learning, includes instruction and delivery of training using the Internet or Web. Distance learning typically involves videoconferencing and/or computers for delivery of instruction from a trainer to trainees who are not in the same location as the trainer. Mobile technologies allow training to be delivered through iPods, personal data assistants (PDAs), and handheld computers that allow trainees to tune in to training programs at any time or place.

Levels of technology-based training

Web-based training and e-learning support virtual reality, animation, interactions, communications among trainees and real-time audio and video. As Figure 2 shows, there are six levels of technology-based training. The difference between the highest and lowest levels is that at the higher levels, technology methods allow learning to become more job-related and directly meet a business need. For example, employees can access expert systems while they work. The simplest level facilitates communications among trainers and trainees. More complex uses of technology involve the actual delivery of training, and trainees are very actively involved in learning. Sound, automation, and video are used in Web-based training. In addition, trainees are linked to other resources on the Web. They are also required to share information with other trainees and to deposit knowledge and their insights from the training (such as potential applications of the training content) into a database that is accessible to other company employees. At the highest level—electronic performance support systems—employees receive training on an as needed basis while they perform their jobs.

Levels of Technology-Based Training

Source: Based on K. Kruse, "Five Levels of Internet-Based Training," *Training and Development* (February 1997): 60–61; R. Clark and C. Lyons, "Using Web-Based Training Wisely," *Training* (July 1999): 51–56; J. Cone and D. Robinson, "The Power of E-Performance," *T&D* (August 2001): 32–41.

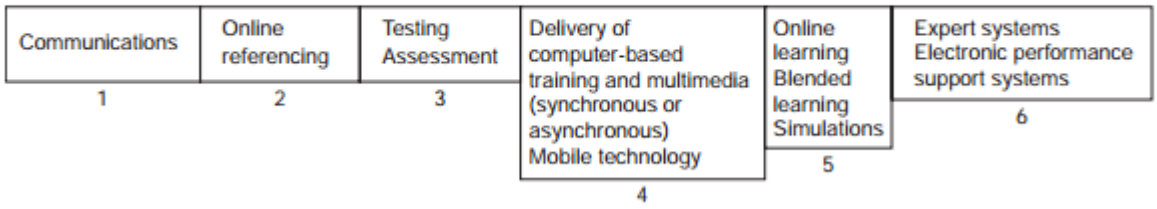

Figure 34

TECHNOLOGY AND MULTIMEDIA

Technology developments allow the use of a number of different media for training. Multimedia training combines audiovisual training methods with computer-based training. Multimedia training methods include computer-based training, CD-ROM, e-interactive video, the Internet, video, virtual reality, and simulations. Multimedia training integrates text, graphics, animation, video, and audio, and often the trainee can interact with the content. How prevalent is multimedia training? According to a survey by Training magazine, 54 percent of companies report they often or always use the Internet or intranet, 37 percent use CD-ROMS, 43 percent use Web-based self-study, 10 percent use computer-based games, and 2 percent use virtual reality programs.

Table 2 shows the major advantages and disadvantages of multimedia training. Multimedia training motivates trainees to learn, provides immediate feedback and guidance (through online help), tests employees' level of mastery, and allows employees to learn at their own pace. A major disadvantage of multimedia training is the cost. These costs can be recovered over time by savings gained from reductions in travel costs and instruction costs if the content does not require frequent updating. Multimedia training may also be difficult to use for training interpersonal skills, especially if the learner needs to recognize and/or practice subtle behavioral cues or cognitive processes.

Advantages and Disadvantages of Multimedia Training

Source: Based on S.V. Bainbridge, "The Implications of Technology-Assisted Training," *IHRIM-Link* (December 1996/ January 1997): 62–68; M. Hequet, "How Does Multimedia Change Training?" *Training* (February 1997): A20–A22.

Advantages	Disadvantages
Is self-paced	Is expensive to develop
Is interactive	Is ineffective for certain training content
Has consistency of content	May lead to trainee anxiety with using technology
Has consistency of delivery	Is difficult to quickly update
Offers unlimited geographic accessibility	Can lead to a lack of agreement on effectiveness
Provides immediate feedback	
Has a built-in guidance system	
Appeals to multiple senses	
Can test and certify mastery	
Provides privacy	

Table 58

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 294 - 344.

LESSON 31

USE OF NEW TECHNOLOGIES IN TRAINING

COMPUTER-BASED TRAINING

Computer-based training (CBT) is an interactive training experience in which the computer provides the learning stimulus, the trainee must respond, and the computer analyzes the responses and provides feedback to the trainee. CBT includes interactive video, CD-ROM, and other systems when they are computer-driven. The most common CBT programs consist of software on a floppy disk that runs on a personal computer. CBT, one of the first new technologies to be used in training, has become more sophisticated with the development of laser disks, DVDs, and CD-ROMs and with increasing use of the Internet. These technologies allow greater use of video and audio than do technologies that rely solely on the computer.

CD-ROM, DVD, Laser Disk

A personal computer enables animation, video clips, and graphics to be integrated into a training session. Also, the user can interact with the training material through use of a joy-stick or touch-screen monitor. CD-ROMs and DVDs utilize a laser to read text, graphics, audio, and video off an aluminum disk. A laser disk uses a laser to provide high-quality video and sound. A laser disk can be used alone (as a source of video) or as part of a computer-based instruction delivery system.

Interactive Video

Interactive video combines the advantages of video and computer-based instruction. Instruction is provided one-on-one to trainees via a monitor connected to a keyboard. Trainees use the keyboard or touch the monitor to interact with the program. Interactive video is used to teach technical procedures and interpersonal skills. The training program may be stored on a videodisk or CD.

Online Learning: The Internet, Web-Based Training, E-Learning, and Learning Portals

The Internet is a widely used tool for communications, a method for sending and receiving communications quickly and inexpensively, and a way to locate and gather resources such as software and reports. To gain access to the Internet, you need a personal computer with a direct connection via an existing network or a modem to dial into the Internet. Educational institutions, government agencies, and commercial service providers provide access to the Internet.

Employees can communicate with managers nearby or across the globe, can leave messages or documents, and can gain access to "rooms" designated for conversation on certain topics. Various newsgroups, bulletin boards, and discussion groups are dedicated to areas of interest. There you can read, post, and respond to messages and articles. Internet sites can have home pages—mailboxes that identify the person or company and contain text, images, sounds, or even video.

The World Wide Web (WWW) is a user-friendly service on the Internet. The Web provides browser software (e.g., Microsoft Internet Explorer, Netscape) that enables you to explore the Web. Besides browser software, you also need a search engine (e.g., Yahoo, Google) to find information on topics of your choice. Every home page on the Web has a uniform resource locator (URL), or Web address.

Online learning, or e-learning, refers to instruction and delivery of training by computer online through the Internet or the Web. Online learning includes Web-based training, distance learning, and virtual classrooms; it may involve a CD-ROM. Online learning can include task-based support, simulation-based training, distance learning, and learning portals. There are three important characteristics of online learning. First, online learning involves electronic networks that enable information and instruction to be delivered, shared, and updated instantly. Second, online learning is delivered to the trainee using computers with Internet technology. Third, it focuses on learning solutions that go beyond traditional training by including the delivery of information and tools that improve performance. Internet-based, or Web-based, training refers to training that is delivered on public or private computer networks and displayed by a Web browser. Intranet-based training refers to training that uses the company's own computer network. The training

programs are accessible only to the company's employees, not to the general public. Both Internet-based and intranet-based training are stored in a computer and accessed using a computer network. The two types of training use similar technologies. The major difference is that access to the intranet is restricted to a company's employees.

Potential Features of Online Learning

In online learning it is possible to enable learners to interact with the training content and other learners and to decide how they want to learn. Figure 1 shows the possible features that can be built into online learning. These features include content, collaboration and sharing, links to resources, learner control, delivery, and administration. It is important to note that not all these features are incorporated into online learning methods. One reason is that certain methods make it difficult to incorporate some of these features. Also, in distance learning, trainees do not have control over the content, practice, and speed of learning. Another reason why a feature may not be incorporated is that the designers may have chosen not to include it. Although e-learning can include all the features to facilitate learning that are shown in Figure 1, it may fall short of its potential because, for example, program developers do not include opportunities for trainees to collaborate. As Figure 1 shows, not only can online learning provide the trainee with content, but it also can give learners the ability to control what they learn, the speed at which they progress through the program, how much they practice, and even when they learn. In addition, online learning can allow learners to collaborate or interact with other trainees and experts and can provide links to other learning resources such as reference materials, company Web sites, and other training programs. Text, video, graphics, and sound can be used to present course content. Online learning may also include various aspects of training administration such as course enrollment, testing and evaluating trainees, and monitoring of trainees' learning progress.

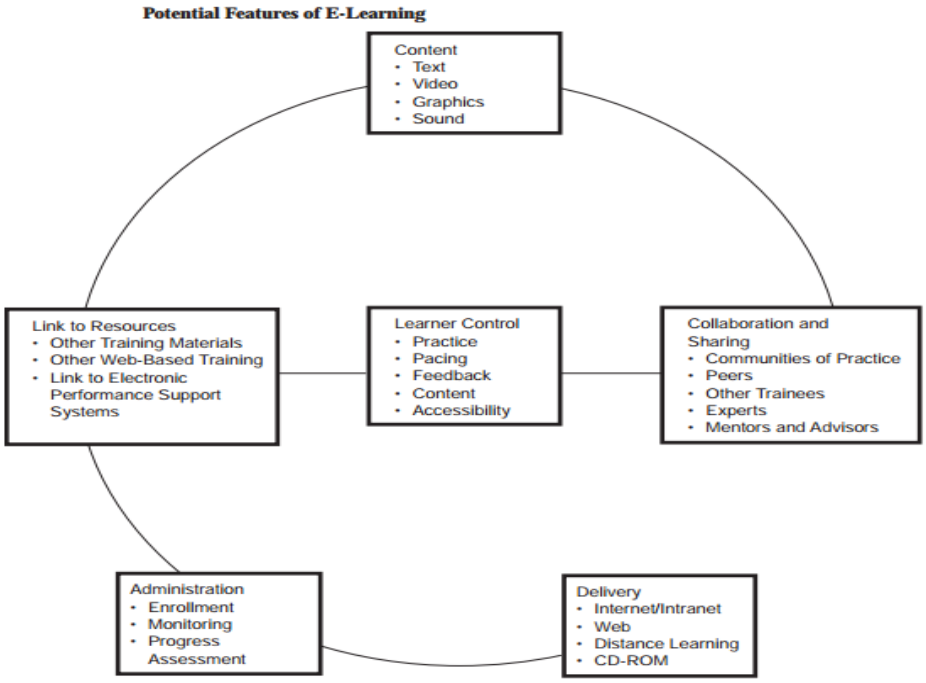

Figure 35

Advantages of Online Learning

The possible features that can be built into online learning give it potential advantages over other training methods. The advantages of e-learning are shown in Table 1. E-learning initiatives are designed to contribute to a company's strategic business objectives. E-learning supports company initiatives such as expanding the number of customers, initiating new ways to carry out business such as e-business, and speeding the development of new products or services. E-learning may involve a larger audience than traditional training programs that focus on employees. E-learning may involve partners, suppliers, vendors, and potential customers.

Advantages of E-Learning

Source: Based on D. Hartley, "All Aboard the E-Learning Train," *Training and Development* (July 2000): 37–42; V. Beer, *The Web Learning Field Book: Using the World Wide Web to Build Workplace Learning Environments* (San Francisco: Jossey-Bass, 2000).

It supports the company's business strategy and objectives.
It is accessible at any time and any place.
The audience can include employees and managers as well as vendors, customers, and clients.
Training can be delivered to geographically dispersed employees.
Training can be delivered faster and to more employees in a shorter period of time.
Updating is easy.
Practice, feedback, objectives, assessment, and other positive features of a learning environment can be built into the program. Learning is enhanced through use of multiple media (sound, text, video, graphics) and trainee interaction.
Paperwork related to training management (enrollment, assessment, etc.) can be eliminated.
It can link learners to other content, experts, and peers.

Table 59

E-learning offers training to geographically dispersed employees at their own locations, reducing travel costs associated with bringing trainees to a central location. This is one reason why online learning is the second most popular approach to training (after print-based materials) for small businesses. For small businesses, online learning helps reduce travel costs related to bringing employees to a central location for training and gives employees flexibility as they try to fit training into their work schedules.

Some companies have training requirements that all employees have to complete for the company to meet quality or legal requirements. Online learning allows more employees to gain access to these types of programs in a quicker time period than if face-to-face instruction is used. For example, financial services companies are often challenged to keep their global employees up to date on constant changes in products, policies, and government regulations. Face-to-face training is not timely or cost-efficient.

E-learning is also easy to update, thanks to user-friendly authoring languages such as HTML. Changes can be made on the server that stores the e-learning program. Employees worldwide can access the updated program. The administrative features of e-learning make training management a more efficient, paperless process.

Effectiveness of Online Learning

Is e-learning effective for all types of learning outcomes and trainees? Both research and company experiences suggest that e-learning is effective for a wide range of outcomes, including knowledge, skills, and behaviors. Table 2 shows some of the research results regarding the effectiveness of online learning compared to other training methods. Online learning may be most effective for training that emphasizes cognitive outcomes such as declarative and procedural knowledge. Online learning may facilitate greater social interaction between trainees than face-to-face learning methods because other trainees are equally accessible or more accessible than the instructor and there are more methods available that allow learners to interact, such as e-mail, group projects, whiteboards, wiki documents, and chat rooms. Also, trainees may be more motivated to participate because they avoid feelings of inadequacy and low self-confidence, which can hinder participation in face-to-face learning. We discuss how online learning can be combined with face-to-face instruction, known as blended learning, to take advantage of the strengths of both methods. Learning can be enhanced by combining face-to-face instruction and e-learning because learners are more engaged; the use of video, graphics, sound, and text is combined with active learning experiences such as cases, role plays, and simulations. Also, blended learning provides opportunities for learners to practice, ask questions, and interact with other learners and peers both face-to-face and online.

Research Results Regarding the Effectiveness of Online Learning
• Online instruction is more effective than face-to-face classroom instruction for teaching declarative knowledge (cognitive knowledge assessed using written tests designed to measure whether trainees remember concepts presented in training). • Web-based instruction and classroom instruction are equally effective in teaching procedural knowledge (the ability of learners to perform the skills taught in training). • Learners are equally satisfied with Web-based and classroom instruction. • Web-based instruction appears to be more effective than classroom instruction (1) when learners are provided with control over content, sequence, and pace, (2) in long courses, and (3) when learners are able to practice the content and receive feedback. • Web-based instruction and classroom instruction are equally effective when similar instructional methods are used (for example, both approaches use video, practice assignments, and learning tests). • The employees who learn most from online learning are those who complete more of the available practice opportunities and take more time to complete the training. • E-learning is not effective for all learners, especially those with low computer self-efficacy.

Source: Based on K. Kraiger, "Transforming Our Models of Learning and Development: Web-Based Instruction as Enabler of Third-Generation Instruction," *Industrial Organizational Psychology* 1 (2008): 454–467; T. Sitzmann, K. Kraiger, D. Stewart, and R. Wisher, "The Comparative Effectiveness of Web-Based and Classroom Instruction: A Meta-Analysis," *Personnel Psychology* 59 (2006): 623–634; E. Welsh, E. C. Wanberg, K. Brown, and M. Simmering, "E-Learning: Emerging Uses, Empirical Results and Future Directions," *International Journal of Training and Development* 7 (2003): 245–258.

Table 60

Table 3 lists factors that have limited companies' use of e-learning. Approximately one-third of the companies participating in a survey reported that significant factors in not using e-learning were that it cost too much, that employees were not motivated to learn online, and that management had not bought into the idea of e-learning. Twenty-five percent of the companies reported that their use of e-learning was limited because employees lacked intranet access and the company lacked evidence showing e-learning's return on investment. The following sections discuss some ways to overcome these problems.

Factors Limiting the Use of E-Learning	Cost Lack of motivation among employees to learn online Lack of management buy-in Lack of employee intranet access Lack of proof concerning return on investment Lack of high-quality content

Table 61

DEVELOPING EFFECTIVE ONLINE LEARNING

Table 4 provides tips for developing effective online learning. Needs assessment, design and method, and evaluation are three central issues that need to be addressed for effective online learning, including Web-based training.

Tips for Developing Effective Online Learning	
Needs assessment	Identify the connection between online learning and the business's needs. Get management to buy in. Make sure employees have access to technology and technology support. Consult with information technology experts about system requirements. Identify specific training needs (knowledge, skills, competencies, behaviors). If needed, train learners on computer and Internet basics.
Design/Method	Incorporate learning principles (practice, feedback, meaningful material, an appeal to active learner involvement, an appeal to multiple senses). Design the course for the available bandwidth or increase the bandwidth. Consider blended instruction. Use games and simulations, which are attractive to learners. Structure materials properly. Allow trainees the opportunity to communicate and collaborate with each other and with the trainer, experts, or facilitators. Make the program user-friendly: Learning modules should be kept short, the content should not overload trainees, and Web pages should not be confusing. Keep each instructional segment self-contained. Create smooth transitions between instructional segments. Provide learners with control, including the opportunity to skip sections or modules and the ability to pause, bookmark, review, and return to where they left off. Learners often need to deal with interruptions and distractions. Any audio, video, or animation should be useful to the learner, otherwise it is a waste of time and bandwidth. Provide the developer/producer with clear specifications regarding required file formats, maximum file sizes, window and image dimensions, navigation, and screen fonts. Provide writers and instructional designers with clear guidelines for the maximum number of words per screen, how many interactive exercises to include, and which exercises are best suited for the content.
Evaluation	Make trainees and managers accountable for course completion and learning. Conduct a formative evaluation (pilot test) before large-scale use of online learning.

Table 62

Needs Assessment

The information technology department needs to be involved in the design of any Web-based program to ensure that the technology capabilities of the company network are understood, to guarantee that trainees can get access to the browsers and connections they need to participate in e-learning and utilize all of the tools (e.g., e-mail, chat rooms, hyper- links) that may accompany it, and to get technical support when needed. Online tutorials may be needed to acquaint trainees with the capabilities of the e-learning system and how to navigate through the Web. Needs assessment determines the company's resources for training and the tasks to be trained for, and it analyzes the employees who may need training. The needs assessment process for Web-based training or any other type of online learning should include a technology assessment (as part of the organizational analysis) and an assessment of the skills that users need for online training (person analysis). Needs assessment also includes getting management to support online learning.

Design

E-learning should be designed to minimize content or work that is not related to the learning objectives. Extraneous content or work may take up trainees' limited cognitive processing resources, resulting in less learning. Table 5 provides several design principles that should be considered in the design of e-learning. These design principles are based on research regarding multimedia learning— that is, learning that involves words (whether printed or audio text) and pictures (charts, diagrams, photographs, animation, or video). Remember that just putting text online isn't necessarily an effective way to learn. Repurposing refers to directly translating an instructor- led face-to-face training program to an online format. Online learning that involves merely repurposing an ineffective training program will still result in ineffective training. Unfortunately, in their haste to develop online learning, many companies are repurposing bad training. The best e-learning uses the advantages of the Internet in combination with the principles of a good learning environment. Effective online learning takes advantage of the Web's dynamic nature and ability to use

many positive learning features, including linking to other training sites and content through the use of hyperlinks, providing learner control, and allowing the trainee to collaborate with other learners. Effective online learning uses video, sound, text, and graphics to hold learners' attention. Effective online learning provides trainees with meaningful content related to realistic on-the-job activities, relevant examples, and the ability to apply content to work problems and issues. Also, trainees have opportunities to practice and receive feedback through the use of problems, exercises, assignments, and tests.

Principles for Designing E-Learning	Instruction includes relevant visuals and words. Text is aligned close to visuals. Complex visuals are explained by audio or text rather than by both text and audio that narrates the text. Extraneous visuals, words, and sounds are omitted. Learners are socially engaged through conversational language agents. Key concepts are explained prior to the full process or task associated with the concepts. Content is presented in short sequences over which learners have control. Activities and exercises that mimic the context of the job are provided. Explanations are provided for learner responses to quizzes and exercises. Exercises are distributed within and among the module(s) rather than in a single place.

To ensure that materials are not confusing or overwhelming to the learner, online learning content needs to be properly arranged. Materials in online learning need to be organized in small, meaningful modules of information. Each module should relate to one idea or concept. The modules should be connected in a way that encourages the learner to be actively involved in learning. Active involvement may include asking trainees to find resources on the Internet, try quizzes or games, make choices between alternative actions, or compare what they know to the knowledge of an expert or model. Objectives, videos, practice exercises, links to material that elaborates on the module content, and tests should be accessible within each module. The modules should be linked in an arrangement that makes sense, such as by importance or by the order in which content has to be learned (pre-requisites). Trainees can choose to skip over material that they are familiar with or that they are competent in, based on a test of the content, or they can return to modules they need more practice in.

One of the Web's major potential advantages is that it gives learners control. Learner control refers to the ability of trainees to actively learn though self-pacing, exercises, exploring links to other material, and conversations with other trainees and experts. That is, online learning allows activities typically led by the instructor (presentation, visuals, slides) or trainees (discussion, questions) as well as group interaction (discussion of application of training content) to be incorporated into training without trainees or the instructor having to be physically present in a training room. Simply providing learner control does not ensure that trainees will use all the features provided by online learning (e.g., practice exercises). Companies must communicate the importance and meaningfulness of the training content for employees' jobs and must hold employees accountable for completing the training.

Research provides several recommendations for maximizing the benefits of learner control. Training programs should not allow trainees to control the amount of feedback they receive because they may rely too much on the feedback, reducing their long-term retention of the training material. The program should offer practice on each topic repeatedly throughout the program so that trainees will not forget topics they have already completed. The program should provide practice to trainees using different examples to help transfer of training content (skills, knowledge) not only to the full range of situations that trainees may encounter on the job but also to unexpected situations. Trainees should be allowed to control the sequence in which they receive instruction but not be able to skip practice.

Online learning blurs the distinction between training and work. Expectations that trainees will be motivated and able to complete Web-based training during breaks in their normal workday or on their personal time are unrealistic. Companies need to ensure that employees are given time and space for e-learning to occur. That is, employees need dedicated time, protected from work tasks, for learning to occur. As with other training programs, employees need to understand why they should attend e-learning and the benefits they will receive so as to enhance their motivation to learn. Accurate communications about the

content and types of learning activities in e-learning courses need to be provided to employees. Managers need to give employees time in their schedules, and employees need to schedule "training time" to complete training and avoid interruptions that can interfere with learning. Some companies are moving away from their initial expectation that online learning can be completed at the employee's desktop without time away from the job; instead they are setting up learning labs for online learning to occur without the distractions of the workplace. "Chunking," or using one- to two-hour training modules, helps trainees learn and retain more than they might in a standard full-day or half-day training class. Training can also be more easily integrated into the typical workday. Trainees can devote one to two hours to a learning session from their office and then return to their work responsibilities. Using formative evaluation of prototypes of Web training can be helpful in identifying the appropriate length and time of modules. End users (managers, potential trainees) should be involved in a formative evaluation to ensure that music, graphics, icons, animation, video, and other features facilitate rather than interfere with learning. Also, end users need to test the content, the navigator, or the site map to guarantee that they can easily move through the learning module and access resources and links to other Web sites as needed.

This topic is continued in Lecture 32

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 294 - 344.

USE OF NEW TECHNOLOGIES IN TRAINING (continued)

Table 1 provides several design principles that should be considered in the design of e-learning. These design principles are based on research regarding multimedia learning— that is, learning that involves words (whether printed or audio text) and pictures (charts, diagrams, photographs, animation, or video). Remember that just putting text online isn't necessarily an effective way to learn.

Principles for Designing E-Learning	
	Instruction includes relevant visuals and words.
	Text is aligned close to visuals.
	Complex visuals are explained by audio or text rather than by both text and audio that narrates the text.
	Extraneous visuals, words, and sounds are omitted.
	Learners are socially engaged through conversational language agents.
	Key concepts are explained prior to the full process or task associated with the concepts.
	Content is presented in short sequences over which learners have control.
	Activities and exercises that mimic the context of the job are provided.
	Explanations are provided for learner responses to quizzes and exercises.
	Exercises are distributed within and among the module(s) rather than in a single place.

Table 63

Technology for Collaboration and Linking

Technology limitations and preferences need to be taken into account. Web-based training must be designed for the bandwidth that is available. Bandwidth refers to the number of bytes and bits (information) that can travel between computers per second. Graphics, photos, animation, and video in courses can be slow to download and can "crash" the system. Online learning courses should be designed for the available bandwidth on the company's system. Bandwidth can be increased by upgrading access speed on the users' computers, buying and installing faster servers and switches (computer hardware) on the company's network, or encouraging trainees to access the Web when demand is not high. Soon bandwidth may not be an issue because computer servers will be able to transfer more data faster, personal computers will have greater processing speed, and cables and wireless communications systems that carry data will have greater capacity. Online learning should also try to build in interactivity without requiring the use of plug-ins. Plug-ins refer to additional software that needs to be loaded on the computer to listen to sound or watch video. Plug-ins can be expensive because they may require the company to pay licensing fees. Plug-ins also can affect how the computer processes tasks. If trainees experience repeated technology problems (such as slow download times, network downtimes, or plug-in difficulties), they are likely to lose patience and be reluctant to participate in online learning.

Learning often occurs as a result of interaction or sharing between employees. Employees learn by informal, unstructured contact with experts and peers. Collaboration can involve an exchange among two or more trainees or among the trainer or other experts. Some of the more common ways that trainees can collaborate in online learning are shown in Table 2.

Common Ways of Collaboration in Online Learning

Chat rooms	Trainees communicate at the same time by text or audio. Chat rooms may be moderated by a facilitator.
Message boards	Trainees communicate at different times by typing comments that remain on the board for others to read and respond to.
Threaded discussion	Trainees communicate via a message board in which related comments appear together. A discussion occurs over time.
Online conferencing	Trainees are online with a moderator. They can hear comments, send messages, display visuals, vote, or work together on a project.
E-mail	Trainees communicate at different times. Communications are received and managed at each trainee's mail site.
List-servs	In these group e-mails, trainees comment on a topic, and comments are sent to everyone on the mailing list.
Blogs (Weblogs)	These journal-like entries are posted on trainees' Web pages for public viewing. Also, blogs typically have links to other Web sites, along with the trainee's personal thoughts and comments.
Wikis	These Web pages are designed to enable trainees who access them to modify their content.
Social networking	Trainees can share information through connections with other trainees, trainers, friends, and family through online communities and message services such as MySpace, Facebook, and Twitter.

Table 64

Hyperlinks are links that allow a trainee to access other Web sites that include printed materials as well as communications links to experts, trainers, and other learners.

Research suggests that the reason some employees fail to complete online learning and prefer instructor-led face-to-face instruction over online learning is that they want to be able to learn and network with their peers. Effective online learning connects trainees and facilitates interaction and sharing through the use of chat rooms, e-mail, electronic bulletin boards, and discussion groups. Other methods for learner interaction and sharing include having trainees participate in collaborative online projects and receive tutoring, coaching, and mentoring by experts. Online learning also should provide a link between the trainees and the "instructor," who can answer questions, provide additional learning resources, and stimulate discussion between trainees on topics such as potential applications of the training content and common learning problems.

Given the work demands that employees face, trainees need incentives to complete online learning. Some companies present cash awards and merchandise to employees who pass online competency tests that show they have completed and learned online course content. Other companies use certification programs to ensure that online courses are completed.

Learning portals are Web sites or online learning centers that provide, via e-commerce transactions, access to training courses, services, and online learning communities from many sources. Learning portals provide not only one-stop shopping for a variety of training programs from different vendors but also access to online classes. Learning portals may also offer services to track employees' enrollment and progress in training programs. They were initially set up with the idea that an individual purchaser (an employee or other "customer") could purchase training using a credit card. The characteristics of learning portals vary. Some allow users to pay, register, and attend courses online; others offer access only to classroom training programs at colleges or universities. In addition to instruction, some sites provide mentors who can tutor students as well as discussion groups where students can communicate with each other.

BLENDED LEARNING

Because of the limitations of online learning related to technology (e.g., insufficient bandwidth, lack of high-speed Web connections), trainee preference for face-to-face contact with instructors and other

learners, and employees' inability to find unscheduled time during their workday to devote to learning from their desktops, many companies are moving to a hybrid, or blended, learning approach. Blended learning combines online learning, face-to-face instruction, and other methods for distributing learning content and instruction. Blended learning courses provide learners with the positive features of both face-to-face instruction and technology-based delivery and instructional methods (such as online learning, distance learning, or mobile technologies like iPods and PDAs) while minimizing the negative features of each.61 In comparison to classroom delivery, blended learning provides increased learner control, allows for self-directedness, and requires learners to take more responsibility for their learning—all factors consistent with the recommendations of adult learning theory. In comparison to pure online learning, blended learning provides more face-to-face social interaction and ensures that at least some of the instruction is presented in a dedicated learning environment. Blended learning uses the classroom to allow learners to learn together and to discuss and share insights, which helps bring learning to life and make it meaningful. Live feedback from peers is preferable to feedback received online. Blended learning has been found to be more effective than face-to-face instruction for motivating trainees to learn and for teaching declarative knowledge or information about ideas or topics. It appears that blended learning capitalizes on the positive learning features inherent in both face-to-face and Web-based instruction. Interestingly, learners react more favorably toward classroom instruction than blended learning. This may be because blended learning courses are more demanding, requiring a greater time commitment because of the use of two learning approaches. Research suggests that the most significant issues or problems with blended learning are fast-changing technology, insufficient management support and commitment to blended learning, and a lack of understanding of what blended learning really is and how to implement it.

SIMULATIONS

Development in software and computer technology has improved the learning and transfer that can result from simulators. Table 3 shows four different types of simulations.

Types of Simulations

Source: Based on C. Cornell, "Better Than the Real Thing?" *Human Resource Executive* (August 2005): 34–37; S. Boehle, "Simulations: The Next Generation of E-Learning," *Training* (January 2005): 22–31.

Type of Simulation	Description
Branching story	Trainees are presented with a situation and asked to make a choice or decision. Trainees progress through the simulation on the basis of their decisions.
Interactive spreadsheet	Trainees are given a set of business rules (usually finance-based) and asked to make decisions that will affect the business. The decisions are entered into a spreadsheet that shows how the decisions affect the business.
Game-based	Trainees play a video game on a computer.
Virtual lab	Trainees interact with a computer representation of the job for which they are being trained.

Table 65

Avatars are computer depictions of humans that are used as imaginary coaches, co-workers, and customers in simulations. Typically, trainees can see the avatar, who appears throughout the training course.

Virtual Reality

Virtual reality is a computer-based technology that provides trainees with a three-dimensional learning experience. Virtual reality allows simulations to become even more realistic. Using specialized equipment or viewing the virtual model on the computer screen, trainees move through the simulated environment and interact with its components. Technology is used to stimulate multiple senses of the trainee. Devices relay information from the environment to the senses. For example, audio interfaces, gloves that provide a sense of touch, treadmills, or motion platforms are used to create a realistic, artificial environment. Devices also communicate information about the trainee's movements to a computer. These devices allow the trainee to experience presence (the perception of actually being in a particular environment). Presence is influenced by the amount of sensory information available to the trainee, control over sensors in the environment, and the trainees' ability to modify the environment.

Virtual Worlds

Second Life is a computer-based, simulated online virtual world that includes a three- dimensional representation of the real world and a place to host learning programs or experiences. In Second Life, trainees use an avatar to interact with each other in classrooms, "webinars" (Web-based seminars), simulations, or role-play exercises. The virtual world of Second Life allows for learning to be real without being dangerous or risky for patients, employees, or customers. Second Life allows employees to learn alone, with their peers, or in teams. Second Life can be used to create virtual classrooms but its strength is its ability to create virtual reality simulations that actively involve the learner, such as putting the trainee's avatar in a realistic role play in which it has to deal with an upset customer.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 294 - 344.

USE OF NEW TECHNOLOGIES IN TRAINING (Continued)

COMPUTER-BASED TRAINING METHODS

Simulations

As you can see from these examples, simulations can be effective for several reasons. First, trainees can use them on their desktop computer, eliminating the need to travel to a central training location. Second, simulations are meaningful, they get trainees involved in learning, and they are emotionally engaging (they can be fun!). This increases employees' willingness to practice, encourages retention, and improves their skills. Third, simulators provide a consistent message of what needs to be learned; trainees can work at their own pace; and, compared to face-to-face instruction, simulators can incorporate more situations or problems that a trainee might encounter. Fourth, simulations can safely put employees in situations that would be dangerous in the real world. Fifth, simulations have been found to result in such positive outcomes as shorter training times and increased return on investment.

Simulations do have some disadvantages. The use of simulations has been limited by their development costs. A customized simulation can cost between $200,000 and $300,000, while a simulation purchased from a supplier without any customization typically costs $100 to $200 per trainee.75 However, although they continue to be an expensive training method, development costs for simulations continue to decrease, making them a more popular training method. Also, the use of simulations as a training method is likely to increase as technology development allows more realism to be built into simulations. Finally, trainees may not be comfortable in learning situations that lack human contact.

Virtual reality

One advantage of virtual reality is that it allows trainees to practice dangerous tasks without putting themselves or others in danger. Research suggests that virtual reality training is likely to have the greatest impact on complex tasks or tasks that involve extensive use of visual cues. The virtual reality environment can be virtually identical to the actual work environment. Another potential advantage relates to the cognitive processing required by the learner. The use of such a realistic environment in training may make more memory available for learning. Memory that was previously used to convert one- or two-dimensional training scenarios into three-dimensional space can now be used for processing information.

Obstacles to developing effective virtual reality training include poor equipment that results in a reduced sense of presence (e.g., poor tactile feedback and inappropriate time lags between sensing and responding to trainees' actions). Poor presence may result in the trainee experiencing vomiting, dizziness, and headaches (simulator sickness) because senses are distorted.

Virtual Worlds

Advantages of Virtual Worlds

There are several advantages of using a virtual world for training. The virtual environment can imitate an actual workplace such as a lab, processing plant, or hospital emergency room, allowing trainees to both practice their skills without harming products or patients and at the same time see the real-life consequences of their actions and decisions. It also provides a place to meet with trainers, managers, or other employees who can serve as teachers. Virtual worlds also can be useful for teaching interpersonal skills such as time management, communications, leadership, and working under pressure. Teamwork exercises and group problem solving are possible because avatars can be created to simulate other trainees or other trainees can simultaneously be involved in the simulation. Second Life and other virtual worlds motivate learners by making learning fun and interactive. Second Life also can enhance transfer of training because the virtual world used for training can replicate the real-life work environment (identical elements). Second Life can be used for e-learning, collaboration, and meetings. As with other technology-based training methods, it is an especially effective way for employees who are not in the same location or country to have access to training.

Disadvantages of Virtual Worlds

Despite the seemingly unlimited potential for training and development in virtual worlds such as Second Life, this method also has significant disadvantages. Research suggests that disadvantages include lack of ease of use for first-time users; the potential risk of a difficult keyboard and mouse interface, which can demotivate learners; the high investment of time and money required for programming content; and the lack of evidence supporting its effectiveness for learning. The novelty of experiences in a three-dimensional virtual world such as Second Life and the appearance of the avatars may help trainees recall the experience, but they may also interfere with retention and transfer of the training content to the job.

INTELLIGENT TUTORING SYSTEMS

Intelligent tutoring systems (ITS) are instructional systems that use artificial intelligence. There are three types of ITS environments: tutoring, coaching, and empowering. Tutoring is a structured attempt to increase trainee understanding of a content domain. Coaching provides trainees with the flexibility to practice skills in artificial environments. Empowering refers to the student's ability to freely explore the content of the training pro- gram. The five components of ITS are shown in Figure 1.

Components of Intelligent Tutoring Systems

Source: Based on D. Steele-Johnson and B. G. Hyde, "Advanced Technologies in Training: Intelligent Tutoring Systems and Virtual Reality," in *Training for a Rapidly Changing Workplace*, ed. M. A. Quinones and A. Ehrenstein (Washington, DC: American Psychological Association, 1997): 225–48.

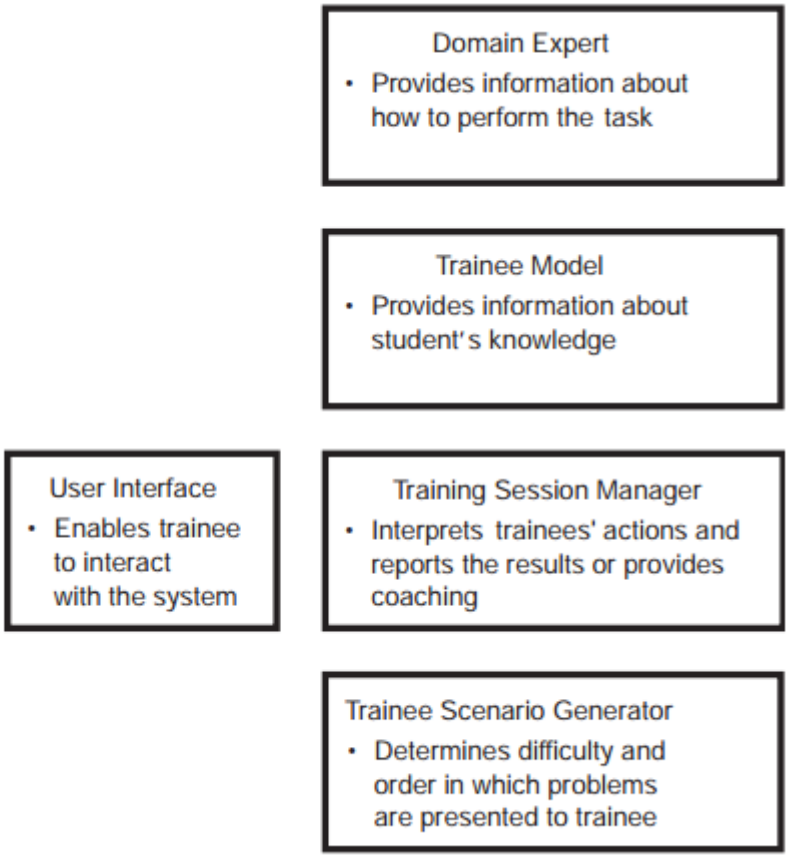

Figure 36

The ITS has information about the content domain as well as expectations about the trainee's level of knowledge. ITS can be distinguished from other new training technologies in several ways:

- ITS has the ability to match instruction to individual student needs.
- ITS can communicate and respond to the student.
- ITS can model the trainee's learning process.
- ITS can decide, on the basis of a trainee's previous performance, what information to provide.
- ITS can make decisions about the trainee's level of understanding.
- ITS can complete a self-assessment resulting in a modification of its teaching process.

DISTANCE LEARNING

Distance learning is used by geographically dispersed companies to provide information about new products, policies, or procedures as well as deliver skills training and expert lectures to field locations. Distance learning can include virtual classrooms, which have the following capabilities: projection of still, animated, and video images; instructor-participant audio discussion; sharing of computer software applications; interactions using instant polling technology; and whiteboard marking tools.95 Distance learning features two-way communications between people, and it currently involves two types of technology. The first technology is teleconferencing. Teleconferencing refers to synchronous exchange of audio, video, and/or text between two or more individuals or groups at two or more locations. Trainees attend training programs in training facilities in which they can communicate with trainers (who are at another location) and other trainees using the telephone or personal computer. The second type of distance learning also includes individualized, personal computer–based training. Employees participate in training anywhere they have access to a personal computer. This type of distance learning may involve multimedia training methods such as Web-based training. Course material and assignments can be distributed using the company's intranet, video, or CD-ROM. Trainers and trainees interact using e-mail, bulletin boards, and conferencing systems.

Teleconferencing usually includes a telephone link so that trainees viewing the presentation can call in questions and comments to the trainer. Also, satellite networks allow companies to link up with industry-specific and educational courses for which employees receive college credit and job certification.

Interactive distance learning (IDL) refers to the latest generation of distance learning, which uses satellite technology to broadcast programs to different locations and allows trainees to respond to questions posed during the training program using a keypad. IDL is being used by companies that have employees in many different locations and who lack computers or online access. IDL allows employees in different locations to see behaviors and how to get things done rather than just read or hear about them.

An advantage of distance learning is that the company can save on travel costs. It also allows employees in geographically dispersed sites to receive training from experts who would not otherwise be available to visit each location. Intuit finds that a traditional classroom environment is good for introducing software and providing trainees with the opportunity to network. Virtual classroom training is used for courses on special software features, for demonstrations, and for troubleshooting using application-sharing features.

The major disadvantages of distance learning are the lack of interaction between the trainer and the audience, technology failures, and unprepared trainers. A high degree of interaction among trainees or between the trainees and the trainer is a positive learning feature that is missing from distance learning programs that use the technology only to broadcast a lecture to geographically dispersed employees. All this does is repurpose a traditional lecture (with its limitations for learning and transfer of training) for a new training technology. To engage trainees in a distance learning environment, it is useful to limit online sessions to 60 to 90 minutes in length, maintain a good instructional pace, avoid presenting unnecessary text, use relevant and engaging visuals (e.g., graphs, animation), and allow trainees to participate using polling devices and small- group breakout rooms for discussion and projects. A group spokesperson can be assigned to summarize and communicate the group's ideas. Weather conditions and satellite glitches can occur at any time, disconnecting the instructor from the audience or making it difficult to show video or other multimedia presentations. Instructors need backup plans for dealing with technical issues. Because many instructors have difficulty speaking to trainees in another location without a live group of trainees in front of them, it is important to prepare instructors for distance delivery. For example, a producer who is familiar with the technology can work with the instructor and help facilitate the training session.

LEARNING MANAGEMENT SYSTEMS: SYSTEMS FOR TRAINING DELIVERY, SUPPORT, AND ADMINISTRATION

A learning management system (LMS) is a technology platform that can be used to automate the administration, development, and delivery of all of a company's training programs. LMSs can provide employees, managers, and trainers with the ability to manage, deliver, and track learning activities. Some of the features of LMSs are shown in Table 1. New developments in LMSs include providing the ability for

users to simultaneously search the database as well as their company's intranet for information on training courses, contact experts who are identified by the company as topic experts, enroll in all courses related to a certification or particular training topic at one time, and use simulations to determine whether employees are complying with ethical standards and skills they have been trained in using by the LMS.

Features of Learning Management Systems (LMSs)

Source: Based on "Learning Management Systems: An Executive Summary," *Training* (March 2002): 4.

Trainee Management and Reporting	Track and report on trainee progress and activity.
Training Event and Resource Management	Organize courses and learning events in catalogs; manage and track course resources such as classrooms and instructors; support communications among administrators and students.
Online Course Delivery Infrastructure	Deliver online courses; register and track trainees.
Authoring Tools	Create new courses; promote consistency in courses.
Skill Assessment	Create, edit, distribute, and deliver assessment tests; review trainee achievements.
Professional Development Management	Track and compare trainee learning against goals, based on the trainee's job or function.
Knowledge Bases	Integrate links to learning references that supplement online learning.
Personalization	Engage employees in learning through the use of target courses, references, e-mails.

Table 66

There are a number of reasons LMSs are becoming more popular. An LMS can help a company reduce travel and other costs related to training, reduce time for program completion, increase employees' accessibility to training across the business, and provide administrative capabilities to track program completion and course enrollments. LMSs allow companies to track all learning activity in the business.

Why Develop an LMS?

Tracking the learning activity in a business is important for human capital management. Human capital management integrates training with all aspects of the human resource function (e.g., performance evaluation, human resource planning) to determine how training dollars are spent and how training expenses translate into business dollars for the company. The major reasons that companies adopt an LMS are to centralize management of learning activities, track regulatory compliance, measure training usage, and measure employee performance. Thirty-eight percent of companies report integrating an LMS with human resource information systems.

LMSs are also important for companies to be able to track the number of employees who have completed courses that are required to meet state, federal, or professional regulations (compliance training). These courses cover a wide range of topics including financial integrity, health and safety, environmental protection, and employee rights. For example, various regulations mandate that companies be able to prove that employees have completed courses in sexual harassment or defensive driving. Employees from a variety of for-profit businesses, including financial services, oil refining, and pharmaceuticals, as well as employees in nonprofit organizations such as government agencies and hospitals have to complete certain required courses.

An LMS can help companies understand the strengths and weaknesses of their employees, including where talent gaps exist. Also, an LMS can be linked to other human resource systems, such as performance management or employee development systems, to identify learning opportunities for employees to strengthen their performance weaknesses. Turner Construction has a competency model that divides jobs into nine job families and divides the families into job levels (senior management, administrative/clerical, and management). Employees receive an online performance evaluation of their skills based on their job family and level. The performance management system links to the company's LMS. The LMS analyzes the employees' skill weaknesses and provides recommendations of courses that can improve those skills. The LMS system allows Turner Construction to identify skill gaps for entire levels, job families, or business

units. The results can be used to identify where to spend monies allocated for training to develop new courses.

Developing an LMS

How does a company go about developing an LMS? First, senior management needs to be convinced that an LMS will benefit employees, improve business functions, and contribute to overall business strategies and goals.

Second, a company that wants to develop an LMS must have an e-learning culture that supports online learning and encourages employee participation. Third, the online learning environment needs to be under the control of the learner. Learners require not just choices in what and when to learn but also involvement in learning (practice, feedback, appeals to multiple senses).

To maximize its effectiveness, an LMS should be integrated with human resource systems. The interfaces between the systems will provide basic employee information such as business unit, geographic location, and job title. Information about which courses employees have completed should also be stored in the LMS.

CHOOSING NEW TECHNOLOGY TRAINING METHODS

Comparison of Technology-Based Training Methods

	Computer-Based Training	CD-ROM	Internet	Intranet	E-Learning	Distance Learning	Intelligent Tutoring	Simulations and Virtual Reality
Learning Outcome								
Verbal information	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intellectual skills	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cognitive strategies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Attitudes	No	Yes	No	No	Yes	No	No	Yes
Motor skills	No	No	No	No	No	No	Yes	Yes
Learning Environment								
Clear objective	Medium	High	High	High	High	Medium	High	High
Practice	Medium	High	Medium	Medium	High	Low	High	High
Meaningfulness	Medium	High	High	High	High	Medium	High	High
Feedback	Medium	High	Medium	Medium	High	Low	High	High
Observation and interaction with others	Low	High	Medium	Medium	High	Low	Low	Low
Transfer of Training	Medium	High	Medium	Medium	High	Low	High	High
Cost								
Development	High	High	High	High	High	Medium	High	High
Administrative	Low	Low	Low	Low	Low	Low	Low	Low
Effectiveness	Medium	High	?	?	High	Medium	?	High

Table 67

Table 2 compares technology-based training methods based on the same characteristics used to compare traditional training programs. Several trends are apparent in this table. First, these methods require considerable investment in development. Development costs are related to purchasing hardware and software as well as developing programs and transferring programs to new media (e.g., CD-ROM). However, although development costs are high, costs for administering the program are low. Advantages of these methods include (1) cost savings due to training being accessible to employees at their home or office, (2) reduced number of trainers needed, and (3) reduced costs associated with employees traveling to a central training location (e.g., airfare, food, lodging). Moreover, with the exception of distance learning, most of the important characteristics needed for learning to occur (practice, feedback, etc.) are built into these methods. Note that limited studies of the effectiveness of several methods (e.g., virtual reality, intelligent tutoring) are available because companies are just starting to use these technologies for training. However, their effectiveness is likely to be high if characteristics of a positive learning environment and learner control, sharing, and linking are built into these methods.

You might assume that Web-based training and e-learning are superior to other methods, but this is not necessarily the case. A comparison between Web-based training and CD-ROM highlights that both methods have distinct advantages (and disadvantages). Two advantages that the CD-ROM has over Web-based training are the CD's greater ability for interaction between the learner and the material in the

training program and its greater use of audio and video. Web-based training, in turn, has several advantages over the CD-ROM. Its major advantage is that Web-based programs offer collaboration and sharing (connecting trainees to other trainees, experts, and chat rooms) and links to resources available on the Web. Web-based training also allows the learner to be given assignments requiring open ended responses (e.g., write a report on a customer's needs) rather than only yes/no or multiple-choice responses. In Web-based training, the instructor can read the assignment and provide detailed feedback. CD-ROMs can only score close-ended questions with true/false, yes/no, or multiple-choice answers. Finally, Web-based training is easier to update and change than a CD-ROM. If a company's e-learning program has complex simulations requiring a high degree of interaction with the trainee, the company will likely provide the trainee with a CD-ROM for the simulation and will rely on the Web for linking to resources, collaboration and sharing, and testing trainees.

How do new technology training methods relate to traditional training methods? Virtual reality and intelligent tutoring systems are best suited for teaching complex processes related to operating machinery, tools, and equipment. These methods are an extension of simulations. CD-ROMs, the Internet, the intranet, and e-learning are best suited for teaching facts, figures, cognitive strategies (e.g., how to hold an effective meeting), and interpersonal skills (e.g., closing a sale). These methods are technological extensions of traditional training methods such as behavior modeling, on-the-job training, and apprenticeship. Although traditional training methods can be effective, managers and trainers should consider using new technology training methods under certain conditions:

1. Sufficient budget and resources will be provided to develop and support the use of new technology.
2. Trainees are geographically dispersed and travel costs related to training are high.
3. Trainees are comfortable using technology, including the Web, personal computers, and CD-ROMs.
4. The increased use of new technology is part of the company's business strategy. New technology is being used or implemented in manufacturing of products or service processes.
5. Employees have a difficult time attending scheduled training programs.
6. Current training methods allow limited time for practice, feedback, and assessment.
7. Use of new technology fits into the organizational culture or business strategy.

The best uses for classroom instruction may be when trainees need interaction, instructor support, or visual cues. It is important to note that many companies recognize the strengths and weaknesses of both face-to-face instruction and technology-based training methods and are using both in a blended learning approach. Technology-based training can be used to provide consistent delivery of training content involving transfer of information (knowledge and skills) to geographically dispersed employees who work at their own pace, practice, and collaborate with the trainer and other trainees online. Then trainees can be brought to a central location for face-to-face training (classroom, action learning, games, and role plays) that emphasizes through the use of cases and problems the application of the recently acquired knowledge and skills. Face-to-face instruction is also more useful for facilitating interaction among trainees as well as collaboration, networking, and discussion.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 294 - 344.

EMPLOYEE DEVELOPMENT

Employee Development

Development is future oriented; it involves learning that is not necessarily related to the employee's current job. Table 1 shows the differences between training and development. It is important to note that although training and development are similar, there are important differences between them. Traditionally, training is focused on helping improve employees' performance in their current jobs. Development helps prepare them for other positions in the company and increases their ability to move into jobs that may not yet exist. Development also helps employees prepare for changes in their current job that may result from new technology, work designs, customers, or product markets. Because training often focuses on improving employees' performance in their current jobs, attendance at training programs is required. Development may be mandatory for employees who have been identified to have managerial potential. However, most employees must take the initiative to become involved in development. Note that as training continues to become more strategic (more related to business goals), the distinction between training and development will blur. Both training and development will be required and will focus on current and future personal and company needs.

Comparison between Training and Development

	Training	Development
Focus	Current	Future
Use of Work Experiences	Low	High
Goal	Preparation for current job	Preparation for changes
Participation	Required	Voluntary

Table 68

Why is employee development important? Employee development is a necessary component of a company's efforts to improve quality, meet the challenges of global competition and social change, and incorporate technological advances and changes in work design. Development is also important for talent management, particularly for senior managers and employees with leadership. Companies report that the most important talent management challenges they face are developing existing talent and attracting and retaining leadership talent. Increased globalization of product markets compels companies to help their employees understand cultures and customs that affect business practices. For high-involvement companies and work teams to be successful, their employees need strong interpersonal skills. Employees must also be able to perform roles traditionally reserved for managers. Legislation, labor market forces, and a company's social responsibility dictate that employers provide women and minorities with access to development activities that will prepare them for managerial positions. Companies must help employees overcome stereotypes and attitudes that inhibit the innovative contributions that can come from a work force made up of employees with diverse ethnic, racial, and cultural backgrounds.

Employees' commitment and retention are directly related to how they are treated by their managers. Managers need to be able to identify high-potential employees, make sure that their talents are used, and reassure them of their value before they become dissatisfied and leave the company. Managers also must be able to listen. While new employees need strong direction and a boss who can make quick decisions, they expect to be able to challenge a manager's thinking and be treated with respect and dignity. Because of their skills, many employees are in high demand and can easily leave for a competitor. Development activities can help companies reduce turnover in two ways: (1) by showing employees that the company is investing in the employees' skill development, and (2) by developing managers who can create a positive work environment that makes employees want to come to work and contribute to the company goals. One of the major reasons that good employees leave companies is poor relationships with their managers. Companies need to retain their talented employees or risk losing their competitive advantage. Development activities can help companies with employee retention by developing managers' skills.

APPROACHES TO EMPLOYEE DEVELOPMENT

Four approaches are used to develop employees: formal education, assessment, job experiences, and interpersonal relationships. Many companies use a combination of these approaches. A recent survey of use of company employee development practices found that 84 percent use training other than leadership training, 70 percent use development planning, 55 percent use formal coaching, 47 percent use job assignments, 30 percent use job rotation, and 25 percent use formal internal mentoring programs.7 Larger companies are more likely to use leadership training and development planning more frequently than smaller companies.

Regardless of the approach used to ensure that development programs are effective, the programs should be developed through the same process used for training design: assessing needs, creating a positive development environment, ensuring employees' readiness for development, identifying the objectives for development, choosing a combination of development activities that will help achieve the objectives, ensuring that the work environment supports development activities and the use of skills and experiences acquired, and evaluating the program. To determine the development needs of an individual, department, or company, an analysis of strengths and weaknesses needs to be completed so that appropriate development activities can be chosen. Many companies have identified key competencies for successful managers. Competencies are areas of personal capability that enable employees to successfully perform their jobs. Competencies can include knowledge, skills, abilities, or personal characteristics.

Formal Education

Formal education programs include off-site and on-site programs designed specifically for the company's employees, short courses offered by consultants or universities, executive MBA programs, and university programs in which participants actually live at the university while taking classes. These programs may involve lectures by business experts or professors, business games and simulations, adventure learning, and meetings with customers.

Many companies primarily rely on in-house development programs offered by training and development centers or corporate universities rather than sending employees to programs offered by universities. Companies rely on in-house programs because these programs can be tied directly to business needs, can be easily evaluated using company metrics, and can involve senior-level management.

General Electric (GE) has one of the oldest and most widely known management development centers in the world. GE develops managers at the John F. Welch Leadership Center at Crotonville, New York. GE invests approximately $1 billion each year in training and education programs for its employees. Over the last 15 years, the 189 most senior executives in the company have spent at least 12 months in training and professional development. In addition to classrooms, GE's leadership facility has residence buildings in which participants stay while attending programs. Every year GE employees, chosen by their managers based on their performance and potential, attend management development programs. The programs include professional skills development and specialized courses in areas such as risk analysis and loan structuring. All the programs emphasize theory and practical application. Course time is spent discussing business issues facing GE. The programs are taught by in-house instructors, university faculty members, and even CEO Jeff Immelt. Examples of management development programs available at GE are shown in Table 2.

Examples of Leadership Development Programs at General Electric

Program	Summary	Qualifications to Attend
Commercial Leadership Program: Sales and Marketing	Formal courses, including Selling@GE, Marketing@GE, and negotiation skills. Challenging assignments in key sales and marketing roles within a business.	Bachelor's degree in engineering or industrial distribution, minimum 3.0 GPA; willingness to relocate; interest in sales; career- and results-oriented.
Experienced Commercial Leadership Program (ECLP): Sales and Marketing	Four 6-month business rotations within the sales and marketing functions of a GE business. Every three months, complete self-assessment and receive manager evaluation. Develop key marketing, sales, and leadership skills in 6 weeks of intensive training.	MBA candidate with 4–6 years marketing or sales experience; demonstrated leadership and achievement in sales and marketing, communications, and analytical skills; willingness to relocate.

Table 69

As you can see, GE uses a combination of coursework and job experiences to develop entry-level and top-level management. Other programs, such as the Business Manager Course and the Executive Development Course, utilize action learning (discussed in Chapter 7). Program participants are assigned a real problem that GE is facing and must present their recommendations to Jeff Immelt. Besides programs and courses for management development, GE also holds seminars to help employees better understand customer expectations and holds leadership conferences designed specifically for African American, female, and Hispanic managers.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

EMPLOYEE DEVELOPMENT (continued)

Formal education

Most formal education programs actively involve the employees in learning. Separate programs are usually offered for supervisors, middle managers, and executives. Special programs for particular jobs (such as engineer) are also available. At Whirlpool, the largest manufacturer of large home appliances in the world, the company's leadership development program focuses on 12 critical attributes: (1) Character and enduring values, (2) Communications, (3) Customer champion (4) Confidence (5) Developing talent (6) Diversity with inclusion (7) Driver of change/transformation (8) Extraordinary results (9) Management skill

(10) Strategy (11) Thought leadership (12) Vision. The leadership development program is organized into three tiers. The first tier (Leadership Development Programs) includes programs to train new graduates for higher-level positions in the functional areas such as marketing, engineering, finance, or human resources. Each program runs three to four years and includes formal training, mentoring, and rotations through job assignments. One hundred new employees attend the program each year with over 300 involved in the rotations at any one time. The second tier of programs (Leading the Whirlpool Enterprise), required for the top 700 company leaders, involves two one-week classes. One class includes a 360-degree assessment evaluating each executive's attributes and providing feedback. The second week focuses on asking the executives to consider the company's strategic objectives, identify the most important business issue, and develop a plan to solve the issue. The third tier (Leaders Developing Leaders) includes the 20 top company executives from around the world. These executives are given an intensive assessment of their skills and personality and they are matched with a coach who works with them to help improve their weaknesses and capitalize on their strengths. To ensure that the company's investment in the leadership development program is well-spent, managers and company leaders are held accountable for developing future leaders by serving as teachers in the courses. Also, managers' and company leaders' performance evaluations include objectives related to leadership development as well as financial results.

Leadership, entrepreneurship, and e-business are the most important topics in executive education programs. Programs directed at developing executives' understanding of global business issues and management of change are other important parts of executive development. Also, there is a movement toward custom courses designed to meet business needs as well as gain an understanding of global business and culture.Table 1 shows examples of institutions that provide executive education. There are several important trends in executive education. Increasingly, many companies and universities are using distance learning to reach executive audiences. Many business schools have begun offering companies in-house custom programs to help managers gain real-world skills and study problems in real-world environments without having to disrupt their work with travel to a campus.

Examples of Institutions That Provide Executive Education

Source: Based on "2008 Business School Rankings and Profiles," www.BusinessWeek.com, February 28, 2009.

Provider (Location)	2006–07 Revenue (millions)	Open Programs Offered	Clients Served for Customized Courses
Harvard (Boston)	90.8	113	39
INSEAD (France; Singapore)	73.6	341	112
IMD (Lausanne, Switzerland)	73.2	132	100
Stanford (Stanford, California)	22.8	42	11
Columbia (New York)	13.1	73	22

Table 70

Many companies and their employees are looking to reduce the time it takes to complete an advanced business degree. As a result, universities are offering miniature MBA programs that allow employees to earn the MBA in less than two years, the time needed to earn an MBA in a full-time program.

Given the costs of executive education programs, companies are asking for evaluation data that show the

value of the program. As a result, many universities that offer executive education programs are beginning to measure their programs' return on investment.

Enrollment in executive education programs or MBA programs may be limited only to managers or employees identified to have management potential. As a result, many companies also provide tuition reimbursement as a benefit for all employees to encourage them to develop. Tuition reimbursement refers to the practice of reimbursing employees' costs for college and university courses and degree programs.

Despite the large investment in tuition reimbursement, many companies have not attempted to identify the value of such programs. Companies that have evaluated tuition reimbursement programs have found that the programs increase employee retention rates, increase employees' readiness for promotion, and improve job performance.

Assessment

Assessment involves collecting information and providing feedback to employees about their behavior, communication style, values, or skills. The employees, as well as their peers, managers, and customers, may be asked to provide information. Assessment is most frequently used to identify employees with managerial potential and to measure current managers' strengths and weaknesses. Assessment is also used to identify managers with the potential to move into higher-level executive positions, and it can be used with work teams to identify individual team members' strengths and weaknesses as well as the decision processes or communication styles that inhibit the team's productivity.

Companies vary in the methods and sources of information they use in developmental assessment. Many companies provide employees with performance appraisal information. Companies with sophisticated development systems use psychological tests to measure employees' skills, personality types, and communication styles. These types of assessments can help employees understand their tendencies, needs, the type of work environment they prefer, and the type of work for which they are best suited. This type of information, along with information they receive from the company about their performance (from performance appraisals) and their potential, can help employees decide what type of development goals might be most appropriate for them (e.g., a leadership position or an increase in the scope of their current position). Examples of personality assessment tools include the NEO Personality Inventory (or NEO PI-R), DiSC, and Myers-Briggs. The NEO PI-R measures five factors of personality (also known as the Big Five): conscientiousness, extroversion, adjustment, agreeableness, and openness to experience. DiSC provides classifications of four aspects of behavior (dominance, influence, steadiness, and conscientiousness).

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) is the most popular psychological test for employee development. As many as 2 million people take the MBTI in the United States each year. The test consists of more than 100 questions about how the person feels or prefers to behave in different situations (e.g., "Are you usually a good 'mixer' or rather quiet and reserved?"). The MBTI is based on the work of psychologist Carl Jung, who believed that differences in individuals' behavior resulted from people's preferences in decision making, interpersonal communication, and information gathering.

The MBTI identifies individuals' preferences for energy (introversion versus extroversion), information gathering (sensing versus intuition), decision making (thinking versus feeling), and lifestyle (judging versus perceiving). The energy dichotomy determines where individuals gain interpersonal strength and vitality. Extroverts (E) gain energy through interpersonal relationships. Introverts (I) gain energy by focusing on personal thoughts and feelings. The information-gathering dichotomy relates to the actions individuals take when making decisions. Individuals with a Sensing (S) preference tend to gather facts and details. Intuitive (I) tend to focus less on facts and more on possibilities and relationships between ideas. Differences in decision-making styles are based on the amount of consideration the person gives to others' feelings in making a decision. Individuals with a Thinking (T) preference tend to be very objective in making decisions. Individuals with a Feeling (F) preference tend to evaluate the impact of potential decisions on

others and be more subjective in making a decision. The lifestyle dichotomy reflects an individual's tendency to be flexible and adaptable. Individuals with a Judging (J) preference focus on goals, establish deadlines, and prefer to be conclusive. Individuals with a Perceiving (P) preference tend to enjoy surprises, like to change decisions, and dislike deadlines.

Sixteen unique personality types result from the combination of the four MBTI preferences (see Table 2). Each of us has developed strengths and weaknesses as a result of our preferences. For example, individuals who are Introverted, Sensing, Thinking, and Judging (known as ISTJs) tend to be serious, quiet, practical, orderly, and logical. They can organize tasks, be decisive, and follow through on plans and goals. ISTJs have several weaknesses because they have not used the opposite preferences of Extroversion, Intuition, Feeling, and Perceiving. Potential weaknesses for ISTJs include problems dealing with unexpected opportunities, appearing too task-oriented or impersonal to colleagues, and being overly quick to make decisions. Visit the Web site www.keirsey.com for more information on the personality types.

Personality Types Used in the Myers-Briggs Type Indicator Assessment

	Sensing Types (S)		Intuitive Types (N)	
	Thinking (T)	**Feeling (F)**	**Feeling (F)**	**Thinking (T)**
Introverts (I) Judging (J)	**ISTJ** Quiet, serious, earn success by thoroughness and dependability. Practical, matter-of-fact, realistic, and responsible. Decide logically what should be done and work toward it steadily, regardless of distractions. Take pleasure in making everything orderly and organized—their work, their home, their life. Value traditions and loyalty.	**ISFJ** Quiet, friendly, responsible, and conscientious. Committed and steady in meeting their obligations. Thorough, painstaking, and accurate. Loyal, considerate, notice and remember specifics about people who are important to them, concerned with how others feel. Strive to create an orderly and harmonious environment at work and at home.	**INFJ** Seek meaning and connection in ideas, relationships, and material possessions. Want to understand what motivates people and are insightful about others. Conscientious and committed to their firm values. Develop a clear vision about how best to serve the common good. Organized and decisive in implementing their vision.	**INTJ** Have original minds and great drive for implementing their ideas and achieving their goals. Quickly see patterns in external events and develop long-range explanatory perspectives. When committed, organize a job and carry it through. Skeptical and independent, have high standards of competence and performance—for themselves and others.
Perceiving (P)	**ISTP** Tolerant and flexible, quiet observers until a problem appears, then act quickly to find workable solutions. Analyze what makes things work and readily get through large amounts of data to isolate the core of practical problems, interested in cause and effect, organize facts using logical principles, value efficiency.	**ISFP** Quiet, friendly, sensitive, and kind. Enjoy the present moment, what's going on around them. Like to have their own space and to work within their own time frame. Loyal and committed to their values and to people who are important to them. Dislike disagreements and conflicts, do not force their opinions or values on others.	**INFP** Idealistic, loyal to their values and to people who are important to them. Want an external life that is congruent with their values. Curious, quick to see possibilities, can be catalysts for implementing ideas. Seek to understand people and to help them fulfill their potential. Adaptable, flexible, and accepting unless a value is threatened.	**INTP** Seek to develop logical explanations for everything that interests them. Theoretical and abstract, interested more in ideas than in social interaction. Quiet, contained, flexible and adaptable. Have unusual ability to focus in depth to solve problems in their area of interest. Skeptical, sometimes critical, always analytical.

	Sensing Types (S)		Intuitive Types (N)	
	Thinking (T)	**Feeling (F)**	**Feeling (F)**	**Thinking (T)**
Extroverts (E) Perceiving (P)	**ESTP** Flexible and tolerant, they take a pragmatic approach focused on immediate results. Theories and conceptual explanations bore them—they want to act energetically to solve the problem. Focus on the here-and-now, spontaneous, enjoy each moment that they can be active with others. Enjoy material comforts and style. Learn best through doing.	**ESFP** Outgoing, friendly, and accepting. Exuberant lovers of life, people, and material comforts. Enjoy working with others to make things happen. Bring common sense and a realistic approach to their work, and make work fun. Flexible and spontaneous, adapt readily to new people and environments. Learn best by trying a new skill with other people.	**ENFP** Warmly enthusiastic and imaginative. See life as full of possibilities. Make connections between events and information very quickly, and confidently proceed based on the patterns they see. Want a lot of affirmation from others, and readily give appreciation and support. Spontaneous and flexible, often rely on their ability to improvise and their verbal fluency.	**ENTP** Quick, ingenious, stimulating, alert, and outspoken. Resourceful in solving new and challenging problems. Adept at generating conceptual possibilities and then analyzing them strategically. Good at reading other people. Bored by routine, will seldom do the same thing the same way, apt to turn to one new interest after another.
Judging (J)	**ESTJ** Practical, realistic, matter-of-fact. Decisive, quickly move to implement decisions. Organize projects and people to get things done, focus on getting results in the most efficient way possible. Take care of routine details. Have a clear set of logical standards, systematically follow them and want others to also. Forceful in implementing their plans.	**ESFJ** Warmhearted, conscientious, and cooperative. Want harmony in their environment, work with determination to establish it. Like to work with others to complete tasks accurately and on time. Loyal, follow through even in small matters. Notice what others need in their day-by-day lives and try to provide it. Want to be appreciated for who they are and for what they contribute.	**ENFJ** Warm, empathetic, responsive, and responsible. Highly attuned to the emotions, needs, and motivations of others. Find potential in everyone, want to help others fulfill their potential. May act as catalysts for individual and group growth. Loyal, responsive to praise and criticism. Sociable, facilitate others in a group, and provide inspiring leadership.	**ENTJ** Frank, decisive, assume leadership readily. Quickly see illogical and inefficient procedures and policies, develop and implement comprehensive systems to solve organizational problems. Enjoy long-term planning and goal setting. Usually well informed, well read, enjoy expanding their knowledge and passing it on to others. Forceful in presenting their ideas.

Table 71

The MBTI is used for understanding such things as communication, motivation, teamwork, work styles, and leadership. For example, it can be used by salespeople or executives who want to become more effective at interpersonal communication by learning about their own personality styles and the way they are perceived by others. The MBTI can help a company develop teams by matching team members with assignments that allow them to capitalize on their preferences and by helping employees understand how the different preferences of team members can lead to useful problem solving. For example, employees with an Intuitive preference can be assigned brainstorming tasks. Employees with a Sensing preference can be given the responsibility of evaluating ideas.

People who take the MBTI find it a positive experience and say it helps them change their behavior. MBTI scores appear to be related to one's occupation. Analysis of managers' MBTI scores in the United States, England, Latin America, and Japan suggests that a large majority of all managers have certain personality types (ISTJ, INTJ, ESTJ, or ENTJ). However, MBTI scores are not necessarily stable or reliable over time. Studies administering the MBTI at two different times found that as few as 24 percent of those who took the test were classified as the same type the second time.

The MBTI is a valuable tool for understanding communication styles and the ways people prefer to interact with others. Because it does not measure how well employees perform their preferred functions, it should not be used as the only means to appraise performance or evaluate employees' promotion potential. Furthermore, MBTI types should not be viewed as unchangeable personality patterns.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

EMPLOYEE DEVELOPMENT (Continued)

Assessment Center

The assessment center is a process in which multiple raters or evaluators evaluate employees' performance on a number of exercises. An assessment center is usually held at an off-site location such as a conference center. From 6 to 12 employees usually participate at one time. Assessment centers are primarily used to identify if employees have the personality characteristics, administrative skills, and interpersonal skills needed for managerial jobs. They are also increasingly being used to identify if employees have the necessary skills to work in teams.

The types of exercises used in assessment centers include leaderless group discussions, interviews, in-baskets, and role plays. In a leaderless group discussion, a team of five to seven employees must work together to solve an assigned problem within a certain time period. The problem may involve buying and selling supplies, nominating a subordinate for an award, or assembling a product. An in-basket is a simulation of the administrative tasks of the manager's job. The exercise includes a variety of documents that may appear in the in-basket on a manager's desk. The participant is asked to read the materials and decide how to respond to them. Responses might include delegating tasks, scheduling meetings, writing replies, or completely ignoring the memo!

In role plays, participants take the part or role of a manager or other employee. For example, an assessment center participant may be asked to take the role of a manager who has to give a negative performance review to a subordinate. The participant is provided with information regarding the subordinate's performance. The participant is asked to prepare for and actually hold a 45-minute meeting with the subordinate to discuss the performance problems. The role of the subordinate is played by a manager or other member of the assessment center design team or the company. The assessment center might also include testing. Interest and aptitude tests may be used to evaluate employees' vocabulary, general mental ability, and reasoning skills. Personality tests may be used to determine if employees can get along with others, their tolerance for ambiguity, and other traits related to success as a manager.

The exercises in the assessment center are designed to measure employees' administrative and interpersonal skills. Skills that are typically measured include leadership, oral communication, written communication, judgment, organizational ability, and stress tolerance. Table 1 shows an example of the skills measured by the assessment center. Each exercise allows participating employees to demonstrate several skills. For example, the exercise requiring scheduling to meet production demands evaluates employees' administrative and problem-solving abilities. The leaderless group discussion measures interpersonal skills such as sensitivity toward others, stress tolerance, and oral communications skills.

Examples of Skills Measured by Assessment Center Exercises

	Exercises				
	In-Basket	Scheduling Exercise	Leaderless Group Discussion	Personality Test	Role Play
Skills					
Leadership (Dominance, coaching, influence, resourcefulness)	×		×	×	×
Problem solving (Judgment)	×	×	×		×
Interpersonal (Sensitivity, conflict resolution, cooperation, oral communication)			×	×	×
Administrative (Organizing, planning, written communications)	×	×	×		
Personal (Stress tolerance, confidence)			×	×	×

Table 72

Managers are usually used as assessors. The managers are trained to look for behaviors related to the skills that will be assessed. Typically, each assessor is assigned to observe and record one or two employees' behaviors in each exercise. The assessors review their notes and rate the employee's level of skills. (For

example, a rating of 5 equals a high level of leadership skills, 1 equals a low level of leadership skills.) After all employees have completed the exercises, the assessors meet to discuss their observations of each employee. They compare their ratings and try to agree on each employee's rating for each skill.

Research suggests that assessment center ratings are related to performance, salary level, and career advancement. Assessment centers may also be useful for development purposes because employees who participate in the process receive feedback regarding their attitudes, skill strengths, and weaknesses.

Benchmarks

Benchmark is an instrument designed to measure important factors in being a successful manager. Items measured by Benchmarks are based on research that examines the lessons executives learn at critical events in their careers. Items that are measured include dealing with subordinates, acquiring resources, and creating a productive work climate. Table 2 shows the 16 skills and perspectives believed to be important in becoming a successful manager. These skills and perspectives have been shown to relate to performance evaluations, bosses' ratings of promotability, and actual promotions received. To get a complete picture of managers' skills, the managers' supervisors, their peers, and the managers themselves all complete the instrument. A summary report presenting the self-ratings and ratings by others is provided to the manager along with information about how the ratings compare with those of other managers. Also available is a development guide with examples of experiences that enhance each of the skills and how successful managers use the skills.

Skills Related to Managerial Success

Resourcefulness	Can think strategically, engage in flexible problem-solving behavior, and work effectively with higher management.
Doing Whatever It Takes	Has perseverance and focus in the face of obstacles.
Being a Quick Study	Quickly masters new technical and business knowledge.
Building and Mending Relationships	Knows how to build and maintain working relationships with co-workers and external parties.
Leading Subordinates	Delegates to subordinates effectively, broadens their opportunities, and acts with fairness toward them.
Compassion and Sensitivity	Shows genuine interest in others and sensitivity to subordinates' needs.
Straightforwardness and Composure	Is honorable and steadfast.
Setting a Developmental Climate	Provides a challenging climate to encourage subordinates' development.
Confronting Problem Subordinates	Acts decisively and fairly when dealing with problem subordinates.
Team Orientation	Accomplishes tasks through managing others.
Balance between Personal Life and Work	Balances work priorities with personal life so that neither is neglected.
Decisiveness	Prefers quick and approximate actions to slow and precise ones in many management situations.
Self-Awareness	Has an accurate picture of strengths and weaknesses and is willing to improve.
Hiring Talented Staff	Hires talented people for his or her team.
Putting People at Ease	Displays warmth and a good sense of humor.
Acting with Flexibility	Can behave in ways that are often seen as opposites.

Source: Adapted from C. D. McCauley, M. M. Lombardo, and C. J. Usher, "Diagnosing Management Development Needs: An Instrument Based on How Managers Develop," *Journal of Management* 15 (1989): 389–403.

Table 73

Performance Appraisals and 360-Degree Feedback Systems

Performance appraisal is the process of measuring employees' performance. There are several different approaches for measuring performance, including ranking employees, rating their work behaviors, rating the extent to which employees have desirable traits believed to be necessary for job success (e.g., leadership), and directly measuring the results of work performance (e.g., productivity). These approaches can be useful for employee development under certain conditions. The appraisal system must give employees specific information about their performance problems and ways they can improve their performance. Appraisals should provide a clear understanding of the differences between current

performance and expected performance, identify the causes of the performance discrepancy, and develop action plans to improve performance. Managers must be trained in providing performance feedback and must frequently give employees performance feedback. Managers also need to monitor employees' progress in carrying out the action plan.

A trend in the use of performance appraisals for management development is the upward feedback and 360-degree feedback process. The 360-degree feedback process (see Figure 1) is a special version of the upward feedback process. In 360-degree feedback systems, employees' behaviors or skills are evaluated not only by subordinates but also by peers, customers, their boss, and themselves. The raters complete a questionnaire that rates the person on a number of different dimensions. Table 3 provides an example of the types of competencies that are rated in a 360-degree feedback questionnaire. This example evaluates the management competency of decision making. Each of the five items relates to a specific aspect of decision making (e.g., takes accountability for results of individual and team decisions). Typically, raters are asked to assess the manager's strength in a particular item or whether development is needed. Raters may also be asked to identify how frequently they observe a competency or skill (e.g., always, sometimes, seldom, never).

360-Degree Feedback System

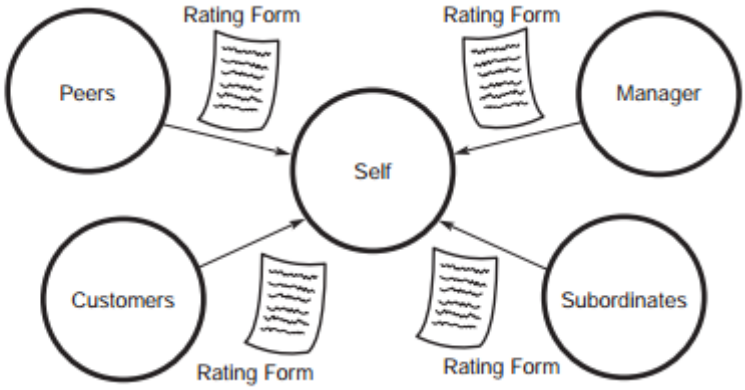

Figure 37

The results of a 360-degree feedback system show managers how they are seen on each item. The results reveal how self-evaluations differ from evaluations from the other raters. Typically, managers are asked to review their results, seek clarification from the raters, and participate in development planning designed to set specific development goals based on the strengths and weaknesses identified.

Sample Competency and Items from a 360-Degree Feedback Instrument

Decision Making
Identifies the key decisions that have the greatest impact on business goals.
Understands and integrates conflicting or contradictory information.
Balances business sense with data and logic to make effective decisions.
Takes accountability for results of individual and team decisions.
Makes appropriate trade-offs between complete analysis and speed when making decisions.

Table 74

Table 4 shows the types of activities involved in development planning using the 360- degree feedback process. The first step for the manager being rated is to gain an understanding of skill strengths and weaknesses. This includes comparing self-ratings to other ratings (i.e., manager, peers, customers, subordinates) to identify areas of agreement and disagreement. A manager may overrate herself (rate herself too high) in comparison to the other raters. This means that the manager believes she has greater skill than the other raters believe. The manager may also underrate herself (rate herself too low) in comparison to the other raters. This suggests that the manager may lack confidence in her skills. The second step is for the manager to identify a skill or behavior to develop. Third, the manager needs to identify how she will determine her progress toward meeting her development goal. The final step in the process is to provide the manager with strategies for reaching her goal. This includes three components. First, the manager needs

to identify specific actions she can take to reach her goal (e.g., job experiences, courses). Next, the manager needs to identify whom she will ask to provide feedback about her progress. Third, the manager needs to consider how she will find reinforcement for her progress. Similarly, the manager needs to consider self-reinforcement for development progress. This reinforcement could involve buying herself a gift or rewarding herself with a night out on the town.

Development-Planning Activities from 360-Degree Feedback

1. **Understand strengths and weaknesses.**
   Review ratings for strengths and weaknesses.
   Identify skills or behaviors where self and others' (managers', peers', customers') ratings agree and disagree.
2. **Identify a development goal.**
   Choose a skill or behavior to develop.
   Set a clear, specific goal with a specified outcome.
3. **Identify a process for recognizing goal accomplishment.**
4. **Identify strategies for reaching the development goal.**
   Establish strategies such as reading, job experiences, courses, and relationships.
   Establish strategies for receiving feedback on progress.
   Establish strategies for receiving reinforcement for the new skill or behavior.

Table 75

Benefits of 360-degree feedback include collecting multiple perspectives of managers' performance, allowing employees to compare their own personal evaluation with the views of others, and formalizing communications between employees and their internal and external customers. For example, a high-level executive now more freely airs his opinions in executive committee meetings based on the feedback he received from his subordinates as part of a 360-degree feedback system. Several studies have shown that performance improvement and behavior change occur as a result of participation in upward feedback and 360-degree feedback systems.48 The most change occurs in individuals who receive lower ratings from others than they gave themselves (over-raters).

Potential limitations of 360-degree feedback systems include the time demands placed on the raters to complete the evaluation, managers seeking to identify and punish raters who provided negative information, the need to have a facilitator to help interpret results, and companies' failure to provide ways that managers can act on the feedback they receive (e.g., development planning, meeting with raters, taking courses).

In developing (or hiring a consultant to develop) a 360-degree feedback system, several factors are necessary for the system to be effective. The system must provide reliable or consistent ratings; feedback must be job-related (valid); the system must be easy to use, understandable, and relevant; and the system must lead to managerial development. Important issues to consider include:

- Who will the raters be?
- How will you maintain confidentiality of the raters?
- What behaviours and skills are job-related?
- How will you ensure full participation and complete responses from every employee who is asked to be a rater?
- What will the feedback report include?
- How will you ensure that managers receive and act on the feedback?

Regardless of the assessment method used, the information must be shared with the employee for development to occur. Along with the assessment information, the employee needs suggestions for correcting skill weaknesses and using skills already learned. These suggestions might be to participate in training courses or develop skills through new job experiences. Based on the assessment information and available development opportunities, employees should develop an action plan to guide their self-improvement efforts.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

EMPLOYEE DEVELOPMENT (Continued)

Job Experiences

Most employee development occurs through job experiences. Job experiences refer to relationships, problems, demands, tasks, or other features that employees face in their jobs. A major assumption of using job experiences for employee development is that development is most likely to occur when there is a mismatch between the employee's skills and past experiences and the skills required for the job. To be successful in their jobs, employees must stretch their skills—that is, they must be forced to learn new skills, apply their skills and knowledge in a new way, and master new experiences.

Job demands and what employees can learn from them are shown in Table 1. One concern regarding the use of demanding job experiences for employee development is whether they are viewed as positive or negative stressors. Job experiences that are seen as positive stressors challenge employees to stimulate learning. Job challenges viewed as negative stressors create high levels of harmful stress for employees who are exposed to them.

Job Demands and the Lessons Employees Learn from Them

Making Transitions	*Unfamiliar responsibilities:* The manager must handle responsibilities that are new, very different, or much broader than previous ones. *Proving yourself:* The manager has added pressure to show others she can handle the job.
Creating Change	*Developing new directions:* The manager is responsible for starting something new in the organization, making strategic changes in the business, carrying out a reorganization, or responding to rapid changes in the business environment. *Inherited problems:* The manager has to fix problems created by his predecessor or take over problem employees. *Reduction decisions:* Decisions about shutting down operations or staff reductions have to be made. *Problems with employees:* Employees lack adequate experience, are incompetent, or are resistant.
Having High Level of Responsibility	*High stakes:* Clear deadlines, pressure from senior managers, high visibility, and responsibility for key decisions make success or failure in this job clearly evident. *Managing business diversity:* The scope of the job is large with responsibilities for multiple functions, groups, products, customers, or markets. *Job overload:* The sheer size of the job requires a large investment of time and energy. *Handling external pressure:* External factors that affect the business (e.g., negotiating with unions or government agencies; working in a foreign culture; coping with serious community problems) must be dealt with.
Being Involved in Nonauthority Relationships	*Influencing without authority:* Getting the job done requires influencing peers, higher management, external parties, or other key people over whom the manager has no direct authority.
Facing Obstacles	*Adverse business conditions:* The business unit or product line faces financial problems or difficult economic conditions. *Lack of top management support:* Senior management is reluctant to provide direction, support, or resources for current work or new projects. *Lack of personal support:* The manager is excluded from key networks and gets little support and encouragement from others. *Difficult boss:* The manager's opinion or management style differs from that of the boss, or the boss has major shortcomings.

Source: C. D. McCauley, L. J. Eastman, and J. Ohlott, "Linking Management Selection and Development through Stretch Assignments," *Human Resource Management* 84 (1995): 93–115. Copyright © 1995 John Wiley and Sons, Inc. Reprinted by permission of John Wiley and Sons, Inc.

Table 76

Research suggests that all job demands, with the exception of obstacles, are related to learning. Managers reported that obstacles and job demands related to creating change were more likely to lead to negative stress than were other job demands. This suggests that companies should carefully weigh the potential negative consequences before placing employees in development assignments involving obstacles or creation of change.

Although research on development through job experiences has focused on executives and managers, line employees can also learn from job experiences. As was noted earlier, for a work team to be successful, its

members now need the kinds of skills that only managers were once thought to need (e.g., dealing directly with customers, analyzing data to determine product quality, resolving conflict among team members). Besides the development that occurs when a team is formed, employees can further develop their skills by switching work roles within the team.

Figure 1 shows the various ways that job experiences can be used for employee development. These include enlarging the current job, job rotation, transfers, promotions, downward moves, and temporary assignments, projects, and volunteer work.

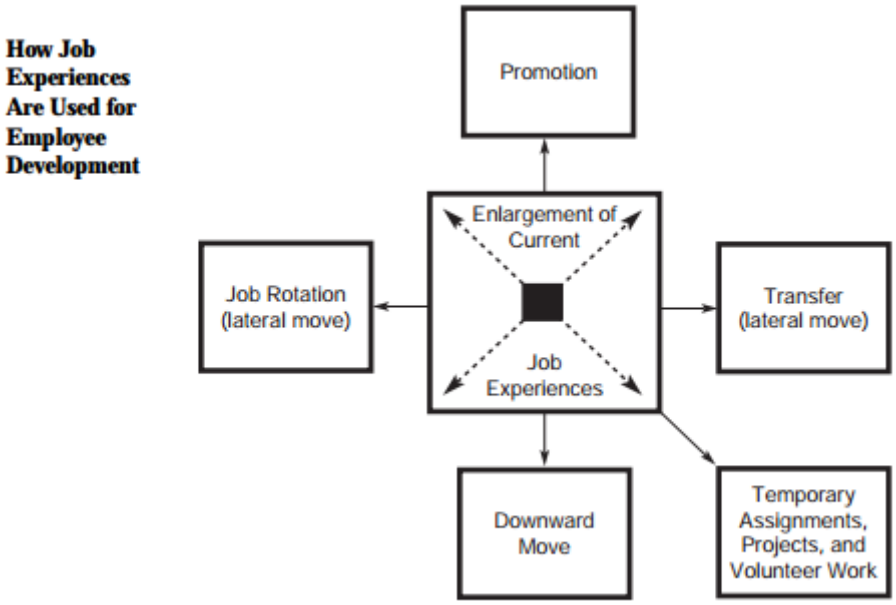

Figure 38

Enlarging the Current Job

Job enlargement refers to adding challenges or new responsibilities to an employee's current job. This could include special project assignments, switching roles within a work team, or researching new ways to serve clients and customers. For example, an engineering employee may be asked to join a task force charged with developing new career paths for technical employees. Through this project work, the engineer may be asked to take leadership for certain aspects of career path development (such as reviewing the company's career development process). As a result, the engineer has the opportunity not only to learn about the company's career development system but also to use leadership and organizational skills to help the task force reach its goals.

Some companies are allowing their employees to redesign their jobs. A new practice is to give two managers the same responsibilities and job title and allow them to divide the work (two-in-a-box). This helps managers learn from a more experienced employee, helps companies fill jobs that require multiple skills, and, for positions requiring extensive travel, ensures that one employee is always on-site to deal with work related issues.

Job Rotation

Job rotation involves providing employees with a series of job assignments in various functional areas of the company or movement among jobs in a single functional area or department. Regions Financial has job rotation programs in information technology and regional banking. The two full-time positions in the information technology program involve a 12 to 18-month job rotation within the six information technology departments to work on special projects. Employees participating in the company's Retail Leadership Development Program work as tellers, financial service representatives, and branch sales managers to complement instructor-led and computer-based training that focuses on developing service, sales, branch operations, and leadership skills.

Job rotation helps employees gain an overall appreciation of the company's goals, increases their understanding of different company functions, develops a network of contacts, and improves their problem-solving and decision-making skills. Job rotation has also been shown to be related to skill acquisition, salary growth, and promotion rates. However, there are several potential problems with job rotation from both the employee's and the work unit's point of view. The rotation may create a short-term perspective of problems and solutions in the employees being rotated and their peers. Employees' satisfaction and motivation may be adversely affected because they may find it difficult to develop functional specialties and because they may not spend enough time in one position to receive a challenging assignment. Productivity losses and work load increases may be experienced by both the department gaining a rotating employee and the department losing the employee due to training demands and the loss of a resource.

Top-level managers may rotate jobs to acquire the experiences they need to prepare for the top management job in the company—chief executive officer.

Table 2 shows characteristics of effective job rotation systems. Effective job rotation systems are linked to the company's training, development, and career management systems. Also, job rotation is used for all types of employees, not just those with managerial potential.

Characteristics of Effective Job Rotation Systems	
	1. Job rotation is used to develop skills as well as give employees experience needed for managerial positions. 2. Employees understand specific skills that will be developed by rotation. 3. Job rotation is used for all levels and types of employees. 4. Job rotation is linked with the career management process so employees know the development needs addressed by each job assignment. 5. Benefits of rotation are maximized and costs are minimized through timing the rotations to reduce work load costs and help employees understand the job rotation's role in their development plans. 6. All employees have equal opportunities for job rotation assignments, regardless of their demographic group.

Table 77

Transfers, Promotions, and Downward Moves

Upward, lateral, and downward mobility is available for development purposes in most companies. In a transfer, an employee is given a different job assignment in a different area of the company. Transfers do not necessarily involve increased job responsibilities or compensation. They are likely lateral moves (a move to a job with similar responsibilities). Promotions are advancements into positions with greater challenges, more responsibility, and more authority than in the previous job. Promotions usually include pay increases.

Transfers may involve relocation within the United States or to another country, which can be stressful for a number of reasons. The employee's work role changes. If the employee has a family, they have to join a new community. Employed spouses may have to find new employment. Transfers disrupt employees' daily lives, interpersonal relation- ships, and work habits. Employees have to find new housing as well as new shopping, health care, and leisure facilities, and they may be many miles from the emotional support of friends and family. They have to learn a new set of work norms and procedures as well as develop interpersonal relationships with their new managers and peers, and they are expected to be as productive in their new jobs as they were in their old jobs even though they may know very little about the products, services, processes, or employees for whom they are responsible.

Because transfers can be anxiety provoking, many companies have difficulty getting employees to accept them. Research has identified the employee characteristics associated with a willingness to accept transfers: high career ambitions, a belief that one's future with the company is promising, and a belief that accepting a transfer is necessary for success in the company. Employees who are not married and not active in the community are most willing to accept transfers. Among married employees, the spouse's willingness to move is the most important influence on whether an employee will accept a transfer.

A downward move occurs when an employee is given a reduced level of responsibility and authority. This may involve a move to another position at the same level but with less authority and responsibility (lateral demotion), a temporary cross-functional move, or a demotion because of poor performance. Temporary cross-functional moves to lower-level positions, which give employees experience working in different functional areas, are most frequently used for employee development. For example, engineers who want to move into management often take lower-level positions (e.g., shift supervisor) to develop their management skills.

Because of the psychological and tangible rewards of promotions (e.g., an increased feeling of self-worth, high salary, and higher status in the company), employees are more willing to accept promotions than they are to accept lateral or downward moves. Promotions are most readily available when a company is profitable and growing. When a company is restructuring and/or experiencing stable or declining profits, promotion opportunities may be limited, especially if a large number of employees are interested in promotions and if the company tends to rely on the external labor market to staff higher-level positions.

Unfortunately, many employees have difficulty associating transfers and downward moves with development. They see them as punishments rather than as opportunities to develop skills that will help them achieve long-term success with the company. Many employees decide to leave a company rather than accept a transfer. Companies need to successfully manage transfers not only because of the costs of replacing employees but because of the costs directly associated with managing them. One challenge companies face is learning how to use transfers and downward moves as development opportunities—convincing employees that accepting these opportunities will result in long-term benefits for them.

To ensure that employees accept transfers, promotions, and downward moves as development opportunities, companies can provide:

- Information about the content, challenges, and potential benefits of the new job and location.
- Involvement in the transfer decision by sending the employees to preview the new locations and giving them information about the community and other employment opportunities.
- Clear performance objectives and early feedback about their job performance.
- A host at the new location who will help them adjust to the new community and work- place.
- Information about how the job opportunity will affect their income, taxes, mortgage payments, and other expenses.
- Reimbursement and assistance in selling, purchasing, and/or renting a place to live.
- An orientation program for the new location and job.
- A guarantee that the new job experiences will support employees' career plans.
- Assistance for dependent family members, including helping to identify schools as well as child and elder care options.
- Help for spouses in identifying and marketing their skills and finding employment.

Externships allow employees to take full-time, temporary operational roles at another company.

Temporary Assignments, Projects, and Volunteer Work

Employee exchange is one example of temporary assignments in which two companies agree to exchange employees. Employees from the two companies participate in each other's training programs and attend meetings in which business plans are discussed. Both companies hope to benefit from the employee swap.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

EMPLOYEE DEVELOPMENT (Continued)

Interpersonal Relationships

Employees can also develop skills and increase their knowledge about the company and its customers by interacting with a more experienced organizational member. Mentoring and coaching are two types of interpersonal relationships used to develop employees.

Mentoring

A mentor is an experienced, productive senior employee who helps develop a less experienced employee (the protégé). Most mentoring relationships develop informally as a result of interests or values shared by mentor and protégé. Research suggests that employees with certain personality characteristics (e.g., high needs for power and achievement, emotional stability, ability to adapt their behavior based on the situation) are more likely to seek a mentor and be an attractive protégé for a mentor.

Mentoring relationships can also develop as part of a planned company effort to bring together successful senior employees with less experienced employees (a formal mentoring program). Developing Successful Mentoring Programs although many mentoring relationships develop informally, one major advantage of formalized mentoring programs is that they ensure access to mentors for all employees, regardless of gender or race. An additional advantage is that participants in the mentoring relationship tend to know what is expected of them. One limitation of formal mentoring programs is that mentors may not be able to provide counseling and coaching in a relationship that has been artificially created. To overcome this limitation, it is important that mentors and protégés spend time discussing their work styles, personalities, and backgrounds, which helps to build the trust that is needed for both parties to be comfortable with their relationship.

Table 1 presents characteristics of a successful formal mentoring program. A key to successful mentoring programs is that the mentor and protégé actually interact with each other face to face or virtually. Companies are using Web-conferencing and video teleconferencing solutions to bring together mentors who are geographically separate, as well as collaboration software so mentors and protégés can meet and review assignments. Software is also available to track mentors and protégés' work, help build development plans, and schedule mentor and protégé meetings.

Characteristics of Successful Formal Mentoring Programs

1. Mentor and protégé participation is voluntary. Relationship can be ended at any time without fear of punishment.
2. Mentor-protégé matching process does not limit the ability of informal relationships to develop. For example, a mentor pool can be established to allow protégés to choose from a variety of qualified mentors.
3. Mentors are chosen on the basis of their past record in developing employees, their willingness to serve as a mentor, and evidence of positive coaching, communication, and listening skills.
4. Mentor-protégé matching is based on how the mentor's skills can help meet the protégé's needs.
5. The purpose of the program is clearly understood. Projects and activities that the mentor and protégé are expected to complete are specified.
6. The length of the program is specified. Mentor and protégé are encouraged to pursue the relationship beyond the formal time period.
7. A minimum level of contact between the mentor and protégé is specified. Mentors and protégés need to determine the mechanics of the relationship: when they will meet, how often, and how they will communicate outside of the meetings.
8. Protégés are encouraged to contact one another to discuss problems and share successes.
9. The mentor program is evaluated. Interviews with mentors and protégés are used to obtain immediate feedback regarding specific areas of dissatisfaction. Surveys are used to gather more detailed information regarding benefits received from participating in the program.
10. Employee development is rewarded, which signals managers that mentoring and other development activities are worth their time and effort.

Figure 39

Group mentoring programs have been initiated by some companies that lack potential mentors or a formal reward system supporting mentoring or that believe that the quality of mentorships developed in a formal program is poorer than informal mentoring relationships. Group mentoring acknowledges the reality that it is difficult for one mentor to provide an employee with all the guidance and support he needs. Group mentoring provides a development network for employees: a small group that an employee can use for mentoring support that also has an interest in the employee's learning and development. In group mentoring programs, a successful senior employee is paired with four to six less experienced protégés. One potential advantage of the mentoring group is that protégés can learn from each other as well as from a more experienced senior employee. The leader helps protégés understand the organization, guides them in analyzing their experiences, and helps them clarify career directions. Each member of the group may have specific assignments to complete, or the group may work together on an issue.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

EMPLOYEE DEVELOPMENT (Continued)

Coaching Relationships

A coach is a peer or manager who works with employees to motivate them, help them develop skills, and provide reinforcement and feedback. There are three roles that a coach can play. Part of coaching may be one-on-one with an employee, providing feedback based on psychological tests, 360-degree assessment, or interviews with bosses, peers, and subordinates. A second role is to help employees learn for themselves by putting them in touch with experts who can help them with their concerns and by teaching them how to obtain feedback from others. Third, the coach may provide the employee with resources such as mentors, courses, or job experiences that the employee may not otherwise have access to.

Research has provided some insight into coaching relationships. Coaching typically occurs during a 7- to 12-month period. The main reasons why coaches are used include: to develop high-potential managers, to act as a sounding board for managers, or to specifically try to change behaviors that are making managers ineffective. The most important factors in a successful coaching relationship include a good manager-coach, relationship, a high motivation (on the manager's part) to change, and the existence of a strong commitment by top company management to develop the manager. The most important qualifications to look for when hiring a coach are experience, the use of a clearly defined coaching method (such in-depth psychological interviews or use of 360-degree feedback), and the quality of the coach's client list.

The best coaches are empathetic, supportive, practical, and self-confident but do not appear to know all the answers or want to tell others what to do. Employees who are going to be coached need to be open-minded and interested, not defensive, close-minded, or concerned with their reputation. Both coaches and employees to be coached take risks in the relationship. Coaches are offering their expertise and experience to help an employee. Employees are vulnerable because they must speak honestly about their weaknesses. Coaches need to be able to suggest effective improvement actions and must respect employee confidentiality. If assessment instruments are part of the coaching process, the coach must be familiar with them. Some companies are using coaching specifically to help groom current and future executives.

Training programs that develop coaching skills need to focus on four issues related to managers' reluctance to provide coaching. First, managers may be reluctant to discuss performance issues even with a competent employee because they want to avoid confrontation, especially if the manager is less of an expert than the employee. Second, managers may be better able to identify performance problems than to help employees solve them. Third, managers may feel that the employee might interpret coaching as criticism. Fourth, as companies downsize and operate with fewer employees, managers may feel that there is not enough time for coaching.

THE DEVELOPMENT PLANNING PROCESS

The development planning process involves identifying development needs, choosing a development goal, identifying the actions that need to be taken by the employee and the company to achieve the goal, determining how progress toward goal attainment will be measured, investing time and energy to achieve the goal, and establishing a timetable for development. Table 1 shows the development planning process, identifying responsibilities of the employee and the company. An emerging trend in development is that the employee must initiate the development planning process. Note that the development approach is dependent on the needs and developmental goal. To identify development needs, employees must consider what they want to do, what they are interested in doing, what they can do, and what others expect of them. A development need can result from gaps between current capabilities and/or interests and the type of work or position that the employee wants in the future. Some ways that employees can identify opportunities for development include looking at the strengths and weaknesses listed on their most recent performance appraisal and looking at their progress on skills needed to achieve personal goals or their mastery of competencies that the company may have identified. Also, asking peers and friends and using 360-degree feedback data can be useful for identifying development opportunities. The company

responsibility is primarily taken by the employee's manager. The role of the manager in development planning is to provide coaching, communicate information about development opportunities (e.g., job experiences, courses), help eliminate barriers to development, and refer the employee to other people (human resources) and resources (assessment tools). Managers must also help employees set realistic development goals, establish checkpoints for evaluating progress toward meeting those goals, and ensure that the time requirements for completing the plan are realistic given the employee's job demands.

Responsibilities in the Development Planning Process

Development Planning Process	Employee Responsibility	Company Responsibility
Opportunity	How do I need to improve?	Company provides assessment information to identify employee's strengths, weaknesses, interests, and values.
Motivation	Am I willing to invest the time and energy to develop?	Company assists employee in identifying personal and company reasons for change. Manager discusses steps for dealing with barriers and challenges to development.
Goal Identification	What do I want to develop?	Company provides development planning guide. Manager has developmental discussion with employee.
Criteria	How will I know I am making progress?	Manager provides feedback on criteria.
Actions	What will I do to reach my development goal?	Company provides assessment, courses, job experiences, and relationships.
Accountability	What is my timetable? How can I ask others for feedback on progress toward my goal?	Manager follows up on progress toward development goal and helps employee set a realistic timetable for goal achievement.

Table 78

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 345 - 388.

SPECIAL ISSUES IN TRAINING AND EMPLOYEE DEVELOPMENT

TRAINING ISSUES RESULTING FROM THE EXTERNAL ENVIRONMENT

Legal Issues

Table 1 shows potential training activities and situations that can make an employer vulnerable to legal actions and harm the company's reputation. The following sections describe each situation and potential implications for training.

Situations That May Result in Legal Action	• Failing to provide required training or providing inadequate training • Incurring employee injury during a training activity • Incurring injuries to employees or others outside the training session • Incurring breach of confidentiality or defamation • Reproducing and using copyrighted material in training classes without permission • Excluding women, minorities, and older Americans from training programs • Not ensuring equal treatment while in training • Requiring employees to attend training programs they may find offensive • Revealing discriminatory information during a training session • Not accommodating trainees with disabilities • Incorrectly reporting training as an expense or failing to report training reimbursement as income

Table 79

Failing to Provide Training or Providing Inadequate Training

To comply with a wide range of laws and regulations, companies are required to show that employees not only have completed training programs but also are applying their new knowledge on the job.

Incurring Employee Injury during a Training Activity

On-the-job training and simulations often involve the use of work tools and equipment (e.g., welding machinery, printing press) that could cause injury if incorrectly used. Workers' compensation laws in many states make employers responsible for paying employees their salary and/or providing them with a financial settlement for injuries received during any employment related activity such as training. Managers should ensure that (1) employees are warned of potential dangers from incorrectly using equipment and (2) safety equipment is used.

Incurring Injuries to Employees or Others Outside a Training Session

Managers should ensure that trainees have the necessary level of competence in knowledge, skills, and behaviors before they are allowed to operate equipment or interact with customers. Even if a company pays for training to be conducted by a vendor, it is still liable for injuries or damages resulting from the actions of poorly, incorrectly, or incompletely trained employees. A company that contracts out training to a vendor or consultant should ensure that it has liability insurance, be sure that the trainers are competent, and determine if there has been previous litigation against the trainer or the vendor providing the training. Also, trainers should be sure to keep copies of notes, activities, and training manuals that show that training procedures were correct and followed the steps provided by licensing or certification agencies (if appropriate).

Incurring Breach of Confidentiality or Defamation

Managers should ensure that information placed in employees' files regarding performance in training activities is accurate. Also, before discussing an employee's performance in training with other employees or using training performance information for promotion or salary decisions, managers should tell employees that training performance will be used in that manner.

Reproducing and Using Copyrighted Material in Training Classes without Permission

Copyrights protect the expression of an idea (e.g., a training manual for a software program) but not the ideas that the material contains (e.g., the use of help windows in the software program). Copyrights also prohibit others from creating a product based on the original work and from copying, broadcasting, or publishing the product without permission. The use of videotapes, learning aids, manuals, and other copyrighted materials in training classes without obtaining permission from the owner of the material is illegal. Managers should ensure that all training materials are purchased from the vendor or consultant who developed them or that permission to reproduce materials has been obtained. Material on Internet sites is not necessarily free from copyright law. Many Web sites are governed by the fair use doctrine, which means that you can use small amounts of copyrighted material without asking permission or paying a fee as long as the use meets four standards. The standards relate to (1) the purpose for which the copyrighted materials are being used, (2) what the copyrighted work is, (3) the proportion of the copyrighted material you are using, and (4) how much money the copyright owner can lose as a result of the use. Republishing or repackaging under your own name material that you took from the Internet can be a violation of copyright law.

Excluding Women, Minorities, and Older Employees from Training Programs

Women, minorities, and older employees can be illegally excluded from training programs either by not being made aware of opportunities for training or by purposeful exclusion from enrollment in training programs. Denial of training opportunities and better treatment of younger employees can be used to support claims of age discrimination. Older employees may bring lawsuits against companies based on a denied promotion or discharge. As evidence for age discrimination, the courts will investigate whether older workers were denied training opportunities that were provided to younger workers. To avoid age discrimination in training, managers and trainers need to ensure that the organization's culture and policies are age-neutral. Decisions about training and development opportunities should not be made on the basis of stereotypes about older workers and should take into account job-relevant factors such as performance. Managers should be held accountable for fair training and development practices and for ensuring that all employees have development plans. Stereotypes such as "older workers are resistant to change" may result in exclusion of older workers from training and development programs.

Not Ensuring Equal Treatment of All Employees While in Training

Equal treatment of all trainees means that conditions of the learning environment, such as opportunities for practice, feedback, and role playing, are available for all trainees regardless of their background. Also, trainers should avoid jokes, stories, and props that might create a hostile learning environment.

Requiring Employees to Attend Programs That Might Be Offensive

Culture and religious values need to be taken into consideration while designing programs so they don't cause any offense.

Revealing Discriminatory Information during a Training Session

Telling the audience personal or negative information about any participant as an example for others could cause issues.

Not Accommodating Trainees with Disabilities

In the context of training, reasonable accommodation refers to making training facilities readily accessible to and usable by individuals with disabilities. Reasonable accommodation may also include modifying instructional media, adjusting training policies, and providing trainees with readers or interpreters. Employers are not required to make reasonable accommodation if the person does not request them. Employers are also not required to make reasonable accommodation if persons are not qualified to participate in training programs (e.g., they lack the prerequisite certification or educational requirements).

Incorrectly Reporting Training as an Expense or Failing to Report Training Reimbursement as Income

To be deductible, the expenses must be for training that maintains or improves skills required in the job or that serves a business purpose of the company and is required by the company, or by law or regulations, in order for employees to keep their present salary, status, or job.

Cross-Cultural Preparation

Companies today are challenged to expand globally. Because of the increase in global operations, employees often work outside their country of origin or work with employees from other countries. Top managers who obtain experience through international assignments contribute to their global company's successful performance. Table 2 shows the different types of employees in global companies. Expatriates work in a country other than their country of origin. The most frequently selected locations for expatriate assignments include the United States, China, the United Kingdom, Singapore, Germany, and Japan.

Types of Employees in Global Companies	*Parent-country national:* Employee whose country of origin is where the company has its headquarters *Host-country national:* Employee from the host country *Third-country national:* Employee who has a country of origin different from both the parent country and host country where he or she works

Table 80

Because of a growing pool of talented labor around the world, greater use of host-country nationals is occurring. (Host-country nationals are employees with citizenship in the country where the company is located.) A key reason is that a host-country national can more easily understand the values and customs of the work force than an expatriate can.

Cross-cultural preparation involves educating employees (expatriates) and their families who are to be sent to a foreign country. To successfully conduct business in the global marketplace, employees must understand the business practices and the cultural norms of different countries. Table 3 "impression shock" column shows the typical impressions that a Japanese manager may have of the U.S. culture. The "integration shock" column describes the typical American interpretation of Japanese managers' style. Clearly, for American and Japanese managers to have successful business discussions, they need to be prepared to deal with cultural differences!

Negative Surprises Facing the Newly Arrived Japanese Manager

	Impression Shock—Japanese Perceptions of American Ways	Integration Shock—American Responses to Japanese Ways
Community Life	Social diversity	Aloof/clannish community
	Violence and crime	Misunderstood customs
	Poverty and homelessness	Economic takeover
	Education problems	Lingering resentment
	Ignorance of foreign ways	Self-serving conduct
Business Practice	Different operations	Vagueness and delay
	Shortsightedness	Overworked employees
	Lackluster service	Unfair industrial groups
	Hasty dealmaking	Ethical violations
	Legal minefields	Influence peddling
Organizational Dynamics	No spiritual quality	Management inexperience
	Individual careerism	Avoided accountability
	Narrow job focus	Closed inner circle
	Political confrontation	Stifled employees
	Employee disloyalty	Discriminatory practices
Interpersonal Dealings	Assertiveness	Distrust/secrecy
	Frankness	Arrogance/hubris
	Egoism	Withheld sentiments
	Glibness	Cautious intimacy
	Impulsiveness	Excessive sensitivity

Note: The individual entries in the two columns are not aligned to correspond to one another. They merely list the major surprises experienced by visitors.
Source: Richard G. Linowes, "The Japanese Manager's Traumatic Entry into the United States: Understanding the American-Japanese Cultural Divide," *Academy of Management Executive* 7, no. 4 (1993): 26.

Table 81

Dimensions of Cultural Differences

Many cultural characteristics influence employee behavior. Keep in mind that there are national cultures as well as company cultures. A culture refers to the set of assumptions that group members share about the world and how it works and the ideals worth striving for. Culture is important because it influences the effectiveness of different behaviors and management styles. A management style that seems friendly to some employees might offend others who would rather maintain distance and respect toward their bosses.

In Germany, managers achieve their status by demonstrating technical skills, and employees look to managers to assign tasks and resolve technical problems. In the Netherlands, managers focus on seeking agreement, exchanging views, and balancing the interests of people affected by a decision. Indians may shake hands rather limply and avoid eye contact. This is not a sign of dislike or disrespect. In Indian culture, a soft handshake conveys respect, and lack of eye contact is a sign of deference. Consider how cultural differences affect European managers' perceptions of American managers. European managers admire the financial results of many American companies. But they also believe that American managers do not know how to eat and drink properly and do not understand European history. One German manager was embarrassed when managers from an Indiana company to whom he was recently introduced called him by his first name. In Germany, such informality occurs only after long-term relationships have been established. Other work style differences include the American emphasis on monthly and quarterly business results versus the European focus on yearly and longer term profits.

Research conducted by G. Hofstede identified five dimensions of national culture: individualism-collectivism, uncertainty avoidance, masculinity-femininity, power distance, and time orientation. Figure 1 shows the locations of selected countries on these dimensions. Awareness of these dimensions can help trainers develop cross-cultural preparation programs that include meaningful information regarding the culture the expatriates will find themselves working in.

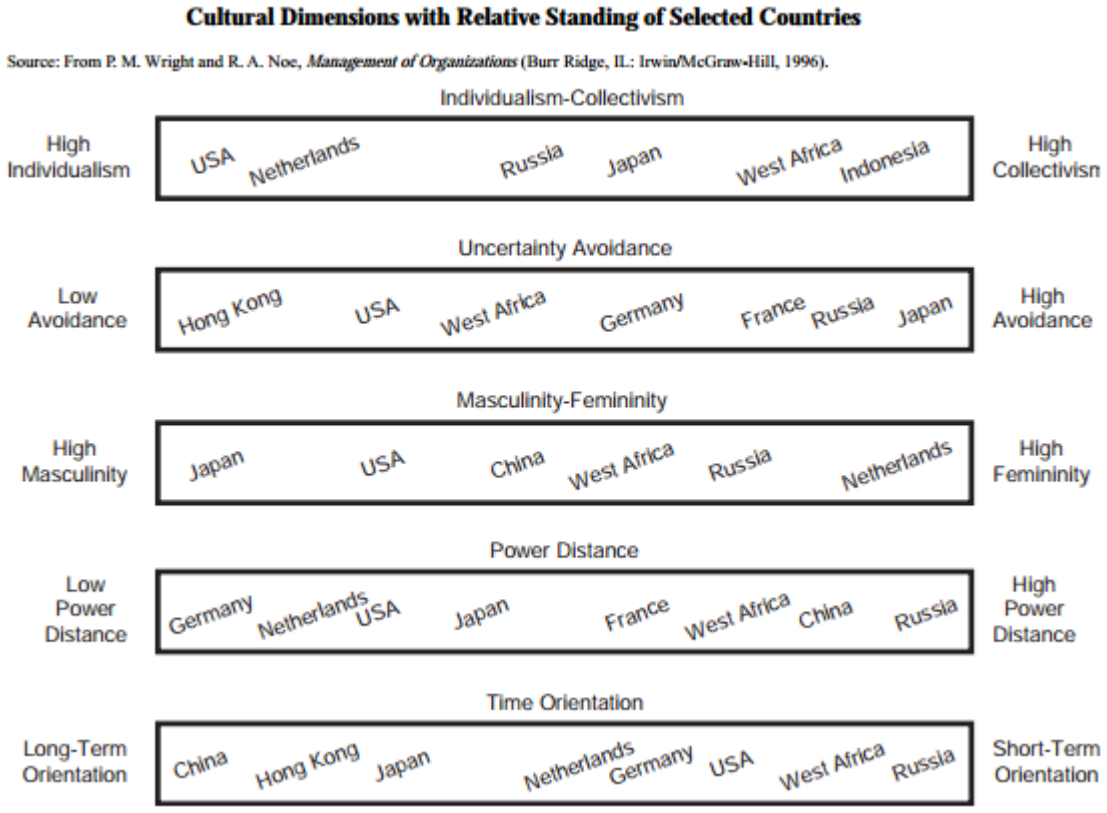

Figure 40

The degree to which people act as individuals rather than as members of a group is the cultural dimension known as individualism-collectivism. In an individualistic culture like the United States, employees expect to be hired, evaluated, and rewarded based on their personal skills and accomplishments. In a collectivist

culture, employees are more likely to have a voice in decisions. As you saw in Table 4, Japanese managers, who tend to have a collectivist orientation, can be shocked by the apparent self-interest of their American colleagues!

Negative Surprises Facing the Newly Arrived Japanese Manager

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Source: Richard G. Linowes, "The Japanese Manager's Traumatic Entry into the United States: Understanding the American-Japanese Cultural Divide," *Academy of Management Executive* 7, no. 4 (1993): 26.

Table 82

Uncertainty avoidance refers to the degree to which people prefer structured rather than unstructured situations. Cultures with a strong uncertainty avoidance orientation (e.g., Japan, Russia) favor structured situations. Religion, law, or technology in these countries socializes people to seek security through clear rules on how to act. In a culture with weak uncertainty avoidance (e.g., Jamaica, Hong Kong), employees cope by not worrying too much about the future.

Masculinity-femininity refers to the extent to which the culture values behavior considered traditionally masculine (competitiveness) or feminine (helpfulness). Examples of "masculine" cultures include Japan, Germany, and the United States. Here assertiveness and competitiveness are valued. In contrast, in a culture such as the Netherlands, a higher value is likely placed on quality of life, helping others, and preserving the environment.

Power distance refers to expectations for the unequal distribution of power in a hierarchy. India, Mexico, and Russia, for example, have great power distance. This means that people attempt to maintain differences between various levels of the hierarchy. One illustration of differences in power distance is how people talk to one another. In high power distance countries such as Mexico and Japan, people address each other with titles (Señor Smith, Smith-san). At the other extreme, in most situations in the United States people use first names—behavior that would be disrespectful in other countries.

Time orientation refers to the degree to which a culture focuses on the future rather than the past and present. In cultures with a short-term orientation, such as the United States, Russia, and West Africa, the orientation is toward the past and present. These cultures tend to emphasize respect for tradition and social obligations. A culture with a long term orientation, such as Japan and China, values such traits as thrift and persistence, which pay off in the future rather than the present.

In a Mexican slipper-manufacturing plant (a culture with high power distance), an effort to expand the decision-making authority of production workers was derailed when the workers rebelled at doing what they saw as the manager's work. Realizing they had moved too quickly, the managers narrowed the scope of the workers' decision-making authority. On the other hand, Mexico's high collectivism culture supported worker empowerment. The employees liked discussing team-related information and using the information to benefit the entire team.

Implications for Expatriates and Their Families: Cross-Cultural Training

To prepare employees for cross-cultural assignments, companies need to provide cross-cultural training. To be successful in overseas assignments, expatriates (employees on foreign assignments) need to be:

1. Competent in their area of expertise.
2. Able to communicate verbally and nonverbally in the host country.
3. Flexible, tolerant of ambiguity, emotionally stable, outgoing and agreeable, and sensitive to cultural differences.
4. Motivated to succeed, able to enjoy the challenge of working in other countries, and willing to learn about the host country's culture, language, and customs.
5. Supported by their families.

Studies have found that personality characteristics were related to expatriates' desire to terminate the assignment as well as to their performance in the assignment. Expatriates who were extroverted (outgoing), agreeable (cooperative, tolerant), and conscientious (dependable, achievement-oriented) were more likely to want to stay on the assignment and perform well. This suggests that cross-cultural training may be effective only when an expatriate's personality predisposes him or her to be successful in assignments in other cultures.

One reason for U.S. expatriates' high failure rate is that companies place more emphasis on developing employees' technical skills than on preparing them to work in other cultures. Research suggests that the comfort of an expatriate's spouse and family is the most important determinant of whether the employee will complete the assignment.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 389 - 441.

SPECIAL ISSUES IN TRAINING AND EMPLOYEE DEVELOPMENT (continued)

One key to successful foreign assignment appears to be a combination of training and career management for employees and their families. Foreign assignments involve three phases: pre-departure, on-site, and repatriation (preparing to return home). Training is necessary in all three phases.

Pre-departure Phase

In the pre-departure phase, employees need to receive language training and an orientation in the new country's culture and customs. It is critical that the family be included in the orientation programs. Expatriates and their families need information about housing, schools, recreation, shopping, and health care facilities in the area where they will live. Expatriates also must discuss with their managers how the foreign assignment fits into employees' career plans and what type of position expatriates can expect upon return. Although English is the common business language in many countries, failing to speak the native language may keep the expatriate from informal conversations and increase the risk of being misinterpreted.

Cross-cultural training methods range from presentational techniques, such as lectures that expatriates and their families attend on the customs and culture of the host country, to actual experiences in the home country in culturally diverse communities

Rigor refers to the degree to which the training program emphasizes knowledge about the culture as well as behavior and skills needed to effectively live in the culture. Less rigorous training methods such as lectures and briefings focus on communicating factual material about the country and culture to trainees. More rigorous methods not only offer factual material but also help expatriates and their families develop communication skills and behavior needed to interact in another country. Figure 1 shows the relationship between training rigor and training focus (characteristics that a training program needs to be effective). Experiential training methods are most effective (and most needed) in assignments with a high level of cultural and job novelty that require a good deal of interpersonal interaction with host nationals.

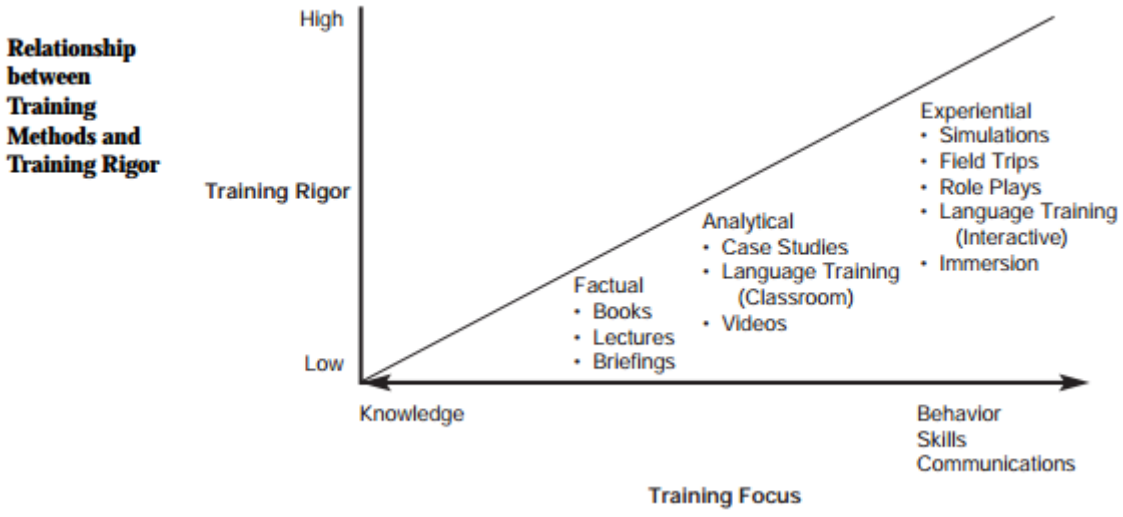

Figure 41

On-Site Phase

On-site training involves continued orientation to the host country and its customs and cultures through formal programs or through a mentoring relationship. Expatriates and their families may be paired with a mentor from the host country who helps them understand the new, unfamiliar work environment and community. Companies are also using the Web to answer questions from employees on expatriate assignments. Expatriates can access a Web site for answers to questions such as, "How do I conduct a meeting here?" or "What religious philosophy might have influenced today's negotiation behavior?"

Knowledge management software allows employees to contribute, organize, and access knowledge specific to their expatriate assignment.

A major reason that employees refuse expatriate assignments is that they can't afford to lose their spouse's income or are concerned that their spouse's career could be derailed by being out of the work force for a few years. Spouses may be unable to work in the host country because of difficulties in obtaining a work permit. Some "trailing" spouses decide to use the time to pursue educational activities that could contribute to their long-term career goals. But it is difficult to find these opportunities in an unfamiliar place.

Research suggests that companies should offer support for expatriates. Services such as career counseling for expatriates are important for reducing stress and anxiety. Support from the foreign facility (either one person or a department) is also important for work and interaction adjustment. Expatriates who have high-quality relationships with their supervisors are more effective in completing job responsibilities.

Repatriation Phase

Repatriation prepares expatriates for return to the parent company and country from the foreign assignment. Expatriates and their families are likely to experience high levels of stress and anxiety when they return because of the changes that have occurred since their departure. It is also not uncommon for employees and their families to have to readjust to a lower standard of living in the United States than they enjoyed in the foreign country, where they may have had maid service, a limousine, private schools, and clubs. Salary and other compensation arrangements should be worked out well before employees return from overseas assignments.

Experts suggest that companies can minimize turnover by offering the expatriates recognition, career support, a choice in the assignment they are given upon return, and opportunities to use their international experience.

Employees should be encouraged to self-manage the repatriation process. Before they go on the assignment, they need to consider what skills they want to develop and the types of jobs that might be available in the company for an employee with those skills. Because the company may undergo changes and because colleagues, peers, and managers may leave while the expatriate is on assignment, he or she needs to maintain contact with key company and industry people. Otherwise, the employee's reentry shock will be heightened from having to deal with new colleagues, a somewhat changed job, and a company culture that may have shifted.

Because of the difficulty in getting employees to accept foreign assignments and the low success rate of expatriate assignments, companies are creating "virtual" expatriate positions and using short-time assignments. Virtual expatriates are assigned an operation abroad to manage without being located permanently in that country. The employees periodically travel to the overseas location, return, and later use videoconferencing and communications technology to manage the operation. Virtual expatriates eliminate exposing the family to the culture shock of an overseas move. This setup also allows the employee to manage globally while keeping in close touch with the home office. Virtual expatriates are less expensive than traditional expatriates, who can cost companies over three times as much as a host-country national employee. One major disadvantage of virtual expatriates is that visiting a foreign operation on a sporadic basis may lengthen the time needed to build a local management team, so it will take longer to solve problems because of the lack of a strong personal relationship with local employees.

Because of family issues, poor economic times, and security issues, many companies are reducing the number of expatriates and relying more on short-time assignments, frequent business travel, and international commutes in which an employee lives in one country and works in another.

Implications of Cultural Differences for Training

Table 1 presents the implications of each of the cultural dimensions for training. In the United States, interaction between the trainer and the trainees is viewed as a positive characteristic of the learning

environment. However, in other cultures, this type of learning environment may not be familiar to the trainee or may violate expected norms of good instruction. For example, consider the cultural differences that exist when conducting training programs in China compared to Brazil. In China, trainers are highly respected. Because education is valued, trainees are most likely motivated to learn. Because China is a culture high on power distance, trainees expect the trainer to lead the class as an expert, lecture is the preferred delivery method, and it is difficult for trainees to question the trainer. Harmony is valued in China because the culture is low on individualism. Therefore, trainers should focus on group performance and not highlight the performance of individual trainees. In Brazil, on the other hand, trainers need to build a personal relationship with trainees, so trainers should share their experiences and background. Power distance in Brazil is accepted and respected. Popular training methods in Brazil include lecture and small group work. Group discussion of issues may be uncomfortable for trainers because the trainees may seem like they are arguing and angry with each other; however, they are engaging in acceptable communication behavior in Brazil.

Implications of Cultural Dimensions for Training Design

Cultural Dimension	Implications
Individualism	Culture high in individualism expects participation in exercises and questioning to be determined by status in the company or culture.
Uncertainty Avoidance	Culture high in uncertainty avoidance expects formal instructional environments; less tolerance for impromptu style.
Masculinity	Culture low in masculinity values relationships with fellow trainees; female trainers less likely to be resisted in low-masculinity cultures.
Power Distance	Culture high in power distance expects trainer to be expert; trainers expected to be authoritarian and controlling of session.
Time Orientation	Culture with a long-term orientation will have trainees who are likely to accept development plans and assignments.

Table 83

Expectations regarding the environment in which training is to occur may also differ. On-the-job training may be viewed skeptically by Russian employees because historically most workers are expected to have been formally trained by attending lectures at an institute or university.48 Because Russian culture values family relationships (Russian culture is more "feminine" than American culture), the meaningfulness of training materials is likely to be enhanced by using examples from employees' work and life situations.

Besides cultural dimensions, trainers must consider language differences in preparing training materials. If an interpreter is used, it is important to conduct a practice session with the interpreter to evaluate pacing of the session and whether the amount of topics and material is appropriate. Training materials, including videos and exercises, need to be translated well in advance of the training session.

The key to success in a foreign training session is preparation! The needs assessment must include an evaluation of cultural dimensions and the characteristics of the audience (such as language ability, trainees' company, and cultural status).

Managing Work Force Diversity

What Is Diversity? Why Is It Important?

Diversity can be considered any dimension that differentiates one person from another. For example, at Verizon, diversity means embracing differences and variety, including age, ethnicity, education, sexual orientation, work style, race, gender, and more. The goals of diversity training are (1) to eliminate values, stereotypes, and managerial practices that inhibit employees' personal development and therefore (2) to allow employees to contribute to organizational goals regardless of their race, age, physical condition, sexual orientation, gender, family status, religious orientation, or cultural background. Because of equal opportunity employment laws, companies have been forced to ensure that women and minorities are

adequately represented in their labor force. That is, companies are focused on ensuring equal access to jobs. The impact of culture on the workplace, and specifically on training and development, has received heightened attention. Cultural factors that companies need to consider include the terrorist attacks of 9/11; employees' fear of discussing cultural differences; more work being conducted in teams whose members have many different characteristics; the realization that people from diverse cultures represent an important customer market; and, especially for professional and technical jobs, the availability of highly trained employees that has many companies seeking workers from overseas. These new immigrants need diversity training to help them understand such facets of American culture as obsession with time, individualistic attitudes, and capitalistic ideas.

Managing diversity involves creating an environment that allows all employees to contribute to organizational goals and experience personal growth. This environment includes access to jobs as well as fair and positive treatment of all employees. The company must develop employees who are comfortable working with people from a wide variety of ethnic, racial, and religious backgrounds. Managing diversity may require changing the company culture. It includes the company's standards and norms about how employees are treated, competitiveness, results orientation, innovation, and risk taking. The value placed on diversity is grounded in the company culture.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 389 - 441.

SPECIAL ISSUES IN TRAINING AND EMPLOYEE DEVELOPMENT (Continued)

Managing Work Force Diversity

Despite the efforts of many companies to embrace diversity, women and minorities continue to report many barriers to feeling valued and advancing in their careers. A survey by the Society for Human Resource Management revealed barriers including stereotyping and preconceptions, corporate culture, exclusion from informal networks, and lack of mentors and role models. That is, anyone who is perceived as "different" is likely to have a difficult time contributing to company goals and experiencing personal growth.

Table 1 shows how managing diversity can help companies gain a competitive advantage. Various customer groups appreciate doing business with employees like themselves. Also, diverse employees can contribute insights into customers and product markets.

How Managing Diversity Can Provide a Competitive Advantage

Argument	Rationale
Cost	As organizations become more diverse, the cost of a poor job in integrating workers will increase. Organizations that handle integration well will thus create cost advantages over those that don't.
Employee Attraction and Retention	Companies develop reputations as favorable prospective employers for women and ethnic minorities. Those with the best reputations for managing diversity will win the competition for the best personnel. As the labor pool shrinks and changes composition, this edge will become increasingly important.
Market Share	For multinational organizations, the insight and cultural sensitivity that members with roots in other countries bring to the marketing effort should improve these efforts in important ways. The same rationale applies to marketing to subpopulations within domestic operations.
Creativity	Diversity of perspectives and less emphasis on conformity to norms of the past (which characterize the modern approach to management of diversity) should improve the level of creativity.
Problem Solving	Heterogeneity in decisions and problem-solving groups potentially produces better decisions through a wider range of perspectives and more thorough critical analysis of issues.
Flexibility	Organizations that become more diverse will experience greater adaptability in a rapidly changing market.

Table 84

Capitalizing on diversity also plays a major role in the success of work teams. Diversity goes beyond differences in race, physical appearance, ethnicity, and sexual orientation to include differences in communication and problem-solving style and professional and functional expertise (e.g., marketing versus engineering). When teams don't capitalize on differences but instead get caught up in identifying differences, distrust and unproductive teams usually result. Many companies have used a strategy that focuses on awareness of differences and on providing the skills that successful team members need. Team mission statements should reflect not only what the team is supposed to accomplish but also how interpersonal conflict should be handled. Some companies even require rotation of responsibilities so each person has a chance to demonstrate his or her abilities (and show that stereotypes based on race or function is not valid).

Diversity can enhance company performance when organizations have an environment that promotes learning from diversity. The link between diversity and company performance is both direct and indirect. The diversity–financial success relationship is not always directly observable. For a company to see the success of its diversity efforts, it must make a long-term commitment to managing diversity. Successful diversity requires that it be viewed as an opportunity for employees to (1) learn from each other how to better accomplish their work, (2) be provided with a supportive and cooperative organizational culture, and (3) be taught leadership and process skills that can facilitate effective team functioning. Diversity is a reality in labor and customer markets and is a social expectation and value. Managers should focus on building an

organizational environment, human resource practices, and managerial and team skills that all capitalize on diversity. As you will see in the discussion that follows, managing diversity requires difficult cultural change, not just slogans on the wall!

Managing Diversity through Adherence to Legislation

One approach to managing diversity is through affirmative action policies and human resource practices that meet standards of equal employment opportunity laws. This approach rarely results in changes in employees' values, stereotypes, and behaviors, which can inhibit productivity and personal development. Figure 1 shows the cycle of disillusionment that results from managing diversity by relying solely on adherence to employment laws. The cycle begins when the company realizes that it must change policies regarding women and minorities because of legal pressure or a discrepancy between the number or percentage of women and minorities in the company's work force and the number available in the broader labor market. To address these concerns, a greater number of women and minorities are hired by the company. Managers see little need for additional action because women and minority employment rates reflect their availability in the labor market. However, as women and minorities gain experience in the company, they likely become frustrated. Managers and co-workers may avoid providing coaching or performance feedback to women and minorities because they are uncomfortable interacting with individuals from different gender, ethnic, or racial backgrounds. Co-workers may express the belief that women and minorities are employed only because they have received special treatment (e.g., hiring standards were lowered). As a result of their frustration, women and minorities may form support groups to voice their concerns to management. Because of the work atmosphere, women and minorities may fail to fully utilize their skills and may leave the company.

Cycle of Disillusionment That Results from Managing Diversity through Adherence to Legislation

Source: C. Torres and M. Bruxelles, "Capitalizing on Global Diversity" *HR Magazine* (December 1992): 30–33. Reprinted with the permission of *HR Magazine*. Published by the Society for Human Resource Management, Alexandria, VA.

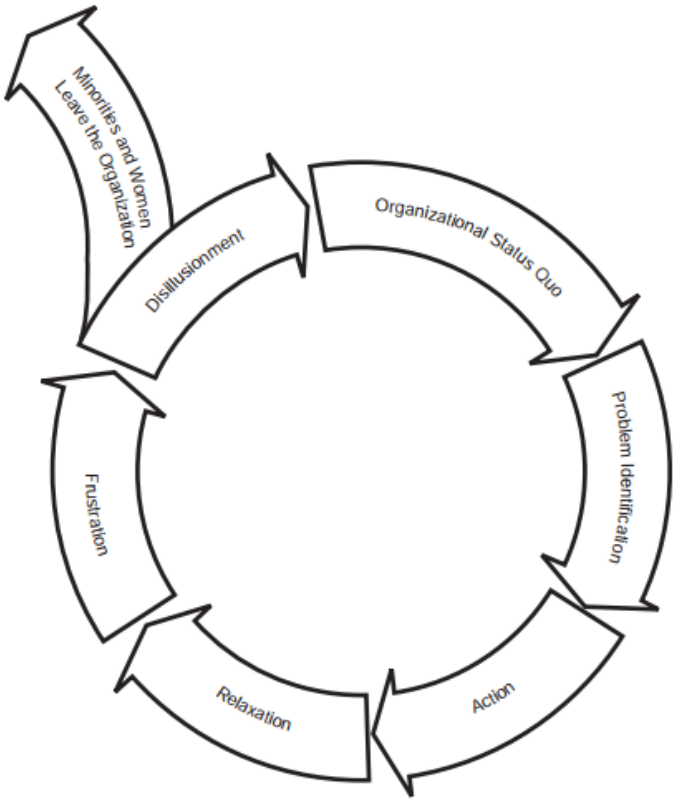

Figure 42

Managing Diversity through Diversity Training Programs

The preceding discussion is not to suggest that companies should be reluctant to engage in affirmative action or pursue equal opportunity employment practices. However, affirmative action without additional supporting strategies does not deal with issues of assimilating women and minorities into the work force. To successfully manage a diverse work force, companies need to ensure that:

- • Employees understand how their values and stereotypes influence their behavior toward people of a different gender, ethnicity, race, or religion.
- Employees gain an appreciation of cultural differences among themselves.
- Behaviors that isolate or intimidate minority group members improve.

These goals can be accomplished through diversity training programs. Diversity training refers to training designed to change employee attitudes about diversity and/or to help employees develop the skills needed to work with a diverse work force. Diversity training programs differ according to whether attitude or behavior change is emphasized. Some research suggests that composition of the training group and prior experience with diversity training may affect attitudinal and behavior change.63 Diversity training programs purchased off the shelf or developed without taking into account the company's needs, history, and culture will likely be unsuccessful.

Attitude Awareness and Change Programs Attitude awareness and change programs focus on increasing employees' awareness of differences in cultural and ethnic backgrounds, physical characteristics (e.g., disabilities), and personal characteristics that influence behavior toward others. Awareness training covers questions such as, What is diversity? Who am I? and stereotypes, assumptions and biases regarding different ethnic groups. The assumption underlying these programs is that by increasing their awareness of stereotypes and beliefs, employees will be able to avoid negative stereotypes when interacting with employees of different backgrounds. The programs help employees consider the similarities and differences between cultural groups, examine their attitudes toward affirmative action, or analyze their beliefs about why minority employees are successful or unsuccessful in their jobs. Many of these programs use videotapes and experiential exercises to increase employees' awareness of the negative emotional and performance effects of stereotypes, values, and behaviors on minority group members.

The attitude awareness and change approach has been criticized for several reasons. First, by focusing on group differences, the program may communicate that certain stereotypes and attitudes are valid. For example, in diversity training a male manager may learn that female employees prefer to work by building consensus rather than by arguing until others agree with their point. He might conclude that the training has validated his stereotype. As a result, he will continue to fail to give women important job responsibilities that involve "heated" negotiations with customers or clients. Second, encouraging employees to share their attitudes, feelings, and stereotypes toward certain groups may cause employees to feel discriminated against, guilty, angry, and less likely to see the similarities among racial, ethnic, or gender groups and the advantages of working together. Third, if diversity training only covers issues such as race, gender, ethnicity, or sexual orientation, some employees may feel that their interests are not represented in the program. Behavior-Based Programs Behavior-based programs focus on changing the organizational policies and individual behaviors that inhibit employees' personal growth and productivity.

One approach of these programs is to identify incidents that discourage employees from working up to their potential. Groups of employees are asked to identify specific promotion opportunities, sponsorships, training opportunities, or performance management practices that they believe were handled unfairly. The program may collect employees' views regarding how well the work environment and management practices value employee differences and provide equal opportunity. Specific training programs may be developed to address the issues presented in the focus groups.

Another approach is to teach managers and employees basic rules of behavior in the workplace. These lessons include behavior toward peers and managers as well as customers. For example, managers and employees should learn that it is inappropriate to use statements and engage in behaviors that have negative racial, sexual, or cultural content. Companies that have focused on teaching rules and behavior have found that employees react less negatively to this type of training than to other diversity training approaches. A third approach is cultural immersion. Cultural immersion refers to the process of sending employees directly into communities where they have to interact with persons from different cultures, races, and/or nationalities. The degree of interaction varies, but it may involve talking with community members, working in community organizations, or learning about religious, cultural, or historically significant events. For example, the United Parcel Service (UPS) Community Internship Program is a management

development program designed to help UPS senior managers understand the needs of diverse customers and a diverse work force through exposure to poverty and inequality. UPS is the world's largest package delivery company and a leading global provider of transportation and logistics services. Since 1968, over 1,200 senior managers have completed the program, an internship that typically lasts four weeks. The internships take the managers to cities throughout the United States, where they work on the problems facing local populations. UPS managers may find themselves serving meals to the homeless, helping migrant farm workers, building temporary housing and schools, and managing children in a Head Start program. These experiences take the managers outside their comfort zones, and the problems that they encounter—from transportation to housing to education to health care—help them better understand the issues that many UPS employees face daily. This enlightenment is a business necessity for UPS because three out of four managers are white, whereas 35 percent of the employees are minorities. UPS has not formally evaluated the program, but the company continues to invest $10,000 per intern. The company has invested more than $13.5 billion in the program since its start in 1968. Despite the lack of hard evaluation data, UPS managers' report that the program helps them look for unconventional solutions to problems. One manager who spent a month working at a halfway house in New York was impressed by the creative ideas of uneducated addicts for keeping teens away from drugs. The manager realized that she had failed to capitalize on the creativity of the employees she supervised. As a result, when she returned to her job and faced problems, she started brainstorming with her entire staff, not just senior managers. Other managers report that the experience helped them empathize with employees facing crises at home.

Characteristics of Successful Diversity Efforts

Which is most effective, a behavior-based program or an attitude awareness and change program? Increasing evidence shows that attitude awareness programs are ineffective and that one-time diversity training programs are unlikely to succeed. Effective diversity training programs are part of a broader company strategy to manage diversity and make capitalizing on diversity a business goal.

More generally, surveys of diversity training efforts have found that:

- The most common area addressed through diversity is the pervasiveness of stereotypes, assumptions, and biases.
- Less than one-third of the companies do any kind of long-term evaluation or follow up. The most common indicators of success are reduced number of grievances and law suits, increased diversity in promotions and hiring, increased self-awareness of biases, and increased consultation of human resource specialists on diversity-related issues.
- Most programs last only one day or less.
- Three-fourths of the survey respondents indicate that they believe the typical employee leaves diversity training with positive attitudes toward diversity. However, over 50 percent report that the programs have no effect over the long term.
- Twenty-nine percent of survey respondents report that no tools are provided to reinforce diversity training and 22 percent report that no development or advancement issues are addressed.

Table 2 shows the characteristics associated with the long-term success of diversity programs. It is critical that the diversity program be tied to business objectives. For example, cultural differences affect the type of skin cream consumers believe they need or the fragrance they may be attracted to. Understanding cultural differences is part of understanding the consumer. Top management support can be demonstrated by creating a structure to support the initiative.

Another important characteristic of diversity programs is that managers are rewarded for progress toward meeting diversity goals.

Characteristics Associated with Diversity Programs' Long-Term Success

- Top management provides resources, personally intervenes, and publicly advocates diversity.
- The program is structured.
- Capitalizing on a diverse work force is defined as a business objective.
- Capitalizing on a diverse work force is seen as necessary to generate revenue and profits.
- The program is evaluated using metrics such as sales, retention, and promotion rates.
- Manager involvement is mandatory.
- The program is seen as a culture change, not a one-shot program.
- Managers and demographic groups are not blamed for problems.
- Behaviors and skills needed to successfully interact with others are taught.
- Managers are rewarded on progress toward meeting diversity goals.
- Management collects employee feedback and responds to it.
- The company fosters a safe and open culture to which all employees want to belong and in which all employees can discover and appreciate the differences and benefits of diversity.

Table 85

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 389 - 441.

SPECIAL ISSUES IN TRAINING AND EMPLOYEE DEVELOPMENT (Continued)

Consider Sodexo's diversity effort. Sodexo is the leading food and facilities Management Company in the U.S. Canada, and Mexico, serving 10 million customers daily. Diversity is seen as being important for the company to meet its business growth targets. As a result, diversity and inclusion are core elements of Sodexo's business strategy. The objectives of the company's efforts to manage diversity are related to the business, its employees, its shareholders, and the community. For example, some of the company's objectives include understanding and living the business case for diversity and inclusion; increasing awareness of how diversity relates to business challenges; creating and fostering a diverse work environment by developing management practices that drive hiring, promotion, and retention of talent; engaging in relationship management and customer service to attract and retain diverse clients and customers; and partnering with women and minority businesses to deliver food and facility management services.

Sodexo separates equal employment opportunity (EEO) and legal compliance training from diversity education. Every three years, employees are required to take EEO and affirmative action refresher courses. Top management is also involved in and committed to managing diversity. The senior executives' program includes ongoing classroom training that is reinforced with community involvement, sponsorship of employee groups, and the mentoring of diverse employees. Executives are engaged in learning the business case for diversity and are accountable for the company's diversity agenda. Every manager takes an eight-hour introductory class (Spirit of Diversity). Other learning opportunities are also available, including three- to four-hour learning labs that include topics such as cross-cultural communications, sexual orientation in the workplace, generations in the workplace, and gender in the workplace. The company's learning and development team develops customized learning solutions for different functions and work teams. For example, a course related to selling to a diverse client base was developed and offered to the sales force and a cross-cultural communications program was provided for recruiters.

In addition to diversity training activities, Sodexo has six employee network groups, such as the African American Leadership Forum and People Respecting Individuality, Diversity and Equality, that provide a forum for employees' professional development and the sharing of ideas to support the company's diversity efforts. Sodexo's "Champions of Diversity" program rewards and recognizes employees who advance diversity and inclusion.

To emphasize the importance of diversity for the company, at Sodexo each manager has a diversity scorecard which evaluates their success in the recruitment, retention, promotion, and development of all employees. The scorecard includes both quantitative goals as well as an evaluation of specific behaviors such as participating in training, mentoring, and community outreach. A portion of managers' pay bonuses is determined by success in these areas.

Sodexo has found that its diversity training and efforts to manage diversity are having a positive impact on business results. Its mentoring program has led to the increased productivity, engagement, and retention of women and people of color. There has been an estimated return on investment of $19 for every $1 spent on the program. Sodexo also has been awarded several new business contracts and has retained clients because of its involvement in managing diversity.

Most effective programs to manage diversity, such as Sodexo's diversity program, include the key components shown in Table 1.

Key Components of Effective Managing Diversity Programs

Top Management Support
- Make the business case for diversity.
- Include diversity as part of the business strategy and corporate goals.
- Participate in diversity programs and encourage all managers to attend.
- Form an executive management team that mirrors the diversity of the work force.

Recruitment and Hiring
- Ask search firms to identify a wider array of candidates.
- Enhance the interviewing, selection, and hiring skills of managers.
- Expand college recruitment at historically minority colleges.

Identifying and Developing Talent
- Form a partnership with INROADS, a nationwide internship program that targets minority students for management careers.
- Establish a mentoring process.
- Refine the company's global succession planning system to improve identification of talent.
- Improve the selection and development of managers and leaders to help ensure that they are capable of maximizing team performance.
- Ensure that all employees, especially women and minorities, have access to management development and leadership programs.

Employee Support
- Form resource groups or employee network groups that include employees with common interests (e.g., Asian Pacific employees, women, gays, Native American employees, veterans, Hispanic employees) and use them to help the company develop business goals and understand the issues with which they are concerned.
- Celebrate cultural traditions, festivities, and holidays.
- Make work/life balance initiatives, such as flextime, telecommuting, and eldercare, available to all employees.

Ensuring Fair Treatment
- Conduct extensive diversity training.
- Implement an alternative dispute resolution process.
- Include women and minorities on all human resource committees throughout the company.

Holding Managers Accountable
- Link managers' compensation to their success in meeting diversity goals and creating openness and inclusion in the workplace.
- Use employee attitude or engagement surveys to track employees' attitudes regarding inclusion, fairness, opportunities for development, work/life balance, and perceptions of the company's culture.

Improving Relationships with External Stakeholders
- Increase marketing to diverse communities.
- Provide customer service in different languages.
- Broaden the company's base of suppliers and vendors to include businesses owned by minorities and women.
- Provide scholarships and educational and neighborhood grants to diverse communities and their members.

Table 86

Other companies, have established diversity programs that include some of the same features as Sodexo's program. As should be apparent from this discussion, successful diversity programs involve more than just an effective training program. They require an ongoing process of culture change that includes top management support as well as diversity policies and practices in the areas of recruitment and hiring; training and development; administrative structures, such as conducting diversity surveys and evaluating managers' progress on diversity goals; and improved relationships with minority customers, vendors, and suppliers.

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 389 - 441.

SPECIAL ISSUES IN TRAINING AND EMPLOYEE DEVELOPMENT (Continued)

Melting the Glass Ceiling

A major training and development issue facing companies today is how to move women and minorities into upper-level management positions—how to break the glass ceiling. Although women represent half of all managers and professionals, they hold only approximately 10–15 percent of corporate officer positions. Seventy-four of the top 500 companies have no female corporate officers. The glass ceiling is a barrier to advancement to the higher levels of the organization. This barrier may be due to stereotypes or company systems that adversely affect the development of women or minorities. The glass ceiling is likely caused by lack of access to training programs, by lack of access to appropriate developmental job experiences, by lack of access to developmental relationships such as mentoring and informal social networks, and by an organizational culture that may work against women. Male managers' development experiences tend to be given to them; female managers have to be more proactive about getting development assignments. Research has found no gender differences in access to job experiences involving transitions such as handling new job responsibilities or creating change such as fixing business problems or making strategic changes in the business. However, male managers received significantly more assignments involving high levels of responsibility (high stakes, international assignments managing business diversity, handling external pressure) than did female managers of similar ability and managerial level. Also, female managers reported experiencing more challenge because of lack of personal support (a type of job demand considered to be an obstacle that has been found to relate to harmful stress). Career encouragement from peers and senior managers does help women advance to the highest management levels. Managers making developmental assignments must carefully consider whether gender biases or stereotypes are influencing the types of assignments given to women versus men.

Table 1 provides recommendations for melting the glass ceiling and retaining talented women.

Recommendations for Melting the Glass Ceiling
Make sure that senior management supports and is involved in the program.
Make a business case for change.
Make the change public.
Using task forces, focus groups, and questionnaires, gather data on problems causing the glass ceiling.
Create awareness of how gender attitudes affect the work environment.
Create accountability through reviews of promotion rates and assignment decisions.
Promote development for all employees.

Source: Based on D. McCracken, "Winning the Talent War for Women," *Harvard Business Review* (November–December 2000): 159–67.

Table 87

Women and minorities often have trouble finding mentors because of their lack of access to the "old boy network," managers' preference to interact with other managers of similar status rather than with line employees, and intentional exclusion by managers who have negative stereotypes about women's and minorities' abilities, motivation, and job preferences.98 Potential mentors may view minorities and women as a threat to their job security because they believe affirmative action plans give those groups preferential treatment.

Wal-Mart's strong corporate culture—emphasizing leadership, trust, willingness to relocate on short notice, and promotion from within—may have unintentionally created a glass ceiling. Eighty-six percent of store manager positions were held by men. More than two-thirds of Wal-Mart managers start as hourly employees. Hourly job openings are posted at each store, but Wal-Mart never posted openings for management training positions that allowed hourly employees to move up into salaried, management positions. Part of the reason for this practice was that Wal-Mart values efficiency and never saw the need for job postings to fill open management positions. The other reason is that Wal-Mart trusts its managers to promote individuals who deserve promotion. However, women who work at Wal-Mart claimed that it was difficult to find out about manager jobs. Male employees had more access to information about

management job openings because they spent more time socializing and talking with management employees (who were primarily male). Wal-Mart's corporate attitude that managers had to be willing to relocate on short notice resulted in management opportunities that accommodated men more than women. Wal-Mart has taken many steps to ensure that the company remains a good place to work. For example, to give women more opportunities for management positions, Wal-Mart developed a posting system for all management jobs. Through Women in Leadership seminars, Wal-Mart has been able to help its female employees improve those skills required for management positions. The company also provides employees with a database that notifies them of job openings at stores across the country. As a result of its efforts, Wal-Mart's board of directors now includes three women and more than 40 percent of the company's officials and managers are women. The company has received a number of arrivals for its development of women (e.g., Working Mother magazine's 2007 Best Company for Multicultural Women).

Succession Planning

Many companies are losing a sizable number of upper-level managers because of retirement and company restructurings that reduce the number of potential upper-level managers. Companies are finding that their middle managers are not ready to move into upper management positions because of skill weaknesses or lack of experience. One estimate is that less than half of today's companies have succession plans in place. Succession plans are needed long before there is a need to fill an open position. Otherwise, when managers and executives leave, the company must hire outsiders who likely need time to understand markets and customers, the business strategy, key employees, and the company culture. Also, if companies have to resort to hiring chief executives from the outside, they pay a premium. One study found that CEOs hired from outside the company receive 65 percent more compensation in their first year than internally promoted CEOs. These issues create the need for succession planning.

Succession planning refers to the process of identifying and developing the future leadership of the company. Succession planning is especially important given that the baby boomers are preparing to retire or reduce their participation in organizations, creating vacancies at all management levels. Succession planning helps organizations in several different ways. It requires senior management to systematically conduct a review of leadership talent in the company. It ensures that top-level managerial talent is available. It provides a set of development experiences that managers must complete to be considered for top management positions, which avoids the premature promotion of managers who are not ready for upper-management ranks. Succession planning systems also help attract and retain managerial employees by providing them with development opportunities that they can complete if upper-level management is a career goal for them.

High-potential employees are employees that the company believes are capable of being successful in higher-level managerial positions such as general manager of a strategic business unit, functional director (e.g., director of marketing), or chief executive officer (CEO). Replacements for top-level managers are usually made from the pool of high potential employees. High-potential employees typically complete an individualized development program that involves education, executive mentoring and coaching, and rotation through job assignments. Job assignments are based on the successful career paths of the managers that the high-potential employees are being prepared to replace. High-potential employees may also receive special assignments, such as making presentations and serving on committees and task forces.

Research suggests that the development of high-potential employees involves three stages. A large pool of employees may initially be identified as high-potential employees, but the numbers are reduced over time because of turnover, poor performance, or a personal choice not to strive for a higher-level position. In Stage 1, high-potential employees are selected. Those who have completed elite academic programs (e.g., an MBA at Stanford) or who have been outstanding performers are identified. Psychological tests—such as those done at assessment centers—may also be used.

In Stage 2, high-potential employees receive development experiences. Those who succeed are the ones who continue to demonstrate good performance. A willingness to make sacrifices for the company is also necessary (e.g., accepting new assignments or relocating to a new location). Good oral and written

communication skills, ease in interpersonal relationships, and talent for leadership are a must. In what is known as a tournament model of job transitions, high-potential employees who meet the expectations of their senior managers in this stage are given the opportunity to advance into the next stage of the process. Employees who do not meet the expectations are ineligible for higher-level managerial positions in the company.

To reach Stage 3, high-potential employees usually have to be viewed by top management as fitting into the company's culture and having the personality characteristics needed to successfully represent the company. These employees have the potential to occupy the company's top positions. In Stage 3, the CEO becomes actively involved in developing the employees, who are exposed to the company's key personnel and given a greater understanding of the company's culture. Note that the development of high-potential employees is a slow process. Reaching Stage 3 may take 15 to 20 years.

Table 2 shows the steps that a company takes to develop a succession planning system. The first step is to identify what positions are included in the succession plan, such as all management positions or only certain levels of management. The second step is to identify which employees are part of the succession planning system. For example, in some companies only high-potential employees are included in the succession plan. Third, the company needs to identify how positions will be evaluated. For example, will the emphasis be on competencies needed for each position or on the experiences an individual needs to have before moving into the position? Fourth, the company should identify how employee potential will be measured. That is, will employees' performance in their current jobs as well as ratings of potential be used? Will employees' position interests and career goals be considered? Fifth, the succession planning review process needs to be developed. Typically, succession planning reviews first involve employees' managers and human resources. A talent review could also include an overall assessment of leadership talent in the company, an identification of high-potential employees, and a discussion of plans to keep key managers from leaving the company. Sixth, succession planning is dependent on other human resource systems, including compensation, training and development, and staffing. Incentives and bonuses may be linked to completion of development opportunities. Activities such as training courses, job experiences, mentors, and 360-degree feedback can be used to meet development needs. Companies need to make such decisions as whether to fill an open management position internally with a less-experienced employee who will improve in the role over time or to hire a manager from outside the company who can immediately deliver results. Seventh, employees need to be provided with feedback on future moves, expected career paths, and development goals and experiences. Finally, the succession planning process needs to be evaluated. This includes identifying and measuring appropriate results outcomes (such as reduced time to fill manager positions, increased use of internal promotions) as well as collecting measures of satisfaction with the process (reaction outcomes) from employees and managers. Also, modifications that will be made to the succession planning process need to be identified, discussed, and implemented.

The Succession Planning Process	1. Identify what positions are included in the plan. 2. Identify the employees who are included in the plan. 3. Develop standards to evaluate positions (e.g., competencies, desired experiences, desired knowledge, developmental value). 4. Determine how employee potential will be measured (e.g., current performance and potential performance). 5. Develop the succession planning review. 6. Link the succession planning system with other human resource data and systems, including training and development, compensation, and staffing systems. 7. Determine what feedback is provided to employees. 8. Measure the effectiveness of the succession planning process.

Table 88

Software or Web-based solutions that allow companies to manage large amounts of data regarding the requirements of various positions and the strengths and weaknesses of employees are critical for the success of succession planning systems. The software also gets employees involved in succession planning

by giving them responsibility for updating information about their education, experience, and interests. With succession planning software, companies can quickly view information on the strengths, weaknesses, and development plans for individual employees and can obtain analyses of succession gaps and strengths in departments, work groups, or level hierarchies.

Another example of an effective succession planning system is the system at Well- Point, a health care company headquartered in Thousand Oaks, California. WellPoint has a Web-based corporate database that identifies employees for management jobs throughout the company and tracks the development of employee talent. WellPoint has operations across the United States, including locations in California and Georgia. The succession planning system includes 600 managers and executives across five levels of the company. The Human Resource Planning System (HRPS) has detailed information on possible candidates, including performance evaluations, summaries of the candidates' accomplishments at the company, self-evaluations, information about career goals, and personal data such as the candidates' willingness to relocate to another part of the company. Part of the development of HRPS involved identifying the company's strengths and weaknesses at each position. Senior management team members developed standards, or benchmarks, to use to identify the best candidates for promotion. The HRPS system allows managers and the human resource team to identify and evaluate candidates for every management position in the company. It helps identify and track the development of promising internal candidates and also identifies areas where internal candidates are weak, so that (1) external candidates can be recruited, (2) a special development program can be initiated to develop employee talent, and (3) the company can place more emphasis on developing the missing skills and competencies in internal candidates. For example, because WellPoint lacked candidates for two levels of management, the company created a special training program that used business case simulations for 24 managers and executives who had been identified as high-potential candidates for upper-level management positions.

WellPoint's process of succession planning includes several steps. Each employee who is eligible for succession planning is asked to enter into the HRPS such information as educational background and preferences in types of jobs and company locations. That employee's manager adds a performance appraisal, a rating on the employee's core competencies, and a promotion assessment, that is, an assessment of the employee's potential for promotion. The promotion assessment includes the manager's opinion regarding what positions the employee might be ready for and when the employee should be moved. It also includes the manager's view on who might fill the open position if the employee is promoted. The information from the employee and the manager is used to create an online résumé for each eligible employee. The company holds "talent calibration" meetings that provide preparation for departures as well as development of leaders. The system has benefited the company's bottom line. WellPoint has realized an 86 percent internal promotion rate, which exceeds its goal of filling 75 percent of management positions from within. By improving employees' opportunities for promotion, WellPoint has reduced its turnover rate by 6 percent since 1997 and has saved $21 million on recruitment and training expenses. The time to fill open management positions has been reduced from 60 days to 35 days.

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CAREER MANAGEMENT AND DEVELOPMENT

WHY IS CAREER MANAGEMENT IMPORTANT?

Career management is the process through which employees Become aware of their own interests, values, strengths, and weaknesses. Obtain information about job opportunities within the company. Identify career goals. Establish action plans to achieve career goals.

Career management is important from both the employees' perspective and the company's perspective. From the company's perspective, the failure to motivate employees to plan their careers can result in a shortage of employees to fill open positions, lower employee commitment, and the inappropriate use of monies allocated for training and development programs. From the employees' perspective, lack of career management can result in frustration due to lack of personal growth and challenge at work, feelings of not being valued in the company, and an inability to find suitable employment should a job change (internal or with another company) be necessary due to mergers, acquisitions, restructuring, or downsizing.

Career Management's Influence on Career Motivation

Companies need to help employees manage their careers to maximize their career motivation. Career motivation refers to employees' energy to invest in their careers, their awareness of the direction they want their careers to take, and their ability to maintain energy and direction despite barriers they may encounter. Career motivation has three aspects: career resilience, career insight, and career identity. Career resilience is the extent to which employees are able to cope with problems that affect their work. Career insight involves (1) how much employees know about their interests and their skill strengths and weaknesses and (2) their awareness of how these perceptions relate to their career goals. Career identity is the degree to which employees define their personal values according to their work.

Figure 1 shows how career motivation can create value for both the company and employees. Career motivation likely has a significant relationship to the extent to which a company is innovative and adaptable to change. Employees who have high career resilience are able to respond to obstacles in the work environment and adapt to unexpected events (such as changes in work processes or customer demands). They are dedicated to continuous learning, they are willing to develop new ways to use their skills, they take responsibility for career management, and they are committed to the company's success. Research suggests that low career motivation may be especially detrimental for older, more experienced employees.

The Value of Career Motivation

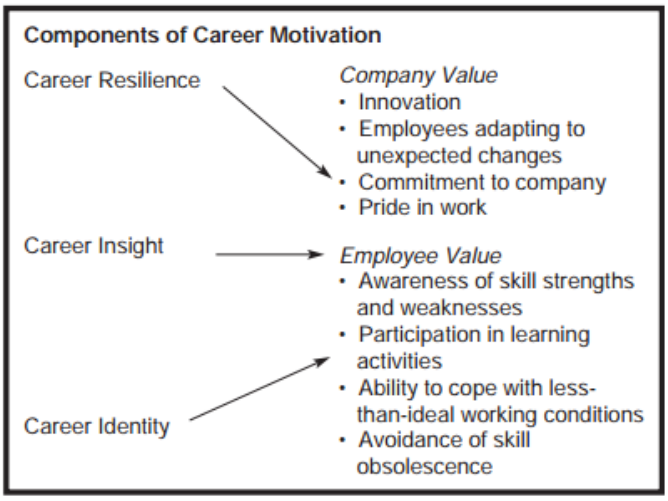

Figure 43

Employees with high career insight set career goals and participate in development activities that help them reach those goals. They tend to take actions that keep their skills from becoming obsolete. Employees with high career identity are committed to the company; they are willing to do whatever it takes (e.g., work long

hours) to complete projects and meet customer demands. They also take pride in working for the company and are active in professional and trade organizations. Research suggests that both career identity and career insight are related to career success.

Career motivation is positively influenced by the extent to which companies provide opportunities for achievement, encouragement for development, and information about career opportunities. Career management systems help identify these opportunities and provide career information. Career management systems that give employees flexibility to make career choices based on both their work and life interests and demands may be especially useful for employee motivation and retention.

WHAT IS A CAREER?

Four different meanings can be applied to the concept of careers. First, careers have been described as advancement. That is, careers are described as a sequence of promotions or upward moves in a company during the person's work life. Second, careers have been described as a profession. This definition suggests that careers occur only in certain occupations in which there is a clear pattern of advancement. For example, doctors, professors, businesspersons, lawyers, and other professionals have a path of career movement. University faculty members can hold positions as assistant, associate, and full professor. Managers can start in management trainee jobs, become supervisors, and then move to positions as managers and executives. Employees in jobs that do not lead to a series of related positions, such as waiters and maintenance employees, are not considered to have careers. Third, careers can be considered a lifelong sequence of jobs. A person's career is the series of jobs held during the course of that person's life, regardless of occupation or job level. According to this description, all persons have careers. Fourth, careers can be described as a lifelong sequence of role-related experiences. Careers represent how persons experience the sequence of jobs and assignments in their work history. This definition includes positions held and job moves as well as a person's feelings and attitudes about their jobs and their life.

A career refers to the individual sequence of attitudes and behavior associated with work-related experiences and activities over the span of the person's life. This definition does not imply career success or failure based on promotion or advancement, and it recognizes that a career is a process, that is, a series of work-related experiences that all persons have, not just employees in professional careers. Work experiences, which include the employee's position, job experiences, and tasks, are influenced by the employee's values, needs, and feelings. Employees' values, needs, and feelings vary, depending on their stage of career development and biological age. As a result, managers and human resource development professionals must understand the career development process and the differences in employee needs and interests at each stage of development.

The Protean Career

Today's careers are known as protean careers. A protean career is based on self-direction with the goal of psychological success in one's work. Protean employees take major responsibility for managing their careers.

Traditional Career versus Protean Career

Table 1 compares the traditional organizational career to the protean career on several dimensions. Changes in the psychological contract between employees and companies have influenced the career concept. A psychological contract refers to the expectations that employers and employees have about each other. Traditionally, the psychological contract emphasized that the company would provide continued employment and advancement opportunities if the employee remained with the company and maintained a high level of job performance. Pay increases and status were linked directly to vertical movement in the company (promotions).

Comparison of Traditional Career and Protean Career

Dimension	Traditional Career	Protean Career
Goal	Promotions Salary increase	Psychological success
Psychological Contract	Security for commitment	Employability for flexibility
Mobility	Vertical	Lateral
Responsibility for Management	Company	Employee
Pattern	Linear and expert	Spiral and transitory
Expertise	Know how	Learn how
Development	Heavy reliance on formal training	Greater reliance on relationships and job experiences

Table 89

However, the psychological contract between employees and employers has changed. Why? One reason is the change in companies' organizational structures. Because companies' structures tend to be "flat" (meaning the structure has fewer layers of management), authority is decentralized, and more of employees' responsibilities are organized on a project or customer basis rather than a functional basis. Flat structures are found especially in small and midsize organizations such as e-businesses. As a result, employees are expected to develop a wide variety of skills. Another reason the psychological contract has changed is that, due to increased domestic and global competition as well as mergers and acquisitions, companies cannot offer job security and may have to downsize. Instead of offering job security, companies can offer employees opportunities to attend training programs and participate in work experiences that can increase their employability with their current and future employers.

For example, the term blue-collar work has always meant manufacturing work, but technology has transformed the meaning dramatically. Traditional assembly-line jobs that required little skill and less education have been sent overseas. Today's blue-collar workers are more involved in customized manufacturing.

The goal of the protean career is psychological success. Psychological success is the feeling of pride and accomplishment that comes from achieving life goals that are not limited to achievements at work (e.g., raising a family, good physical health). Psychological success is more under the control of the employee than were traditional career goals, which were not only influenced by employee effort but also controlled by the availability of positions in the company. Psychological success is self-determined rather than determined solely through signals the employee receives from the company (e.g., salary increase, promotion). Psychological success appears to be especially prevalent among the new generation of persons entering the work force.

An important difference between the traditional career and the protean career is the need for employees to be motivated and able to learn rather than to rely on a static knowledge base. This difference has resulted from companies' need to be more responsive to customers' service and product demands. The types of knowledge that an employee must possess to be successful have changed. In the traditional career, "knowing how"—having the appropriate skills and knowledge to provide a service or produce a product—was critical. Although knowing how remains important, employees need to "know why" and "know who." Knowing why refers to understanding the company's business and culture so that the employee can develop and apply knowledge and skills that can contribute to the business. Knowing who refers to relationships that the employee may develop to contribute to company success. Employees may network with vendors, suppliers, community members, customers, or industry experts. Learning who and why requires more than formal courses and training programs.

Consider the growing use of consultants in the information services area. Internal information processing staffs have been downsized as companies have decided that they do not need internal staffs and can find talented employees on an as-needed basis. Many companies have an overabundance of experienced information systems staff who are solid performers but who do not bring to the job the ambition,

experience, and ideas that consultants have developed by working with different clients.

ROLES OF EMPLOYEES, MANAGERS, HUMAN RESOURCE MANAGERS, AND THE COMPANY IN CAREER MANAGEMENT

Employees, their managers, human resource managers, and the company share the responsibility for career management. Figure 2 shows the roles of employees, managers, human resource managers, and the company in career management.

Employee's Role

The new psychological contract and the protean career mentioned earlier in the chapter suggest that employees can increase their value to their current employer (increase their employment opportunities and take change of their careers) by taking responsibility for career planning. Companies with effective career management systems expect employees to take responsibility for their own career management

For example, a Brazilian employee worked on a project with a manager in Ireland. As a result, he learned more about the opportunities available in another business unit. An employee in India completed a short-term assignment with customers in Italy and used the new skills acquired to train less experienced engineers. Managers also benefit from Blue Opportunities. The program helps managers assist their employees in developing competencies and careers and provides a way to share expertise across departments and multiple lines of business.

Shared Responsibility: Roles in Career Management

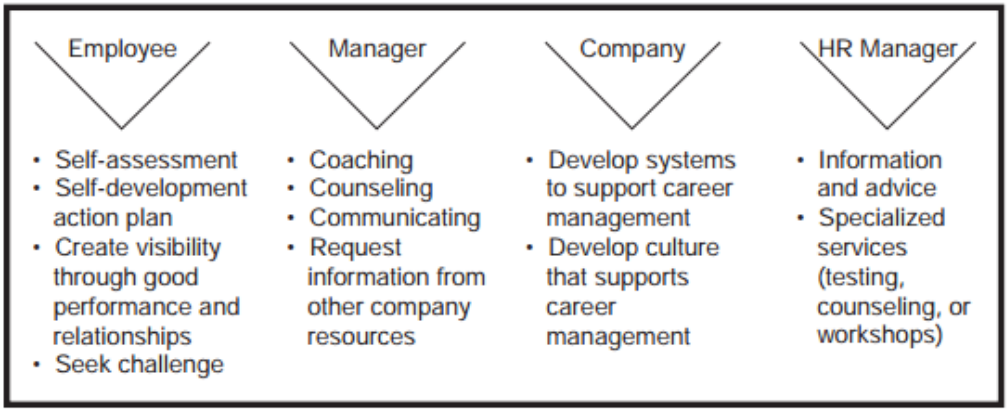

Figure 44

Regardless of how sophisticated the company's career planning system is, employees should engage in several career management actions:

- Take the initiative to ask for feedback from managers and peers regarding skill strengths and weaknesses.
- Identify stage of career development and development needs.
- Seek challenges by gaining exposure to a range of learning opportunities (e.g., sales assignments, product design assignments, administrative assignments).
- Interact with employees from different work groups inside and outside the company (e.g., professional associations, task forces).
- Create visibility through good performance.

Manager's Role

Regardless of the type of formal career management system in place at the company, managers play a key role in the process. In most cases, employees look to their managers for career advice. Why? Because managers typically evaluate employees' readiness for job mobility (e.g., promotions). Also, managers are often the primary source of information about position openings, training courses, and other developmental opportunities. Unfortunately, many managers avoid becoming involved in career planning activities with employees because they do not feel qualified to answer employees' career-related questions,

they have limited time for helping employees deal with career issues, and they lack the interpersonal skills needed to fully understand career issues.

To help employees deal with career issues, managers need to be effective in four roles: coach, appraiser, advisor, and referral agent. The responsibilities of each of these roles are shown in Table 2. Managers are responsible for helping employees manage their career through meeting personal needs as well as company needs. Coaching, appraising, advising, and serving as a referral agent is important roles for managers to play for employees in all stages of their careers. Employees early in their career may need information related to how well their performance is meeting customer expectations. Employees in both establishment and maintenance stages may use the manager as a sounding board for ideas and perspectives on job changes and career paths. Managers need to understand employees' interests by discussing with employees their job likes and dislikes. One way to initiate this discussion is to ask employees to write up the characteristics of a satisfying career. This exercise helps employees better understand what they want from work in both the short term and long term. Only after understanding employees' interests can managers match employees to job experiences related to their interests.

Managers' Roles in Career Management

Source: Based on Z. B. Leibowitz, C. Farren, and B. L. Kaye, *Designing Career Development Systems* (San Francisco: Jossey-Bass, 1986).

Role	Responsibilities
Coach	Probe problems, interests, values, needs Listen Clarify concerns Define concerns
Appraiser	Give feedback Clarify company standards Clarify job responsibilities Clarify company needs
Advisor	Generate options, experiences, and relationships Assist in goal setting Provide recommendations
Referral Agent	Link to career management resources Follow up on career management plan

Table 90

Human Resource Manager's Role

Human resource managers should provide information or advice about potential career paths and training and development opportunities. Also, human resource managers may provide specialized services such as testing to determine employees' values, interests, and skills; preparing employees for job searches; and offering counseling on career-related problems

Company's Role

Companies are responsible for providing employees with the resources needed to be successful in managing their careers. These resources include specific programs as well as processes for career management:

- Career workshops (seminars on topics such as how the career management system works, self-assessment, goal setting, and helping managers understand and perform their roles in career management).
- Information on career and job opportunities (places such as a career center or newsletters, electronic databases, or Web sites where employ yees can find information about job openings and training programs).
- Career planning workbooks (printed guides that direct employees through a series of exercises, discussions, and guidelines related to career planning).
- Career counseling (advice from a professionally trained counselor who specializes in working with employees seeking assistance with career issues).

- Career paths (planning job sequences and identifying skills needed for advancement within and across job families, such as moving from technical jobs to management jobs).

The company also needs to monitor the career management system to (1) ensure that managers and employees are using the system as intended and (2) evaluate whether the system is helping the company meet its objectives (e.g., shortening the time it takes to fill positions).

This excerpt has been extracted in modified form from;

Noe, R.A. (2010). Employee training and development. New York: Mc Graw Hill, pp. 444 - 476.