Chapter 3

Applying Learning Theories to Healthcare Practice

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CHAPTER HIGHLIGHTS

Applying Learning Theories
    Behaviorist Learning Theory
    Cognitive Learning Theory
    Social Learning Theory
    Psychodynamic Learning Theory
    Humanistic Learning Theory
Neuropsychology and Learning
Comparison of Learning Theories

Common Principles of Learning
    How Does Learning Occur?
    What Kinds of Experiences Facilitate or
       Hinder the Learning Process?
    What Helps Ensure That Learning Becomes
       Relatively Permanent?
State of the Evidence

KEY TERMS

- ❏ learning
- ❏ learning theory
- ❏ respondent conditioning
- ❏ systematic desensitization
- ❏ stimulus generalization
- ❏ discrimination learning
- ❏ spontaneous recovery
- ❏ operant conditioning
- ❏ escape conditioning
- ❏ avoidance conditioning
- ❏ metacognition
- ❏ gestalt perspective

- ❏ information processing
- ❏ cognitive development
- ❏ social constructivism
- ❏ social cognition
- ❏ cognitive-emotional perspective
- ❏ role modeling
- ❏ vicarious reinforcement
- ❏ defense mechanisms
- ❏ resistance
- ❏ transference
- ❏ hierarchy of needs
- ❏ therapeutic relationship

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OBJECTIVES

After completing this chapter, the reader will be able to

1. Differentiate among the basic approaches to learning for each of the five learning theories.
2. Define the principal constructs of each learning theory.
3. Give an example applying each theory to changing the attitudes and behaviors of learners in a specific situation.
4. Discuss how neuroscience research has contributed to a better understanding of learning and learning theories.
5. Outline alternative strategies for learning in a given situation using at least two different learning theories.
6. Identify the differences and similarities in the learning theories specific to (a) the basic procedures of learning, (b) the assumptions made about the learning, (c) the task of the educator, (d) the sources of motivation, and (e) the way in which the transfer of learning is facilitated.

Learning is defined in this chapter as a relatively permanent change in mental processing, emotional functioning, and/or behavior as a result of experience. It is the lifelong, dynamic process by which individuals acquire new knowledge or skills and alter their thoughts, feelings, attitudes, and actions.

Learning enables individuals to adapt to demands and changing circumstances and is crucial in health care—whether for patients and families grappling with ways to improve their health and adjust to their medical conditions, for students acquiring the information and skills necessary to become a nurse, or for nurses and other healthcare staff devising and learning more effective approaches to educating and treating patients and each other in partnership. Despite the significance of learning to each individual's development, functioning, health and well-being, debate continues about how learn-

ing occurs, what kinds of experiences facilitate or hinder the learning process, and what ensures that learning becomes relatively permanent.

Until the late 19th century, most of the discussions and debates about learning were grounded in philosophy, school administration, and conventional wisdom (Hilgard, 1996). Around the dawn of the 20th century, the new field of educational psychology emerged and became a defining force for the scientific study of learning, teaching, and assessment (Woolfolk, 2001). As a science, educational psychology rests on the systematic gathering of evidence or data to test theories and hypotheses about learning.

A *learning theory* is a coherent framework of integrated constructs and principles that describe, explain, or predict how people learn. Rather than offering a single theory of learning, educational psychology provides alternative theories and perspectives on how learning occurs

and what motivates people to learn and change (Hilgard & Bower, 1966; Ormrod, 2004; Snowman & Biehler, 2006).

The construction and testing of learning theories over the past century have contributed much to our understanding of how individuals acquire knowledge and change their ways of thinking, feeling, and behaving. Reflecting an evidence-based approach to learning, the accumulated body of research information can be used to guide the educational process and has challenged a number of popular notions and myths about learning (e.g., "Spare the rod and spoil the child," "Males are more intelligent than females," "You can't teach an old dog new tricks."). In addition, the major learning theories have wide applicability and form the foundation of not only the field of education but also psychological counseling, workplace organization and human resource management, and marketing and advertising.

Whether used singly or in combination, learning theories have much to offer the practice of health care. Increasingly, health professionals must demonstrate that they regularly employ sound methods and a clear rationale in their education efforts, patient and client interactions, staff management and training, and continuing education and health promotion programs (Ferguson & Day, 2005).

Given the current structure of health care in the United States, nurses, in particular, are often responsible for designing and implementing plans and procedures for improving health education and encouraging wellness. Beyond one's profession, however, knowledge of the learning process relates to nearly every aspect of daily life. Learning theories can be applied at the individual, group, and community levels not only to comprehend and teach new material, but also to solve problems, change unhealthy habits, build constructive relationships, manage emotions, and develop effective behavior.

This chapter reviews the principal psychological learning theories that are useful to health education and clinical practice. Behaviorist, cognitive, and social learning theories are most often applied to patient education as an aspect of professional nursing practice. It is argued in this chapter that emotions and feelings also need explicit focus in relation to learning in general (Goleman, 1995) and to health care in particular (Halpern, 2001). Why? Emotional reactions are often learned as a result of experience, they play a significant role in the learning process, and they are a vital consideration when dealing with health, disease, prevention, wellness, medical treatment, recovery, healing, and relapse prevention. To address this concern, psychodynamic and humanistic perspectives are treated as learning theories in this review because they encourage a patient-centered approach to care and add much to our understanding of human motivation and emotions in the learning process.

The chapter is organized as follows. First, the basic principles of learning advocated by behaviorist, cognitive, social learning, psychodynamic, and humanistic theories are summarized and illustrated with examples from psychology and nursing research. With the current upsurge and interest in neuroscience research, brief mention is made of the contributions of neuropsychology to understanding the dynamics of learning and sorting out the claims of learning theories. Next, the learning theories are compared with regard to:

- Their fundamental procedures for changing behavior

- The assumptions made about the learner
- The role of the educator in encouraging learning
- The sources of motivation for learning
- The ways in which learning is transferred to new situations and problems

Finally, the theories are compared and then synthesized by identifying their common features and addressing three questions: (1) How does learning occur? (2) What kinds of experiences facilitate or hinder the learning process? (3) What helps ensure that learning becomes relatively permanent? While surveying this chapter, readers are encouraged to think of ways to apply the learning theories to both their professional and personal lives.

The goals of this chapter are to provide a conceptual framework for subsequent chapters in this book and to offer a toolbox of approaches that can be used to enhance learning and change in patients, students, staff, and oneself. Although there is a trend toward integrating learning theories in education, it is argued that knowledge of each theory's basic principles, advantages, and shortcomings allows nurses and other health professionals to select, combine, and apply the most useful components of learning theories to specific patients and situations in health care. After completing the chapter, readers should be able to identify the essential principles of learning, describe various ways in which the learning process can be approached, and develop alternative strategies to change attitudes and behaviors in different settings.

Learning Theories

This section summarizes the basic principles and related concepts of the behaviorist, cognitive, social learning, psychodynamic, and humanistic learning theories. While reviewing each theory, readers are asked to consider the following questions:

- How do the environment and the internal dynamics of the individual influence learning?
- Is the learner viewed as relatively passive or more active?
- What is the educator's task in the learning process?
- What motivates individuals to learn?
- What encourages the transfer of learning to new situations?
- What are the contributions and criticisms of each learning theory?

Behaviorist Learning Theory

Focusing mainly on what is directly observable, behaviorists view learning as the product of the stimulus conditions (S) and the responses (R) that follow—sometimes termed the S-R model of learning. Whether dealing with animals or people, the learning process is relatively simple. Generally ignoring what goes on inside the individual—which, of course, is always difficult to ascertain—behaviorists closely observe responses and then manipulate the environment to bring about the intended change. Currently in education and clinical psychology, behaviorist theories are more likely to be used in combination with other learning theories, especially cognitive theory (Bush, 2006; Dai & Sternberg, 2004). Behaviorist theory continues to be considered useful in nursing and health care.
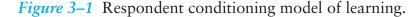
To modify people's attitudes and responses, behaviorists either alter the stimulus conditions in the environment or change what happens after a response occurs. Motivation is explained as the desire to reduce some drive (drive reduction); hence, satisfied, complacent, or satiated
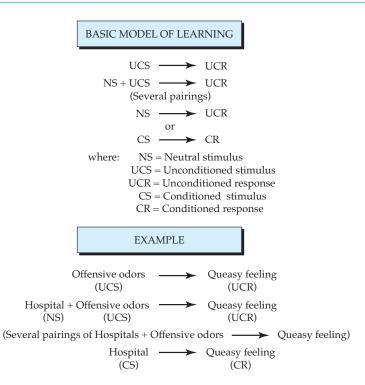
individuals have little motivation to learn and change. Getting behavior to transfer from the initial learning situation to other settings is largely a matter of practice (strengthening habits). Transfer is aided by a similarity in the stimuli and responses in the learning situation relative to future situations where the response is to be performed. Much of behaviorist learning is based on respondent conditioning and operant conditioning procedures.

Respondent conditioning (also termed *classical* or *Pavlovian conditioning*) emphasizes the importance of stimulus conditions and the associations formed in the learning process (Ormrod, 2004). In this basic model of learning, a neutral stim-

ulus (NS)—a stimulus that has no particular value or meaning to the learner—is paired with a naturally occurring unconditioned or unlearned stimulus (UCS) and unconditioned response (UCR) (**Figure 3–1**). After a few such pairings, the neutral stimulus alone, without the unconditioned stimulus, elicits the same unconditioned response. Thus, learning takes place when the newly conditioned stimulus (CS) becomes associated with the conditioned response (CR)—a process that may well occur without conscious thought or awareness.

Consider an example from health care. Someone without much experience with hospitals (NS) may visit a sick relative. While in the

Figure 3–1 Respondent conditioning model of learning.

BASIC MODEL OF LEARNING

UCS ⟶ UCR
NS + UCS ⟶ UCR
(Several pairings)
NS ⟶ UCR
or
CS ⟶ CR

where: NS = Neutral stimulus
UCS = Unconditioned stimulus
UCR = Unconditioned response
CS = Conditioned stimulus
CR = Conditioned response

EXAMPLE

Offensive odors (UCS) ⟶ Queasy feeling (UCR)
Hospital (NS) + Offensive odors (UCS) ⟶ Queasy feeling (UCR)
(Several pairings of Hospitals + Offensive odors ⟶ Queasy feeling)
Hospital (CS) ⟶ Queasy feeling (CR)

relative's room, the visitor may smell offensive odors (UCS) and feel queasy and light-headed (UCR). After this initial visit and later repeated visits, hospitals (now the CS) may become associated with feeling anxious and nauseated (CR), especially if the visitor smells odors similar to those encountered during the first experience (see Figure 3–1). Respondent conditioning highlights the importance of the atmosphere and its effects on staff morale in health care. Often without thinking or reflection, patients and visitors formulate these associations as a result of their hospital experiences, providing the basis for long-lasting attitudes toward medicine, healthcare facilities, and health professionals.

Besides influencing the acquisition of new responses to environmental stimuli, principles of respondent conditioning may be used to extinguish a previously learned response. Responses decrease if the presentation of the conditioned stimulus is not accompanied by the unconditioned stimulus over time. Thus, if the visitor who became dizzy in one hospital subsequently goes to other hospitals to see relatives or friends without smelling offensive odors, then her discomfort and anxiety about hospitals may lessen after several such experiences.

Systematic desensitization is a technique based on respondent conditioning that is used by psychologists to reduce fear and anxiety in their clients (Wolpe, 1982). The assumption is that fear of a particular stimulus or situation is learned, so it can, therefore, be unlearned or extinguished. Fearful individuals are first taught relaxation techniques. While they are in a state of relaxation, the fear-producing stimulus is gradually introduced at a nonthreatening level so that anxiety and emotions are not aroused. After repeated pairings of the stimulus under relaxed, nonfrightening conditions, the indi-

vidual learns that no harm will come to him or her from the once fear-inducing stimulus. Finally, the client is able to confront the stimulus without being anxious and afraid.

As examples from healthcare research, respondent conditioning has been used to extinguish chemotherapy patients' anticipatory nausea and vomiting (Stockhurst, Steingrueber, Enck, & Klosterhalfen, 2006), while systematic desensitization has been used to treat drug addiction (Piane, 2000), phobias (McCullough & Andrews, 2001), tension headaches (Deyl & Kaliappan, 1997), and to teach children with ADHD or autism to swallow pills (Beck, Cataldo, Slifer, Pulbrook, & Guhman, 2005). As another illustration, prescription drug advertisers regularly employ conditioning principles to encourage consumers to associate a brand name medication with happy and improved lifestyles; once conditioned, consumers will likely favor the advertised drug over the competitors' medications and the much less expensive generic form. As a third example, taking the time to help patients relax and reduce their stress when applying some medical intervention—even a painful procedure—lessens the likelihood that patients will build up negative and anxious associations about medicine and health care.

Certain respondent conditioning concepts are especially useful in the healthcare setting. *Stimulus generalization* is the tendency of initial learning experiences to be easily applied to other similar stimuli. For example, when listening to friends and relatives describe a hospital experience, it becomes apparent that a highly positive or negative personal encounter may color patients' evaluations of their hospital stays as well as their subsequent feelings about having to be hospitalized again. With more and varied experiences, individuals learn to differentiate

among similar stimuli, and we say that *discrimination learning* has occurred. As an illustration, patients who have been hospitalized a number of times often have learned a lot about hospitalization. As a result of their experiences, they make sophisticated distinctions and can discriminate among stimuli (e.g., what the various noises mean and what the various health professionals do) that novice patients cannot. Much of professional education and clinical practice involves moving from being able to make generalizations to discrimination learning.

Spontaneous recovery is a useful respondent conditioning concept that needs to be given careful consideration in relapse prevention programs. The principle of the concept operates as follows: Although a response may appear to be extinguished, it may recover and reappear at any time (even years later), especially when stimulus conditions are similar to those in the initial learning experience. Spontaneous recovery helps us understand why it is so difficult to completely eliminate unhealthy habits and addictive behaviors such as smoking, alcoholism, or drug abuse.

Another widely recognized approach to learning is *operant conditioning*, which was developed largely by B. F. Skinner (1974, 1989). Operant conditioning focuses on the behavior of the organism and the reinforcement that occurs after the response. A reinforcer is a stimulus or event applied after a response that strengthens the probability that the response will be performed again. When specific responses are reinforced on the proper schedule, behaviors can be either increased or decreased.

Table 3–1 summarizes the principal ways to increase and decrease responses by applying the contingencies of operant conditioning. Understanding the dynamics of learning presented in this table can prove useful in assessing and identifying ways to change individuals' behaviors in the healthcare setting. The key is to carefully observe individuals' responses to specific stimuli and then decide the best reinforcement procedures to use to change a behavior.

Two methods to *increase* the probability of a response are to apply positive or negative reinforcement after a response occurs. According to Skinner (1974), giving positive reinforcement (i.e., reward) greatly enhances the likelihood that a response will be repeated in similar circumstances. As an illustration, although a patient moans and groans as he attempts to get up and walk for the first time after an operation, praise and encouragement (reward) for his efforts at walking (response) will improve the chances that he will continue struggling toward independence.

A second way to increase a behavior is by applying negative reinforcement after a response is made. This form of reinforcement involves the removal of an unpleasant stimulus through either escape conditioning or avoidance conditioning. The difference between the two types of negative reinforcement relates to timing.

In *escape conditioning*, as an unpleasant stimulus is being applied, the individual responds in some way that causes the uncomfortable stimulation to cease. Suppose, for example, that when a member of the healthcare team is being chastised in front of the group for being late and missing meetings, she says something humorous. The head of the team stops criticizing her and laughs. Because the use of humor has allowed the team member to escape an unpleasant situation, chances are that she will employ humor again to alleviate a stressful encounter and thereby deflect attention from her problem behavior.

In *avoidance conditioning*, the unpleasant stimulus is anticipated rather than being applied

Table 3–1 OPERANT CONDITIONING MODEL: CONTINGENCIES TO INCREASE AND DECREASE THE PROBABILITY OF AN ORGANISM'S RESPONSE

I. To *increase* the probability of a response:

    A. *Positive reinforcement:* application of a pleasant stimulus

       Reward conditioning: a pleasant stimulus is applied following an organism's response

    B. *Negative reinforcement:* removal of an aversive or unpleasant stimulus

       Escape conditioning: as an aversive stimulus is applied, the organism makes a response that causes the unpleasant stimulus to cease

       Avoidance conditioning: an aversive stimulus is anticipated by the organism, which makes a response to avoid the unpleasant event

II. To *decrease* or extinguish the probability of a response:

    A. *Nonreinforcement:* an organism's conditioned response is not followed by any kind of reinforcement (positive, negative, or punishment)

    B. *Punishment:* following a response, an aversive stimulus that the organism cannot escape or avoid is applied

directly. Avoidance conditioning has been used to explain some people's tendency to become ill so as to avoid doing something they do not want to do. For example, a child fearing a teacher or test may tell his mother that he has a stomachache. If allowed to stay home from school, the child increasingly may complain of sickness to avoid unpleasant situations. Thus, when fearful events are anticipated, sickness, in this case, is the behavior that has been increased through negative reinforcement.

According to operant conditioning principles, behaviors also may be *decreased* through either nonreinforcement or punishment. Skinner (1974) maintained that the simplest way to extinguish a response is not to provide any kind of reinforcement for some action. For example, offensive jokes in the workplace may be handled by showing no reaction; after several such expe-

riences, the joke teller, who more than likely wants attention—and negative attention is preferable to no attention—may curtail his or her use of offensive humor. Keep in mind, too, that desirable behavior that is ignored may lessen as well.

If nonreinforcement proves ineffective, then punishment may be employed as a way to decrease responses, although there are risks in using this approach. Under punishment conditions, the individual cannot escape or avoid an unpleasant stimulus. Suppose, for example, the healthcare team member's attempt at humor is met by the leader's curt remark, "You are continually a source of difficulty in this group, and if this continues, your job is in jeopardy," embarrassing her in front of her peers. The problem with using punishment as a technique for teaching is that the learner may become highly

emotional and may well divert attention away from the behavior that needs to be changed. Some people who are being punished become so emotional (sad or angry) that they do not remember the behavior for which they are being punished. One of the cardinal rules of operant conditioning is to "punish the behavior, not the person."

If punishment is employed, it should be administered immediately after the response with no distractions or means of escape. Punishment must also be consistent and at the highest reasonable level (e.g., health professionals who apologize and smile as they admonish the behavior of a staff member or client are sending out mixed messages and are not likely to be taken seriously or to decrease the behavior they intend). Moreover, punishment should not be prolonged (bringing up old grievances or complaining about a misbehavior at every opportunity), but there should be a time-out following punishment to eliminate the opportunity for positive reinforcement. The purpose of punishment is not to do harm or to serve as a release for anger; rather, the goal is to decrease a specific behavior and to instill self-discipline.

The use of reinforcement is central to the success of operant conditioning procedures. For operant conditioning to be effective, it is necessary to assess what kinds of reinforcement are likely to increase or decrease behaviors for each individual. Not every client, for example, finds health practitioners' terms of endearment rewarding. Comments such as "Very nice job, dear," may be presumptuous or offensive to some clients. A second issue involves the timing of reinforcement. Through experimentation with animals and humans, it has been demonstrated that the success of operant conditioning procedures partially depends on the schedule of reinforcement. Initial learning requires a continuous schedule, reinforcing the behavior quickly every time it occurs. If the desired behavior does not occur, then responses that approximate or resemble it can be reinforced, gradually shaping behavior in the direction of the goal for learning. As an illustration, for geriatric patients who appear lethargic and unresponsive, nurses or physicians might begin by rewarding small gestures such as eye contact or a hand that reaches out, then build on these friendly behaviors toward greater human contact and connection with reality. Once a response is well established, however, it becomes ineffective and inefficient to continually reinforce the behavior; reinforcement then can be administered on a fixed (predictable) or variable (unpredictable) schedule after a given number of responses have been emitted or after the passage of time.

Operant conditioning techniques provide relatively quick and effective ways to change behavior. Carefully planned programs using behavior modification procedures can readily be applied to health care. For example, computerized instruction and tutorials for patients and staff rely heavily on operant conditioning principles in structuring learning programs. In the clinical setting, the families of chronic back pain patients have been taught to minimize their attention to the patients whenever they complain and behave in dependent, helpless ways, but to pay a lot of attention when the patients attempt to function independently, express a positive attitude, and try to live as normal a life as possible. Some patients respond so well to operant conditioning that they report experiencing less pain as they become more active and involved. Operant conditioning and behavior modification techniques also have been found to

work well with some nursing home and long-term care residents, especially those who are losing their cognitive skills (Proctor, Burns, Powell, & Tarrier, 1999).

The behaviorist theory is simple and easy to use, and it encourages clear, objective analysis of observable environmental stimulus conditions, learner responses, and the effects of reinforcements on people's actions. There are, however, some criticisms and cautions to consider. First, this is a teacher-centered model in which learners are assumed to be relatively passive and easily manipulated, which raises a crucial ethical question: who is to decide what the desirable behavior should be? Too often the desired response is conformity and cooperation to make someone's job easier or more profitable. Second, the theory's emphasis on extrinsic rewards and external incentives reinforces and promotes materialism rather than self-initiative, a love of learning, and intrinsic satisfaction. Third, research evidence supporting behaviorist theory is often based on animal studies, the results of which may not be applicable to human behavior. A fourth shortcoming of behavior modification programs is that clients' changed behavior may deteriorate over time, especially once they are back in their former environment—an environment with a system of rewards and punishments that may have fostered their problems in the first place.

We now move from focusing on responses and behavior to the role of mental processes in learning.

Cognitive Learning Theory

While behaviorists generally ignore the internal dynamics of learning, cognitive learning theorists stress the importance of what goes on inside the learner. Cognitive theory is assumed to be comprised of a number of subtheories and is widely used in education and counseling. The key to learning and changing is the individual's cognition (perception, thought, memory, and ways of processing and structuring information). Cognitive learning, a highly active process largely directed by the individual, involves perceiving the information, interpreting it based on what is already known, and then reorganizing the information into new insights or understanding (Bandura, 2001; Hunt, Ellis, & Ellis, 2004).

Cognitive theorists, unlike behaviorists, maintain that reward is not necessary for learning. More important are learners' goals and expectations, which create disequilibrium, imbalance, and tension that motivate them to act. Educators trying to influence the learning process must recognize the variety of past experiences, perceptions, ways of incorporating and thinking about information, and diverse aspirations, expectations, and social influences that affect any learning situation. A learner's *metacognition*, or understanding of her way of learning, influences the process as well. To promote transfer of learning, the learner must mediate or act on the information in some way. Similar patterns in the initial learning situation and subsequent situations facilitate this transfer.

Cognitive learning theory includes several well-known perspectives, such as gestalt, information processing, human development, social constructivism, and social cognition theory. More recently, attempts have been made to incorporate considerations related to emotions within cognitive theory. Each of these perspectives emphasizes a particular feature of cognition, which, when pieced together, indicates much about what goes on inside the learner. As the various cognitive perspectives are briefly summa-

rized here, readers are encouraged to think of their potential applications in the healthcare setting. In keeping with cognitive principles of learning, being mentally active with information encourages memory and retention.

One of the oldest psychological theories is the *gestalt perspective*, which emphasizes the importance of perception in learning and laid the groundwork for the various other cognitive perspectives that followed (Kohler, 1947, 1969; Murray, 1995). Rather than focusing on discrete stimuli, gestalt refers to the configuration or patterned organization of cognitive elements, reflecting the maxim that the whole is greater than the sum of the parts. A principal assumption is that each person perceives, interprets, and responds to any situation in his or her own way. While there are many gestalt principles worth knowing (Hilgard & Bower, 1966), several will be discussed here as they relate to health care.
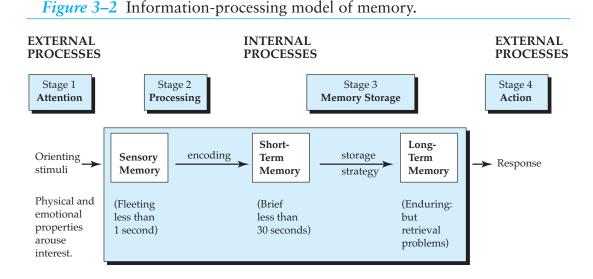
A basic gestalt principle is that psychological organization is directed toward simplicity, equilibrium, and regularity. For example, study the bewildered faces of some patients listening to a complex, detailed explanation about their disease, when what they desire most is a simple, clear explanation that settles their uncertainty and relates directly to them and their familiar experiences.

Another central gestalt principle is that perception is selective, which has several ramifications. First, because no one can attend to all the surrounding stimuli at any given time, individuals orient themselves to certain features of an experience while screening out or ignoring other features. Patients in severe pain or worried about their hospital bills may not attend to well-intentioned patient education information. Second, what individuals pay attention to and what they ignore are influenced by a host of fac-

tors: past experiences, needs, personal motives and attitudes, reference groups, and the particular structure of the stimulus or situation (Sherif & Sherif, 1969). Assessing these internal and external dynamics has a direct bearing on how a health educator approaches any learning situation with an individual or group. Moreover, because individuals vary widely with regard to these and other characteristics, they will perceive, interpret, and respond to the same event in different ways, perhaps distorting reality to fit their goals and expectations. This tendency helps explain why an approach that is effective with one client may not work with another client. People with chronic illnesses—even different people with the same illness—are not alike, and helping any patient with disease or disability includes recognizing each person's unique perceptions and subjective experience (Imes, Clance, Gailis, & Atkeson, 2002).

Information processing is a cognitive perspective that emphasizes thinking processes: thought, reasoning, the way information is encountered and stored, and memory functioning (Gagné, 1985; Sternberg, 2006). How information is incorporated and retrieved is useful for health professionals to know, especially in relation to older people's learning (Hooyman & Kiyak, 2005; Kessels, 2003).

An information-processing model of memory functioning is illustrated in **Figure 3–2**. Tracking learning through the various stages is helpful in assessing what happens to information as it is perceived, interpreted, and remembered by each learner, which, in turn, may suggest ways of improving the structure of the learning situation as well as how to correct misconceptions, distortions, and errors in learning.

The first stage in the memory process involves paying attention to environmental

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Figure 3–2 Information-processing model of memory.

stimuli; attention, then, is the key to learning. Thus, if a client is not attending to what a nurse educator is saying, perhaps because the client is weary or distracted, it would be prudent to try the explanation at another time when he is more receptive and attentive.

In the second stage, the information is processed by the senses. Here it becomes important to consider the client's preferred mode of sensory processing (visual, auditory, or motor manipulation) and to ascertain whether there are sensory deficits.

In the third stage, the information is transformed and incorporated (encoded) briefly into short-term memory, after which it is either disregarded and forgotten or stored in long-term memory. Long-term memory involves the organization of information by using a preferred strategy for storage (e.g., imagery, association, rehearsal, or breaking the information into units). While long-term memories are enduring, a central problem is retrieving the stored information at a later time.

The last stage involves the action or response that the individual makes on the basis of how information was processed and stored. Education involves assessing how a learner attends to, processes, and stores the information that is presented as well as finding ways to encourage the retention and retrieval processes. Errors are corrected by helping learners reprocess what needs to be learned (Kessels, 2003).

In general, cognitive psychologists note that memory processing and the retrieval of information are enhanced by organizing information and making it meaningful. A widely used descriptive model has been provided by Robert Gagné (1985). Subsequently, Gagné and his colleagues outlined nine events and their corresponding cognitive processes that activate effective learning (Gagné, Briggs, & Wagner, 1992):

- Gain the learner's attention (reception)
- Inform the learner of the objectives and expectations (expectancy)

- Stimulate the learner's recall of prior learning (retrieval)
- Present information (selective perception)
- Provide guidance to facilitate the learner's understanding (semantic encoding)
- Have the learner demonstrate the information or skill (responding)
- Give feedback to the learner (reinforcement)
- Assess the learner's performance (retrieval)
- Work to enhance retention and transfer through application and varied practice (generalization)

In employing this model, instructors must carefully analyze the requirements of the activity, design and sequence the instructional events, and select appropriate media to achieve the outcomes.

Within the information-processing perspective, Sternberg (1996) reminds us to consider styles of thinking, which he defined as "a preference for using abilities in certain ways" (p. 347). Thinking styles concern differences, he noted, and not judgments of better or worse. In education, the instructor's task is to get in touch with the learner's way of processing information and thinking. Some implications for health care are the need to carefully match jobs with styles of thinking, to recognize that people may shift from preferring one style of thinking to another, and, most important, to appreciate and respect the different styles of thinking reflected among the many players in the healthcare setting (see Chapter 4 on learning styles). Yet striving for a match in styles is not always necessary or desirable. Tennant (2006) notes that adult learners may actually benefit from grappling with views

and styles of learning unlike their own, which may promote maturity, creativity, and a greater tolerance for differences. Since nurses are expected to instruct a variety of people with diverse styles of learning, Tennant's suggestion has interesting implications for nursing education programs.

The information-processing perspective is particularly helpful for assessing problems in acquiring, remembering, and recalling information. Some strategies include the following: (1) have learners indicate how they believe they learn (metacognition); (2) ask them to describe what they are thinking as they are learning; (3) evaluate learners' mistakes; and (4) give close attention to their inability to remember or demonstrate information. For example, forgetting or having difficulty in retrieving information from long-term memory is a major stumbling block in learning. This problem may occur because the information has faded from lack of use, other information interferes with its retrieval (what comes before or after a learning session may well confound storage and retrieval), or individuals are motivated to forget for a variety of conscious and unconscious reasons. This material on memory processing and functioning is highly pertinent to healthcare practice—whether in developing health education brochures, engaging in one-to-one patient education, delivering a staff development workshop, preparing community health lectures, or studying for one's courses and examinations. Focusing on attention, storage, and memory is essential in the patient education of older adults, including the identification of fatigue, medications, and anxieties that may interfere with learning and remembering (Kessels, 2003).

Heavily influenced by gestalt psychology, *cognitive development* is a third perspective on learning that focuses on qualitative changes in perceiving,

thinking, and reasoning as individuals grow and mature (Santrock, 2006; Vander Zanden, Crandell, & Crandell, 2007). Cognitions are based on how external events are conceptualized, organized, and represented within each person's mental framework or schema, which is partially dependent on the individual's stage of development in perception, reasoning, and readiness to learn.

Much of the theory and research in this area has been concerned with identifying the characteristics and advances in the thought processes of children and adolescents. A principal assumption is that learning is a developmental, sequential, and active process that transpires as the child interacts with the environment, makes discoveries about how the world operates, and interprets these discoveries in keeping with what s/he knows (schema).

Jean Piaget is the best-known of the cognitive developmental theorists. His observations of children's perceptions and thought processes at different ages have contributed much to our recognition of the unique, changing abilities of youngsters to reason, conceptualize, communicate, and perform (Piaget & Inhelder, 1969). By watching, asking questions, and listening to children, Piaget identified and described four sequential stages of cognitive development (sensorimotor, preoperational, concrete operations, and formal operations). These stages become evident over the course of infancy, early childhood, middle childhood, and adolescence, respectively (see Chapter 5 on developmental stages). According to Piaget's theory of cognitive learning, children take in information as they interact with people and the environment. They either make their experiences fit with what they already know (assimilation) or change their perceptions and interpretations in keeping with the new information (accommodation).

Health professionals and family members need to determine what children are perceiving and thinking in a given situation. As an illustration, young children usually do not comprehend fully that death is final. They respond to the death of a loved one in their own way, perhaps asking God to give back the dead person or believing that if they act like a good person, the deceased loved one will return to them (Gardner, 1978).

Within the cognitive development perspective are some differences worth considering. For example, while Piaget stressed the importance of perception in learning and viewed children as little scientists exploring, interacting, and discovering the world in a relative solitary manner, Russian psychologist Lev Vygotsky (1986) emphasized the significance of language, social interaction, and adult guidance in the learning process. When teaching children, Vygotsky says the job of adults is to interpret, respond, and give meaning to children's actions. Rather than the discovery method favored by Piaget, Vygotsky advocated clear, well-designed instruction that is carefully structured to advance each person's thinking and learning.

In practice, some children may learn more effectively by discovering and putting pieces together on their own, whereas other children benefit from a more social and directive approach. It is the health educator's responsibility to identify the child's or teenager's stage of thinking, to provide experiences at an appropriate level for children to actively discover and participate in the learning process, and to determine whether a child learns best through language and social interaction or through perceiving and experimenting in his or her own way. Research suggests that young children's learning is often more solitary, whereas older children may learn more readily through social interaction (Palincsar, 1998).

What do cognitive developmental theorists say about adult learning? First, although the cognitive stages develop sequentially, some adults never reach the formal operations stage. These adults may learn better from explicitly concrete approaches to health education. Second, adult developmental psychologists and gerontologists have proposed advanced stages of reasoning in adulthood beyond formal operations. For example, it is not until the adult years that people become better able to deal with contradictions, synthesize information, and more effectively integrate what they have learned—characteristics that differentiate adult thought from adolescent thinking (Kramer, 1983). Third, older adults may demonstrate an advanced level of reasoning derived from their wisdom and life experiences, or they may reflect lower stages of thinking due to lack of education, disease, depression, extraordinary stress, or medications (Hooyman & Kiyak, 2005).

Research indicates that adults generally do better with self-directed learning (emphasizing learner control, autonomy, and initiative), an explicit rationale for learning, a problem-oriented rather than subject-oriented approach, and the opportunity to use their experiences and skills to help others (Tennant, 2006). Also, keep in mind that anxiety, the demands of adult life, and childhood experiences may interfere with learning in adulthood.

Because cognitive theory was criticized for neglecting the social context, the effects of social factors on perception, thought, and motivation are receiving increased attention. *Social constructivism* and *social cognition* are two increasingly popular perspectives within cognitive theory. Drawing heavily from gestalt psychology and developmental psychology, social constructivists take issue with some of the highly rational assumptions of the information-processing view and build on the works of John Dewey, Jean Piaget, and Lev Vygotsky (Palincsar, 1998). Social constructivists posit that individuals formulate or construct their own versions of reality and that learning and human development are richly colored by the social and cultural context in which people find themselves. A central tenet of this approach is that ethnicity, social class, gender, family life, past history, self-concept, and the learning situation itself all influence an individual's perceptions, thoughts, emotions, interpretations, and responses to information and experiences. A second principle is that effective learning occurs through social interaction, collaboration, and negotiation (Shapiro, 2002).

According to this view, the players in any healthcare setting may have differing perceptions of external reality, including distorted perceptions and interpretations. Every person operates on the basis of her or his unique representations and interpretations of a situation, all of which have been heavily influenced by that individual's social and cultural experiences. The impact of culture cannot be ignored, and learning is facilitated by sharing beliefs, by acknowledging and challenging differing conceptions, and by negotiating new levels of conceptual understanding (Marshall, 1998). Cooperative learning and self-help groups are examples of social constructivism in action. With America's rapidly changing age and ethnic composition, the social constructivist perspective has much to contribute to health education and health promotion efforts.

Rooted in social psychology, the social cognition perspective reflects a constructivist orientation and highlights the influence of social factors on perception, thought, and motivation. A host of scattered explanations can be found

under the rubric of social cognition (Fiske & Taylor, 1991; Moskowitz, 2005), which, when applied to learning, emphasize the need for instructors to consider the dynamics of the social environment and groups on both interpersonal and intrapersonal behavior. As an illustration, attribution theory concerns the cause-and-effect relationships and explanations that individuals formulate to account for their own and others' behavior and the way in which the world operates. Many of these explanations are unique to the individual and tend to be strongly colored by cultural values and beliefs. For example, patients with certain religious views or a particular parental upbringing may believe that their disease is a punishment for their sins (internalizing blame); other patients may attribute their disease to the actions of others (externalizing blame). From this perspective, patients' attributions may or may not promote wellness and well-being. The route to changing health behaviors is to change distorted attributions. The medical staff's prejudices, biases (positive and negative), and attributions need to be considered as well in the healing process.

Cognitive theory has been criticized for neglecting emotions, and recent efforts have been made to incorporate considerations related to emotions within a cognitive framework, known as the *cognitive-emotional perspective*. As Eccles and Wigfield (2002) commented, " 'cold' cognitive models cannot adequately capture conceptual change; there is a need to consider affect as well" (p. 127).

Several slightly different cognitive orientations to emotions have been proposed and are briefly summarized in the following list:

- Empathy and the moral emotions (e.g., guilt, shame, distress, moral outrage) play a significant role in influencing children's moral development and in motivating people's prosocial behavior and ethical responses (Hoffman, 2000).
- Memory storage and retrieval, as well as moral decision making, involve both cognitive and emotional brain processing, especially in response to situations that directly involve the self and are stressful (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001).
- Emotional intelligence (EI) entails managing one's emotions, self-motivation, reading the emotions of others, and working effectively in interpersonal relationships, which some argue is more important to leadership, social judgment, and moral behavior than cognitive intelligence (Goleman, 1995).
- Self-regulation includes monitoring cognitive processes, emotions, and one's surroundings to achieve goals, which is considered a key factor to successful living and effective social behavior (Eccles & Wigfield, 2002).

The implications are that nursing and other health professional education programs would do well to exhibit and encourage empathy and emotional intelligence in working with patients, family, and staff and to attend to the dynamics of self-regulation as a way to promote positive personal growth and effective leadership. Research indicates that the development of these attributes in self and patients is associated with a greater likelihood of healthy behavior, psychological well-being, optimism, and meaningful social interactions (Brackett, Lopes, Ivcevic, Mayer, & Salovey, 2004).

A significant benefit of the cognitive theory to health care is its encouragement of recognizing

and appreciating individuality and diversity in how people learn and process experiences. When applied to health care, cognitive theory has been useful in formulating exercise programs for breast cancer patients (Rogers, Matevey, Hopkins-Price, Shah, Dunnington, & Courneya, 2004), understanding individual differences in bereavement (Stroebe, Folkman, Hansson, & Schut, 2006), and dealing with adolescent depression in girls (Papadakis, Prince, Jones, & Strauman, 2006). Cognitive theory highlights the wide variation in how learners actively structure their perceptions; confront a learning situation; encode, process, store, and retrieve information; and manage their emotions, all of which are affected by social and cultural influences. The challenge to educators is to identify each learner's level of cognitive development and the social influences that affect learning, and then find ways to foster insight, creativity, and problem solving. Difficulties lie in ascertaining exactly what is transpiring inside the mind of each individual and in designing learning activities that encourage people to restructure their perceptions, reorganize their thinking, regulate their emotions, change their attributions and behavior, and create solutions.

The next learning theory to be discussed combines principles from both the behaviorist and cognitive theories.

Social Learning Theory

Social learning theory is largely the work of Albert Bandura (1977; 2001), who mapped out a perspective on learning that includes consideration of the personal characteristics of the learner, behavior patterns, and the environment. The theory has gone through several "paradigm shifts" (2001, p. 2). In early formulations, he emphasized behaviorist features and the imitation of role models; next the focus was on cog-

nitive considerations, such as the attributes of the self and the internal processing of the learner. More recently, his attention turned to the impact of social factors and the social context within which learning and behavior occur. As the model has evolved, the learner has become viewed as central (what Bandura calls a "human agency"), which suggests the need to identify what learners are perceiving and how they are interpreting and responding to social situations. As such, careful consideration needs to be given to the healthcare environment as a social situation.
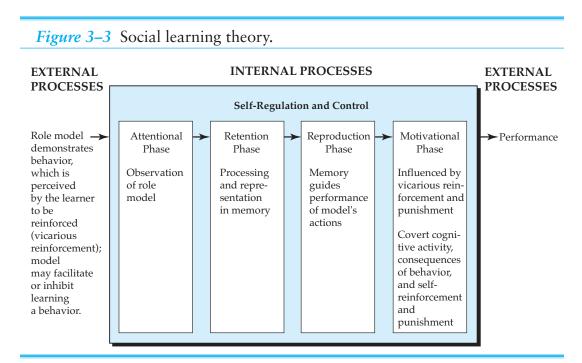
One of Bandura's early observations was that individuals need not have direct experiences to learn; considerable learning occurs by taking note of other people's behavior and what happens to them. Thus, learning is often a social process, and other individuals, especially significant others, provide compelling examples or role models for how to think, feel, and act. *Role modeling* is a central concept of the theory. As an example, a more experienced nurse who demonstrates desirable professional attitudes and behaviors sometimes is used as a mentor for a less experienced nurse. Research indicates that nurse managers' attitudes and actions—ensuring safety, integrating knowledge with practice, sharing feelings, challenging staff nurses and students, and their competence and willingness to provide guidance to others—influence the outcomes of the clinical supervision process (Berggren & Severinsson, 2006). How nurse mentors perceive their role is an important consideration in the leadership selection process (Neary, 2000).

Vicarious reinforcement is another concept from the social learning theory and involves determining whether role models are perceived as rewarded or punished for their behavior. Reward

is not always necessary, however, and the behavior of a role model may be imitated even when no reward is involved for either the role model or the learner. In many cases, however, whether the model is viewed by the observer as rewarded or punished may have a direct influence on learning. This relationship may be one reason why it is difficult to attract health professionals to geriatric care. Although some highly impressive role models work in the field, geriatric health care is often accorded lower status with less pay in comparison to other specialty areas.

While social learning theory is based partially on behaviorist principles, the self-regulation and control that the individual exerts in the process of acquiring knowledge and changing behavior are considered more critical and are more reflective of cognitive principles. Bandura (1977) out-

lined a four-step, largely internal process that directs social learning, as can be seen in **Figure 3–3**. Although some components are similar to the information processing model described previously, a principal difference is the inclusion of a motivational component in the social learning theory model.

First is the attentional phase, a necessary condition for any learning to occur. Research indicates that role models with high status and competence are more likely to be observed, although the learner's own characteristics (needs, self-esteem, competence) may be the more significant determiner of attention. Second is the retention phase, which involves the storage and retrieval of what was observed. Third is the reproduction phase, where the learner copies the observed behavior. Mental rehearsal, immediate

Figure 3–3 Social learning theory.

enactment, and corrective feedback strengthen the reproduction of behavior. Fourth is the motivational phase, which focuses on whether the learner is motivated to perform a certain type of behavior. Reinforcement or punishment for a role model's behavior, the learning situation, and the appropriateness of subsequent situations where the behavior is to be displayed all affect a learner's performance (Bandura, 1977; Gage & Berliner, 1998). Well suited to conducting health education and staff development training, this organized approach to learning requires attention to the social environment, the behavior to be performed, and the individual learner (Bahn, 2001).

Reflecting a constructivist orientation, Bandura (2001) shifted his focus to sociocultural influences, viewing the learner as the agent through which learning experiences are filtered. As he argues, the human mind is not just reactive; it is generative, creative, and reflective. Essentially, the individual engages in a transactional relationship between the social environment and the self, where sociocultural factors are mediated by "psychological mechanisms of the self-system to produce behavioral effects" (p. 4). In his model, Bandura stressed the internal dynamics of personal selection, intentionality, self-regulation, self-efficacy, and self-evaluation in the learning process. Culture and self-efficacy play a key role, with Bandura noting that individualistic cultures interpret self-efficacy differently than group-oriented cultures. However defined, a low sense of self-efficacy in either kind of culture produces stress. This perspective applies particularly well to the acquisition of health behaviors and partially explains why some people select positive role models and effectively regulate their attitudes, emotions, and actions, whereas other people choose nega-

tive role models and engage in unhealthy and destructive behaviors. Healthcare professionals need to find ways to encourage patients' feelings of competency and to promote wellness rather than fostering dependency, helplessness, and feelings of low self-worth.

The social learning theory extends the learning process beyond the educator–learner relationship to the larger social world. The theory helps explain the socialization process as well as the breakdown of behavior in society. Responsibility is placed on the educator or leader to act as an exemplary role model and to choose socially healthy experiences for individuals to observe and repeat (requiring the careful evaluation of learning materials for stereotypes, mixed or hidden messages, and negative effects). Yet simple exposure to role models correctly performing a behavior that is rewarded (or performing some undesirable behavior that is punished) does not ensure learning. Attention to the learner's self-system and the dynamics of self-regulation may help sort out the varying effects of the social learning experience.

In health care, social learning theory has been applied to nursing education, to addressing psychosocial problems, and to maximizing the use of support groups. For example, research indicates that those managers who are aware of their roles and responsibilities in promoting a positive work environment enhance learning, competence, and satisfaction; dissatisfaction, of course, has a detrimental effect and is a significant cause of staff turnover (Kane-Urrabazo, 2006). Nurses have applied social learning principles successfully when working with teenage mothers (Stiles, 2005) and in addressing alcoholism among older adults (Akers, 1989). A major difficulty is that this theory is complex and not easily operationalized, measured, and assessed.

The final two theories to be reviewed in this chapter focus on the importance of emotions and feelings in the learning process.

Psychodynamic Learning Theory

Although not typically treated as a learning theory, some of the constructs from the psychodynamic theory (based on the work of Sigmund Freud and his followers) have significant implications for learning and changing behavior (Hilgard & Bower, 1966; Slipp, 2000). Largely a theory of motivation stressing emotions rather than cognition or responses, the psychodynamic perspective emphasizes the importance of conscious and unconscious forces in guiding behavior, personality conflicts, and the enduring effects of childhood experiences. As Pullen (2002) pointed out, negative emotions are important to recognize and assess in nurse–patient–doctor–family interactions, and the psychodynamic theory can be helpful in this regard.

A central principle of the theory is that behavior may be conscious or unconscious—that is, individuals may or may not be aware of their motivations and why they feel, think, and act as they do. According to the psychodynamic view, the most primitive source of motivation comes from the id and is based on libidinal energy (the basic instincts, impulses, and desires we are born with), which includes eros (the desire for pleasure and sex, sometimes called the "life force") and thanatos (aggressive and destructive impulses, or death wish). Patients who survive or die despite all predictions to the contrary provide illustrations of such primitive motivations. The id, according to Freud, operates on the basis of the pleasure principle—to seek pleasure and avoid pain. For example, dry, dull lectures given by nurse educators who go through the motions of the presentation without much enthusiasm or emotion inspire few people (patients, staff, or students) to listen to the information or heed the advice being given. This does not mean, however, that only pleasurable presentations will be acceptable.

The id (primitive drives) and superego (internalized societal values and standards, or the conscience) are mediated by the ego, which operates on the basis of the reality principle—rather than insisting on immediate gratification, people learn to take the long road to pleasure and to weigh the choices or dilemmas in the conflict between the id and superego. Healthy ego (self) development, as emphasized by Freud's followers, is an important consideration in the health fields. For example, patients with ego strength can cope with painful medical treatments because they recognize the long-term value of enduring discomfort and pain to achieve a positive outcome. Patients with weak ego development, in contrast, may miss their appointments and treatments or engage in short-term pleasurable activities that work against their healing and recovery. Helping patients develop ego strength and adjust realistically to a changed body image or lifestyle brought about by disease and medical interventions is a significant aspect of the learning and healing process. Nurses and other health professionals, too, require personal ego strength to cope with the numerous predicaments in the everyday practice of delivering care as they face conflicting values, ethics, and demands. Professional burnout, for example, is rooted in an overly idealized concept of the healthcare role and unrealistic expectations for the self in performing the role. Malach-Pines (2000) notes that burnout may stem from nurses' childhood experiences with lack of control.

When the ego is threatened, as can easily occur in the healthcare setting, *defense mechanisms* may be employed to protect the self. The short-term use of defense mechanisms is a way of coming to grips with reality. The danger comes in the overuse or long-term reliance on defense mechanisms, which allows individuals to avoid reality and may act as a barrier to learning and transfer. **Table 3–2** describes some of the more commonly used defense mechanisms. Because of the stresses involved in health care, knowledge of defense mechanisms is useful, whether nursing students are grappling with the challenges of nursing education, staff nurses are dealing with the strains of working in hospitals and long-term care facilities, or patients and their families are learning to cope with illness.

As an example of defense mechanisms in health care, Kübler-Ross (1969) pointed out that many terminally ill patients' initial reaction to being told they have a serious threat to their health and well-being is to employ the defense mechanism of denial. It is too overwhelming for patients to process the information that they are likely to die. While most patients gradually accept the reality of their illness, the dangers are that if they remain in a state of denial, they may not seek treatment and care, and if their illness is contagious, they may not protect others against infection. In turn, a common defense mechanism employed by healthcare staff is to intellectualize rather than deal realistically at an emotional level with the significance of disease and death. For example, one study reported that nurses may strive too quickly to classify terminally ill patients within a denial-acceptance framework and, as a result, may not listen to patients attempting to tell their stories and interpret their illness experiences (Telford, Kralik, & Koch, 2006). Protecting the self (ego)

Table 3–2 Ego Defense Mechanisms: Ways of Protecting the Self from Perceived Threat

Denial: ignoring or refusing to acknowledge the reality of a threat

Rationalization: excusing or explaining away a threat

Displacement: taking out hostility and aggression on other individuals rather than directing anger at the source of the threat

Depression: keeping unacceptable thoughts, feelings, or actions from conscious awareness

Regression: returning to an earlier (less mature, more primitive) stage of behavior as a way of coping with a threat

Intellectualization: minimizing anxiety by responding to a threat in a detached, abstract manner without feeling or emotion

Projection: seeing one's own unacceptable characteristics or desires in other people

Reaction formation: expressing or behaving the opposite of what is really felt

Sublimation: converting repressed feelings into socially acceptable action

Compensation: making up for weaknesses by excelling in other areas

by dehumanizing patients and treating them as diseases and body parts rather than as whole individuals (with spiritual, emotional, and physical needs) are occupational hazards for nurses and other health professionals.

Another central assumption of the psychodynamic theory is that personality development occurs in stages, with much of adult behavior derived from earlier childhood experiences and conflicts. One of the most widely used models of personality development is Erikson's (1968) eight stages of life, organized around a psychosocial crisis to be resolved at each stage (see Chapter 5). Treatment regimens, communication, and health education need to include considerations of the patient's stage of personality development. For example, in working with 4- and 5-year-old patients, where the crisis is initiative versus guilt, health professionals should encourage the children to offer their ideas and to make and do things themselves. Staff also must be careful not to make these children feel guilty for their illness or misfortune. As a second example, the adolescent's psychosocial developmental needs to have friends and to find an identity require special attention in health care. Adolescent patients may benefit from help and support in adjusting to a changed body image and in addressing their fears of weakness, lack of activity, and social isolation. One danger is that young people may treat their illness or impairment as a significant dimension of their identity and self-concept—well described in poet Lucy Grealy's personal account in *Anatomy of a Face* (1994).

According to the psychodynamic view, personal difficulties arise and learning is limited when individuals become fixated or stuck at an earlier stage of personality development. They then must work through their previously unresolved crises to develop and mature emotionally.

For example, some staff members and patients feel an inordinate need to control the self, other people, and certain social situations. This behavior may be rooted in their inability to resolve the crisis of trust versus mistrust at the earliest stage of life. In working with these individuals, it is essential to build a trusting relationship and to encourage them gradually to relinquish some control.

Past conflicts, especially during childhood, may interfere with the ability to learn or to transfer learning. What people resist talking about or learning, termed *resistance*, is an indicator of underlying emotional difficulties, which must be dealt with for them to move ahead emotionally and behaviorally. For instance, a young, pregnant teenager who refuses to engage in a serious conversation about sexuality (e.g., changes the subject, giggles, looks out into space, expresses anger) indicates underlying emotional conflicts that need to be addressed. One study explored psychodynamic sources of resistance among nursing students and how they engaged with or resisted the learning process. A number of factors requiring consideration surfaced, including childhood struggles, a history of overadaptation, self-image, and learning climate (Gilmartin, 2000).

Serious problems in miscommunication can occur in health care as a result of childhood learning experiences. For example, some physicians and nurses may have had the childhood experience of standing helplessly by watching someone they loved and once depended on endure disease, suffering, and death. Although they could do little as children to improve the situation, they may be compensating for their childhood feelings of helplessness and dependency as adults by devoting their careers to fending off and fighting disease and death. These motivations, however, may not serve them well

as they attempt to cope, communicate, and educate dying patients and their families.

Emotional conflicts are not always due to internal forces; society exerts pressures on individuals that promote emotional difficulties as well. The reluctance of health professionals to be open and honest with a terminally ill patient partially may be derived from American culture, which encourages medical personnel to fix their patients and extend life. Staff members may or may not be conscious of these pressures, but either way they are likely to feel guilty and that they are failures when dealing with a dying patient.

The concept of transfer has special meaning to psychodynamic theorists. *Transference* occurs when individuals project their feelings, conflicts, and reactions—especially those developed during childhood with significant others such as parents—onto authority figures and other individuals in their lives. The danger is that the relationship between the health professional and the patient may become distorted and unrealistic because of the biases inherent in the transference reaction. For example, because patients are sick, they may feel helpless and dependent and then regress to an earlier stage in life when they relied on their parents for help and support. Their childhood feelings and relationship with a parent—for better or worse—may be transferred to a nurse or physician taking care of them. While sometimes flattering, the love and dependency that patients feel may operate against the autonomy and independence needed to get back on their feet. A particular patient may also remind a staff member of someone from her or his past, creating a situation of countertransference.

The psychodynamic approach reminds health professionals to pay attention to emotions, unconscious motivations, and the psychological

growth and development of all those involved in health care and learning. Health care rests on both interpersonal and intrapersonal processes involved in the therapeutic use of the self in carrying out patient care (Gallop & O'Brien, 2003). Psychodynamic theory is well suited to understanding patient and family noncompliance (Menahern & Halasz, 2000), trauma and loss (Duberstein & Masling, 2000), palliative care and the deeply emotional issues of terminal illness (Chochinov & Breitbart, 2000), and the anxieties of working with long-term psychiatric residents (Goodwin & Gore, 2000). From a professional perspective, when examining the problems of bullying nurse managers or the failure of nurses to formally report incidents of violence and aggression, results indicated the need to consider childhood and adult experiences with abuse and violence, as well as guilt, low self-image, and cultural expectations about nurses (Ferns, 2006).

The psychodynamic approach has been criticized because much of the analysis is speculative and subjective, and the theory is difficult to operationalize and measure. Psychodynamic theory also can be used inappropriately; it is not the job of health professionals with little clinical psychology or psychiatric training to probe into the private lives and feelings of patients so as to uncover deep, unconscious conflicts. Another danger is that health professionals may depend on the many psychodynamic constructs as a way of intellectualizing or explaining away, rather than dealing with, people as individuals who need emotional care.

Humanistic Learning Theory

Underlying the humanistic perspective on learning is the assumption that each individual is unique and that all individuals have a desire
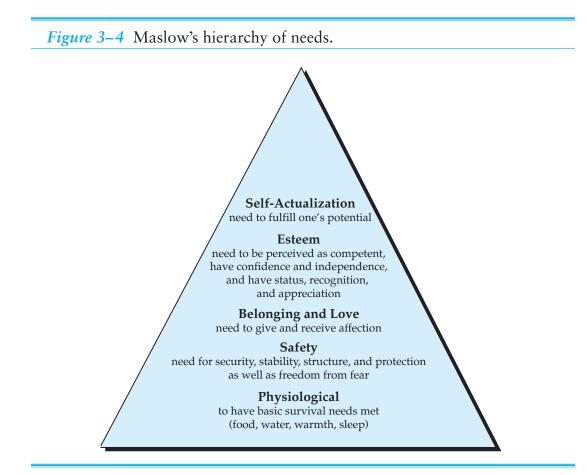
to grow in a positive way. Unfortunately, positive psychological growth may be damaged by some of society's values and expectations (e.g., males are less emotional than females, some ethnic groups are inferior to others, making money is more important than caring for people) and by adults' mistreatment of their children and each other (e.g., inconsistent or harsh discipline, humiliation and belittling, abuse and neglect). Spontaneity, the importance of emotions and feelings, the right of individuals to make their own choices, and human creativity are the cornerstones of a humanistic approach to learning (Rogers, 1994; Snowman & Biehler, 2006). Humanistic theory is especially compatible with nursing's focus on caring and patient centeredness—an orientation that is increasingly challenged by the emphasis in medicine and health care on science, technology, cost efficiency, for-profit medicine, bureaucratic organization, and time pressures.

Like the psychodynamic theory, the humanistic perspective is largely a motivational theory. From a humanistic perspective, motivation is derived from each person's needs, subjective feelings about the self, and the desire to grow. The transfer of learning is facilitated by curiosity, a positive self-concept, and open situations in which people respect individuality and promote freedom of choice. Under such conditions, transfer is likely to be widespread, enhancing flexibility and creativity.

Maslow (1954, 1987), a major contributor to humanistic theory, is perhaps best known for identifying the *hierarchy of needs* (**Figure 3–4**), which he says plays an important role in human motivation. At the bottom of the hierarchy are physiological needs (food, warmth, sleep); then come safety needs; then the need for belonging and love; followed by self-esteem. At the top of the hierarchy are self-actualization needs (maximizing one's potential). Additional considerations include cognitive needs (to know and understand) and, for some individuals, aesthetic needs (the desire for beauty). An assumption is that basic-level needs must be met before individuals can be concerned with learning and self-actualizing. Thus, clients who are hungry, tired, and in pain will be motivated to get these biological needs met before being interested in learning about their medications, rules for self-care, and health education. While intuitively appealing, research has not been able to support Maslow's hierarchy of needs with much consistency. For example, although some people's basic needs may not be met, they may nonetheless engage in creative activities, extend themselves to other people, and enjoy learning (Pfeffer, 1985).

Besides personal needs, humanists contend that self-concept and self-esteem are necessary considerations in any learning situation. The therapist Carl Rogers (1961, 1994) argued that what people want is unconditional positive self-regard (the feeling of being loved without strings attached). Experiences that are threatening, coercive, and judgmental undermine the ability and enthusiasm of individuals to learn. It is essential that those in positions of authority convey a fundamental respect for the people with whom they work. If a health professional is prejudiced against AIDS patients, then little will be healing or therapeutic in her relationship with them until she is genuinely able to feel respect for the patient as an individual.

Rather than acting as an authority, say humanists, the role of any educator or leader is to be a facilitator (Rogers, 1994). Listening—rather than talking—is the skill needed. Because the uniqueness of the individual is fun-

Figure 3–4 Maslow's hierarchy of needs.

Self-Actualization
need to fulfill one's potential

Esteem
need to be perceived as competent,
have confidence and independence,
and have status, recognition,
and appreciation

Belonging and Love
need to give and receive affection

Safety
need for security, stability, structure, and protection
as well as freedom from fear

Physiological
to have basic survival needs met
(food, water, warmth, sleep)

Source: Adapted from Maslow (1987).

damental to the humanistic perspective, much of the learning experience requires a direct relationship between the educator and the learner, with instruction tailored to the needs, self-esteem, and positive growth of each learner. Learners, not educators, choose what is to be learned, and within this framework educators serve as resource persons whose job is to encourage learners to make wise choices. Because the central focus is on learners' perceptions, desires, and decision making, the humanistic orienta-tion is referred to as a learner-directed approach (Snowman & Biehler, 2006).

Mastering information and facts is not the central purpose of the humanistic model of learning. Instead, fostering curiosity, enthusiasm, initiative, and responsibility is much more important and enduring and should be the primary goal of any educator. Rather than inserting health education videos into television sets for hospital patients to view or routinely distributing lots of pamphlets and pages of small-print instructions,

the humanist perspective would suggest establishing rapport and becoming emotionally attuned to patients and their family members. In professional education, the goal is to provide psychologically safe classrooms and clinical environments, where humanistic principles can be taught through caring, role modeling, small-group discussion, case discussions, attention to self-awareness and feelings, role playing, and videotaping students in the clinical setting followed by feedback and reflection (Biderman, 2003). Providing time for student reflection is essential, and instructor feedback must be given sensitively and thoughtfully (Fryer-Edwards, Arnold, Baile, Tulsky, Petracca, & Back, 2006).

Humanistic psychology contends that feelings and emotions are the keys to learning, communication, and understanding. Humanists worry that in today's stressful society, people can easily lose touch with their feelings, which sets the stage for emotional problems and difficulties in learning (Rogers, 1961). To humanists, "tell me how you feel" is a much more important instruction than "tell me what you think," as thoughts and admonitions (the latter of which Rogers calls "the shoulds") may be at odds with true feelings. Consider the implications of the following statements: (1) a young person who says, "I know I should go to medical school and become a doctor because I am smart and that is what my parents want, but I don't feel comfortable with sick people—I don't even like them!" or (2) the dying patient who says, "I realize that I am going to die and should be brave, but I feel so sad that I am losing my family, my friends, and my self; frankly, I am afraid of dying—all the pain and suffering, being a burden—I'm scared!" In both cases, humanists would argue, the overriding factor that will affect the behavior of the young person and the dying patient is their feelings, not their cognitions.

The humanistic learning theory has modified the approach to education and changing behavior by giving primary focus to the subjective needs and feelings of the learner and by redefining the role of the educator. Humanistic principles have been a cornerstone of self-help groups, wellness programs, and palliative care. Humanistic theory has also been found to be well suited to working with children and young patients undergoing separation anxiety due to illness, surgery, and recovery (Holyoake, 1998) and for working in the areas of mental health and palliative care (Barnard, Hollingum, & Hartfiel, 2006). Similar to psychodynamic theory, a principal emphasis is on the healing nature of the *therapeutic relationship* (Pearson, 2006) and the need for nursing students and health professionals to grow emotionally from their healthcare experiences (Block & Billings, 1998).

The humanistic theory has its weaknesses as well. Research has not been able to substantiate some of its strongest claims, and the theory has been criticized for promoting self-centered learners who cannot take criticism or compromise their deeply felt positions. Charged with being more of a philosophy—or a cult—than a science, the touchy-feely approach of humanists makes some learners and educators feel truly uncomfortable. Moreover, information, facts, memorization, drill, practice, and the tedious work sometimes required to master knowledge, which humanists minimize and sometimes disdain, have been found to contribute to significant learning, knowledge building, and skill development (Gage & Berliner, 1992).

Neuropsychology and Learning

One of the newest and most rapidly growing areas of psychology research involves investigations into the physiological and neurological

bases of thinking, learning, and behavior. Neuroscience research has implications for learning in several ways: (1) by documenting the dynamics of brain and central nervous system processing of information; (2) by understanding and working with children and adults who have neurological conditions, face mental health issues, or have learning disabilities; (3) by answering questions about the relationship between stress and learning; and (4) by providing evidence to support the assumptions of various learning theories or the integration of these theories.

Much of the information in these areas has been gained through advances in neuroimaging techniques such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET). Other methodologies include animal studies based on surgery, electrical recordings (EEG and ERP), and case studies of children and adults with head trauma, brain lesions, and neurological abnormalities (Byrnes, 2001). While the research findings highlight some of the underlying biological mechanisms of learning and provide evidence to support some of the principal constructs and dynamics of existing learning theories, there is as yet no coherent physiological or neuropsychological theory of learning.

In synthesizing neuropsychology research, some generalizations about learning can be made (Anderson, 1997; Gazzaniga, 2000; Page, 2006; Phelps, 2006; Shors, 2006; Silverstein & Uhlhaas, 2004). Each generalization, listed below, has implications for health education in the clinical setting, and readers are encouraged to formulate applications to nursing and health care.

- Emotions have been found to play a key role in Pavlovian conditioning, information processing, memory, and motivation. Emotions are considered to

interact with cognitive factors in any learning situation, suggesting that they cannot be ignored when teaching, learning, reasoning, or making decisions.
- Neuropsychology studies of learning have confirmed a number of learning theories and constructs, including gestalt principles, constructivism, Piaget's notions of assimilation and accommodation, and Freud's conceptualization of conscious and unconscious processes. Neurological studies also have documented physiological arousal and tracked attention, perception, and the organization of experience while learning.
- Learning is a function of physiological and neurological developmental changes that are ongoing and dynamic; the brain is less fixed than once thought, and it changes with learning and experience (called "plasticity").
- Brain processing is different for each learner; thus, gaining the learner's attention, controlling the pace of learning, and identifying the specific mechanisms for enhancing learning are unique for each person.
- Learning is an active, multifaceted, complex process that involves preferred and interacting sensory modes, is colored by the past and present social context, and is regulated largely by the learner on the basis of his or her development, experiences, and sense of self.
- Meaningful practice strengthens learning connections, which may fade from lack of use; thus, one-shot patient education efforts are not likely to be effective in changing behavior.
- Stress can interfere with or stimulate learning, although the responses to

stress may change with age and differ for males and females, or for those who have experienced traumatic events.

Neurophysiological aspects of learning become all the more germane for children and adults with physiological disorders; for those with mental, emotional, and behavioral problems; and for those facing the stresses of trauma, disease, disability, and socioeconomic hardship. Despite numerous neuroscientific studies related to learning, the research is in its early stages and remains fragmented, scattered, and lacking in integration. In addition, neuropsychological studies are often based on animal research or on highly specialized and restricted human samples, so few generalizations can be made about most people. Although addressing the various biological connections to learning is currently a popular and relatively well-funded area of research, there is a risk of reducing human behavior to mere biology while ignoring the individual as a person as well as the significance and complexity of psychological and social processes in any learning situation.

Comparison of Learning Theories

Table 3–3 provides a comparative summary of the five learning theories outlined in this chapter. Generalizations can be made about both the differences and the similarities in what the theories say about acquiring knowledge and changing feelings, attitudes, and behavior. With regard to some of the differences among the theories, each theory has its own assumptions, vocabulary, and way of conceptualizing the learning process. The theories differ in their emphasis on the relative influence of external or internal factors in learning, the view

of the learner as more passive or active, the task of the educator, the explanation of motivation, and the way in which the transfer of learning is accomplished.

A logical question is which of these five theories best describes or explains learning—which theory, in other words, would be the most helpful to health professionals interested in increasing knowledge or changing the behavior of patients, staff, or themselves? The answer to this question is that each theory contributes to understanding various aspects of the learning process and can be used singly or in combination to help practitioners acquire new information and alter existing thoughts, feelings, and behavior.

Each theory gives focus to important considerations in any learning situation, involving the consideration of external social factors and internal psychological processing. For example, behaviorists urge us to pay attention to and change stimulus conditions and to provide reinforcement to alter behavior. While criticized for being reductionistic, behaviorists' emphasis on manipulating the environment and reinforcements is admittedly simpler and easier than trying to undertake a massive overhaul of an individual's internal dynamics (perceptions, cognition, memory, feelings, and personality history and conflicts). Moreover, getting someone first to behave in a more appropriate way (abstaining from bad habits and engaging in healthy behavior) may not be as threatening or daunting to the learner as it would be to suggest the need for internal personality changes. Desired responses are modified and strengthened through practice; the new learned responses, in turn, may lead to more fundamental changes in attitudes and emotions. The social learning perspective is another relatively simple theory to use, stressing the importance of effective role models, who, by

Table 3–3 SUMMARY OF LEARNING THEORIES

Learning Procedures	Assumptions About the Learner	Educator's Task	Sources of Motivation	Transfer of Learning
		Behaviorist		
Environmental stimulus conditions and reinforcement promote changes in responses. To change behavior, change the environment.	Passive, reactive learner responds to environmental conditions (stimuli and reinforcement).	Active educator manipulates stimuli and reinforcement to direct learning and change.	Drive reduction.	Practice; similarity in stimulus conditions and responses between learning and new situations.
		Cognitive		
Internal perception and thought processing within context of human development promote learning and change. To change behavior, change cognitions.	Active learner determines patterning of experiences; is strongly influenced by attributions.	Active educator structures experiences (through organization and meaningfulness) to encourage the reorganization of cognitions.	Goals. Expectations. Disequilibrium.	Mental and physical activity. Common patterns. Understanding. Learning to learn.
		Social Learning		
External role models and their perceived reinforcement along with learner's internal influences. To change behavior, change role models, perceived reinforcement, and the learner's self-regulating mechanisms.	Active learner observes others and regulates decision to reproduce behavior.	Active educator models behavior, encourages perception of reinforcement, carefully evaluates learning materials for social messages, and attempts to influence learner's self-regulation.	Socialization experiences, role models, and self-reactive influences (observe self, set goals, and reinforce performance).	Similarity of setting and role models' behavior.

Table 3–3 SUMMARY OF LEARNING THEORIES (CONTINUED)

Learning Procedures	Assumptions About the Learner	Educator's Task	Sources of Motivation	Transfer of Learning
		Psychodynamic		
Internal forces such as developmental stage, childhood experiences, emotional conflicts, and ego strength influence learning and change. To change behavior, change interpretations and make unconscious motivations conscious.	Active learner's lifestyle, past experiences, and current emotional conflicts influence what is learned and how it is remembered and performed.	Educator as a reflective interpreter makes sense of learner's personality and motivation by listening and posing questions to stimulate conscious awareness, insight, and ego strength.	Pleasure principle and reality principle. Imbalance. Conscious and unconscious influence of conflict, development, and defense mechanisms.	Personality conflict, resistance, and transference associated with learning situations may act as barrier.
		Humanistic		
Internal feelings about self, ability to make wise choices, and needs affect learning and change. To change behavior, change feelings, self-concept, and needs.	Active learner attempts to actualize potential for positive self-growth and confirm self-concept; is spontaneous, creative, and playful.	Facilitative educator encourages positive self-growth, listens empathetically, allows freedom of choice, and respects learner.	Needs, desire for positive self-growth, and confirmation of self-concept.	Positive or negative feelings about self and freedom to learn promote or inhibit transfer.

their example, demonstrate exactly what behavior is expected.

Cognitive, social learning, psychodynamic, and humanistic theories remind us to consider internal factors—perceptions, thoughts, ways of processing information, feelings, and emotions. These factors cannot be ignored because, ultimately, it is the learner who controls and regulates learning: how information is perceived, interpreted, and remembered, and whether the new knowledge is expressed or performed.

In practice, learning theories should not be considered to be mutually exclusive but rather to operate together to change attitudes and behavior. For example, patients undergoing painful procedures are first taught systematic desensitization (behaviorist) and while experiencing pain or discomfort are encouraged to employ imagery, such as thinking about a favorite, beautiful place or imagining the healthy cells gobbling up the unhealthy cells (cognitive). Staff members are highly respectful, upbeat, and emotionally supportive of each patient (humanistic) and create the time and opportunity to listen to patients discuss some of their deepest fears and concerns (psychodynamic). Waiting rooms and lounge areas for patients and their families are designed to be comfortable, friendly, and pleasant to facilitate conversation and interaction, while support groups may help patients and family members learn from each other about how to cope with illness or disability and how to regulate their emotions so that their health is not further compromised (social learning).

Another generalization from this discussion is that some learning theories are better suited to certain kinds of individuals than to others. While theoretical assumptions about the learner range from passive to highly active, passive individuals may learn more effectively from behav-

iorist techniques, whereas curious, highly active, and self-directed persons may do better with cognitive and humanistic approaches. Also, keep in mind that some learners require external reinforcement and incentives, whereas other learners do not seem to need—and may even resent—attempts to manipulate and reinforce them.

Individuals who are well educated, verbal, and reflective may be better candidates for cognitive and psychodynamic approaches, whereas behaviorist approaches may be more suitable for persons whose cognitive processes are impaired or who are uncomfortable dealing with abstractions or scrutinizing and communicating their thoughts and emotions.

In addition, each individual's preferred modes of learning and processing may help determine the selection of suitable theoretical approaches. That is, while some individuals learn by acting and responding (behaviorist), the route to learning for others may be through perceptions and thoughts (cognitive) or through feelings and emotions (humanistic and psychodynamic). Most people appear to benefit from demonstration and example (social learning).

Common Principles of Learning

Taken together, the theories discussed in this chapter indicate that learning is a more complicated process than any one theory implies. Besides the distinct considerations for learning suggested by each theory, the similarities among the perspectives point to some core features of learning. The issues raised at the beginning of the chapter can be addressed by synthesizing the learning theories and identifying their common principles.

1. *How Does Learning Occur?*

Learning is an active process that takes place as individuals interact with their environment and incorporate new information or experiences with what they already know or have learned. Factors in the environment that affect learning include the society and culture, the structure or pattern of stimuli, the effectiveness of role models and reinforcements, feedback for correct and incorrect responses, and opportunities to process and apply learning to new situations.

Furthermore, the individual exerts significant control over learning, often involving considerations of his or her developmental stage, past history (habits, cultural conditioning, socialization, childhood experiences, and conflicts), cognitive style, dynamics of self-regulation, conscious and unconscious motivations, personality (stage, conflicts, and self-concept), and emotions. Also, learners often have a preferred mode for taking in information (visual, motor, auditory, or symbolic), and, while some individuals may learn best on their own, others will benefit from expert guidance, social interaction, and cooperative learning.

Learning is an individual matter. Neuropsychology research is beginning to document the uniqueness of each person's way of actively perceiving and processing information, his or her flexibility and reactions to stress, and the impact of culture and emotions on how and what is learned.

A critical influence on whether learning occurs is motivation (see Chapter 6 on motivation). The learning theories reviewed here suggest that to learn, the individual must want to gain something (receive rewards and pleasure, meet goals and needs, confirm expectations, grow in positive ways, or resolve conflicts), which, in turn, arouses the learner by creating tension (drives to be reduced, disequilibrium, and imbalance) and the propensity to act or change behavior.

The relative success or failure of the learner's performance may affect subsequent learning experiences. In some cases, an inappropriate, maladaptive, or harmful previously learned behavior may need to be extinguished and then replaced with a more positive response. It is, of course, easier to instill new learning than to correct faulty learning.

2. *What Kinds of Experiences Facilitate or Hinder the Learning Process?*

The educator exerts a critical influence on learning through role modeling, the selection of learning theories, and how the learning experience is structured for each learner. To be effective, educators must have knowledge (of the material to be learned, the learner, the social context, and educational psychology), and they must be competent (be imaginative, flexible, and able to employ teaching methods; display solid communication skills; and have the ability to motivate others).

All the learning theories discussed in this chapter acknowledge the need to recognize and relate the new information to the learner's past experiences (old habits, culture, familiar patterns, childhood memories, feelings about the self, and what is valued, normative, and perceived as successful or rewarded in society). The ultimate control over learning rests with the learner, but effective educators influence and guide the process so that learners advance in their knowledge, perceptions, thoughts, emotional maturity, and behavior.

Ignoring these considerations, of course, may hinder learning. Other impediments to learning may involve a lack of clarity and meaningfulness in what is to be learned, neglect or harsh punishment, fear, or negative or ineffective role models. Providing inappropriate materials for the individual's ability, readiness to learn, or stage of life-cycle development is another obstacle to learning. Moreover, individuals are unlikely to want to learn if they have had detrimental socialization experiences, are deprived of stimulating environments, and are without goals and realistic expectations for themselves.

3. What Helps Ensure That Learning Becomes Relatively Permanent?

Four considerations assist learning in becoming permanent. First, the likelihood of learning is enhanced by organizing the learning experience, making it meaningful and pleasurable, recognizing the role of emotions in learning, and by pacing the presentation in keeping with the learner's ability to process information. Second, practicing (mentally and physically) new knowledge or skills under varied conditions strengthens learning. The third issue concerns reinforcement. Although reinforcement may or may not be necessary, some theorists have argued that it may be helpful because it serves as a signal to the individual that learning has occurred.

A fourth consideration involves whether learning transfers beyond the initial educational setting. Learning cannot be assumed to be relatively lasting or permanent; it must be assessed and evaluated by the educator soon after the learning experience has occurred as well as by follow-up measurements at later times. Research skills, knowledge of evaluation procedures, and the willingness and resources to engage in educational assessment are now considered essential responsibilities of the educator in carrying out the teaching/learning process. Evaluation feedback can then be used by the nurse educator to revamp and revitalize learning experiences.

State of the Evidence

The study of learning in educational psychology is based on evidence from research similar to that advocated in nursing, medicine, and health care. Rather than assuming the instructor knows best, we gather evidence and test learning theories, teaching methods, and what is believed to be true about learners, teachers, and the environment. The research results are then evaluated for the purpose of modifying the theories, methods, and assumptions about learning.

Ideally in health education, existing research in psychology, nursing, and medicine is used to design learning experiences for patients, families, and communities. The same is true for developing, implementing and evaluating teaching and learning experiences for nursing students and staff. On the basis of the research findings, what does not work is eliminated, modifications are made grounded in additional research, and new programs are attempted and assessed. Educational accountability is stressed, and decisions about how to educate must be justified on the basis of data and research.

The applications of the learning theories and principles discussed in this chapter are illustrated by a number of research studies in nursing, psychology, education, and health care. It is the research that has allowed us to gain some confidence about choosing the most appropriate theories and principles for each educational experience, and it is the research that has helped us

hone our approach to teaching and learning in the healthcare setting. Educational research has confirmed many of the constructs and principles from the various learning perspectives. It also has provided evidence to dispute some of the conventional wisdom and myths about learning—helping us realize that punishment is not generally effective and may inhibit learning; males are not necessarily more intelligent than females; and when teaching people, there are a number of strongly held realities that may or may not be rational, which strongly influence each learner's processing of the educational experience. The research on learning in general and health care in particular clearly demonstrates there is no one-size-fits-all approach to educating patients, nursing students, or nursing staff. To be effective, educational experiences need to be refined and tailored to each individual learner.

Though many advancements have been made in understanding the learning process over the past century, much remains unknown and requires careful research, such as why some patients and nursing students are so much more eager to learn than others, what can be done to encourage reluctant learners to change their attitudes or behavior, how the various learning theories and principles can work together for every learner, and how the healthcare setting changes the teaching/learning situation. In the future, more interdisciplinary efforts between psychologists and nurses are needed to move us toward a more sophisticated level of research and understanding that can be applied to the healthcare setting.

Research is not a panacea, however. Critics charge that the widely promoted research-based evidence approach to education and health care is jargonistic, places the emphasis on outcomes rather than on the process of learning, and oversimplifies the complexity of learning in any attempt to measure and evaluate it. The challenges of measurement are immense and require a highly sophisticated knowledge of research methods and their weaknesses. Another problem is the lack of resources, support, and well-trained personnel needed to truly implement and sustain a research-based approach to teaching and learning (Ferguson & Day, 2005).

Summary

This chapter demonstrates that learning is complex. Readers may feel overwhelmed by the diverse theories, sets of learning principles, and cautions associated with employing the various approaches. Yet, like the blind men exploring the elephant, each theory highlights an important dimension that affects the overall learning process, and together the theories provide a wealth of complementary strategies and alternative options. There is, of course, no single best way to approach learning, although all the theories indicate the need to be sensitive to the unique characteristics and motivations of each learner. For additional sources of information about psychological theories of learning and health care, see **Table 3–4**.

Educators in the health professions cannot be expected to know everything about the teaching and learning process. More importantly, perhaps, is that they can determine what needs to be known, where to find the necessary information, and how to help individuals, groups, and themselves benefit directly from a learning situation. Psychology and nursing work well together. Psychology has much to contribute to healthcare practice, and nursing is in a strategic position to apply and test psychological principles, constructs, and theories in both the educational and clinical settings.

Table 3–4 PSYCHOLOGICAL THEORIES OF LEARNING AND HEALTHCARE: LINKS

Internet Educational Psychology resources (ERIC):
http://www.lib.muohio.edu/edpsych/internetresources.html

McMaster University: Evidence-based medicine links:
http://www.mlanet.org/education/telecon/ebhc/resource.html

U.S. Department of Education: Evidence-Based Education help desk:
http://www.whatworkshelpdesk.ed.gov

American Psychological Association (search for learning topics):
http://www.apa.org

National Institutes of Health (search for patient education topics):
http://www.nih.gov

Learning Theory Resources (Nova Southeastern University):
http://www.nova.edu/~burmeist/learning_theory.html

Learning Theory links (emTech.net):
http://www.emtech.net/learning_theories.htm

Nursing Patient Education resources (about.com):
http://nursing.about.com/od/patienteducation/Patient_Education_Tools_and_Information_for_Nurses.htm

REVIEW QUESTIONS

1. What are the five major learning theories discussed in this chapter?
2. What are the principal constructs and contributions of each of the five learning theories?
3. According to the concept of operant conditioning, what are three techniques to increase the probability of a response, and what are two techniques to decrease or extinguish the probability of a response?
4. What are some ways the behaviorist theory (which focuses on the environment and responses to it) and the cognitive perspective (which emphasizes the individual's internal processing) could be combined to facilitate knowledge acquisition or change a health behavior?
5. What is meant by the term *gestalt,* and to which major learning theory is it associated?
6. Which learning theory is a combination of the principles from both the behaviorist and cognitive perspectives?
7. Which perspective is based primarily on the theory of motivation and stresses emotions rather than cognition and stimulus-response connections?
8. How do the major learning theories compare to one another with regard to their similarities and differences?
9. How does motivation serve as the critical influence on whether learning occurs or not?
10. What types of experiences may facilitate or hinder the learning process?
11. What factors help ensure that learning becomes relatively permanent?
12. What are some ways that emotions might be given more explicit consideration in nurses' education and in patient education?
13. How has neuroscience research contributed to our understanding of learning and learning theories?

References

Akers, R. L. (1989). Social learning theory and alcohol behavior among the elderly. *Sociological Quarterly, 30,* 625–638.

Anderson, O. R. (1997). A neurocognitive perspective on current learning theory and science instructional strategies. *Science Education, 81,* 67–89.

Bahn, D. (2001). Social learning theory: Its application to the context of nurse education. *Nurse Education Today, 21,* 110–117.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52,* 1–26.

Barnard, A., Hollingum, C., & Hartfiel, B. (2006). Going on a journey: Understanding palliative care nursing. *International Journal of Palliative Nursing, 12,* 6–12.

Beck, M. H., Cataldo, M., Slifer, K. J., Pulbrook, V., & Guhman, J. K. (2005). Teaching children with attention deficit hyperactivity disorder (ADHD) and autistic disorder (AD) how to swallow pills. *Clinical Pediatrics, 44,* 515–526.

Berggren, I., & Severinsson, E. (2006). The significance of nurse supervisors' different ethical decision-making styles. *Journal of Nursing Management, 14,* 637–643.

Biderman, A. (2003). Family medicine as a frame for humanized medicine in education and clinical practice. *Public Health Review, 31,* 23–26.

Block, S., & Billings, J. A. (1998). Nurturing humanism through teaching palliative care. *Academic Medicine, 73,* 763–765.

Brackett, M. A., Lopes, P. N., Ivcevic, Z., Mayer, J. D., & Salovey, P. (2004). Integrating emotion and cognition: The role of emotional intelligence. In D. Y. Dai & R. J. Sternberg (Eds.), *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development* (pp. 175–194). Mahwah, NJ: Lawrence Erlbaum.

Bush, G. (2006). Learning about learning: From theories to trends. *Teacher Librarian, 34,* 14–18.

Byrnes, J. P. (2001). *Minds, brains, and learning: Understanding the psychological and educational relevance of neuroscientific research.* New York: Guilford.

Chochinov, H. M., & Breitbart, W. (Eds.). (2000). *Handbook of psychiatry in palliative medicine.* New York: Oxford University Press.

Dai, D. Y., & Sternberg, R. J. (Eds.). (2004). *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development.* Mahwah, NJ: Lawrence Erlbaum.

Deyl, S. G., & Kaliappan, K. V. (1997). Improvement of psychosomatic disorders among tension headache subjects using behaviour therapy and somatic inkblot series. *Journal of Projective Psychology and Mental Health, 4,* 113–120.

Duberstein, P. R., & Masling, J. M. (Eds.). (2000). *Psychodynamic perspectives on sickness and health.* Washington, DC: American Psychological Association.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53,* 109–132.

Erikson, E. (1968). *Identity: Youth and crisis.* New York: Norton.

Ferguson, L., & Day, R. A. (2005). Evidence-based nursing education: Myth or reality? *Journal of Nursing Education, 44,* 107–115.

Ferns, T. (2006). Under-reporting of violent incidents against nursing staff. *Nursing Standard, 20,* 41–45.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition.* New York: McGraw-Hill.

Fryer-Edwards, K., Arnold, R. M., Baile, W., Tulsky, J. A., Petracca, F., & Back, A. (2006). Reflective teaching practices: An approach to teaching communication skills in a small-group setting. *Academic Medicine,* 81, 638–644.

Gage, N. L., & Berliner, D. C. (1992). *Educational psychology* (5th ed.). Boston: Houghton Mifflin.

Gage, N. L., & Berliner, D. C. (1998). *Educational psychology* (6th ed.). Boston: Houghton Mifflin.

Gagné, R. M. (1985). *The conditions of learning* (4th ed.). New York: Holt, Rinehart & Winston.

Gagné, R. M., Briggs, L. J., & Wagner, W. W. (1992). *Principles of instructional design* (4th ed.). Fort Worth, TX: HBJ College Publishers.

Gallop, R., & O'Brien, L. (2003). Re-establishing psychodynamic theory as foundational knowledge for psychiatric/mental health nursing. *Issues in Mental Health Nursing, 24,* 213–227.

Gardner, H. (1978). *Developmental psychology: An introduction.* Boston: Little, Brown.

Gazzaniga, M. S. (Ed.). (2000). *The new cognitive neurosciences* (2nd ed.). Cambridge, MA: MIT Press.

Gilmartin, J. (2000). Psychodynamic sources of resistance among student nurses: Some observations in a human relations context. *Journal of Advanced Nursing, 32,* 1533–1541.

Goleman, D. (1995). *Emotional intelligence.* New York: Bantam Books.

Goodwin, A. M., & Gore, V. (2000). Managing the stresses of nursing people with severe and enduring mental illness: A psychodynamic observation study of a long-stay psychiatric ward. *British Journal of Medical Psychology, 73,* 311–325.

Grealy, L. (1994). *Anatomy of a face.* Boston: Houghton Mifflin.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science, 293,* 2105–2108.

Halpern, J. (2001). *From detached concern to empathy: Humanizing medical practice.* New York: Oxford University Press.

Hilgard, E. R. (1996). History of educational psychology. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 990–1004). New York: Simon & Schuster Macmillan.

Hilgard, E. R., & Bower, G. H. (1966). *Theories of learning* (3rd ed.). New York: Appleton-Century-Crofts.

Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. New York: Cambridge University Press.

Holyoake, D. D. (1998). A little lady called Pandora: An exploration of philosophical traditions of humanism and existentialism in nursing ill children. *Child Care, Health and Development, 24,* 325–336.

Hooyman, N., & Kiyak, H. A. (2005). *Social gerontology* (7th ed.). Boston: Allyn & Bacon.

Hunt, R. R., Ellis, H. C., & Ellis, H. (2004). *Fundamentals of cognitive psychology* (7th ed.). New York: McGraw-Hill.

Imes, S. A., Clance, P. R., Gailis, A. T., & Atkeson, E. (2002). Mind's response to the body's betrayal: Gestalt/existential therapy for clients with chronic or life-threatening illnesses. *Journal of Clinical Psychology, 58,* 1361–1373.

Kane-Urrabazo, C. (2006). Management's role in shaping organizational culture. *Journal of Nursing Management, 14,* 188–194.

Kessels, R. P. C. (2003). Patients' memory of medical information. *Journal of the Royal Society of Medicine, 96,* 219–222.

Kohler, W. (1947). *Gestalt psychology*. New York: Mentor Books.

Kohler, W. (1969). *The task of gestalt psychology*. Princeton, NJ: Princeton University Press.

Kramer, D. A. (1983). Post-formal operations? A need for further conceptualization. *Human Development, 26,* 91–105.

Kübler-Ross, E. (1969). *On death and dying*. New York: Macmillan.

Malach-Pines, A. (2000). Nurses' burnout: An existential psychodynamic perspective. *Journal of Psychosocial Nursing and Mental Health Services, 38,* 23–31.

Marshall, H. H. (1998). Teaching educational psychology: Learner-centered constructivist perspectives. In N. M. Lambert & B. L. McCombs (Eds.), *How students learn: Reforming schools through learner-centered education* (pp. 449–473). Washington, DC: American Psychological Association.

Maslow, A. (1954). *Motivation and personality*. New York: Harper & Row.

Maslow, A. (1987). *Motivation and personality* (3rd ed.). New York: Harper & Row.

McCullough, L., & Andrews, S. (2001). Assimilative integration: Short-term dynamic psychotherapy for treating affect phobias. *Clinical Psychology Science and Practice, 8,* 82–97.

Menahern, S., & Halasz, G. (2000). Parental noncompliance—a paediatric dilemma: A medical and psychodynamic perspective. *Child Care, Health and Development, 26,* 61–72.

Moskowitz, G. B. (2005). *Social cognition: Understanding self and others*. New York: Guilford.

Murray, D. J. (1995). *Gestalt psychology and the cognitive revolution*. New York: Harvester Wheatsheaf.

Neary, M. (2000). Supporting students' learning and professional development through the process of continuous assessment and mentorship. *Nurse Education Today, 20,* 463–474.

Ormrod, J. E. (2004). *Human learning* (4th ed.). Upper Saddle River, NJ: Prentice-Hall.

Page, M. P. A. (2006). What can't functional neuroimaging tell the cognitive psychologist? *Cortex, 42,* 428–443.

Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology, 49,* 345–375.

Papadakis, A. A., Prince, R. P. O., Jones, N. P., & Strauman, T. J. (2006). Self-regulation, rumination, and vulnerability to depression in adolescent girls. *Developmental Psychopathology, 18,* 815–829.

Pearson, A. (2006). Powerful caring. *Nursing Standard, 20*(48), 20–22.

Pfeffer, J. (1985). Organizations and organizational theory. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology: Vol. 1. Theory and method* (3rd ed., pp. 379–440). New York: Random House.

Phelps, E. Z. (2006). Emotion and cognition: Insights from studies of the human amygdala. *Annual Review of Psychology, 57,* 27–53.

Piaget, J., & Inhelder, B. (1969). *The psychology of the child* (H. Weaver, Trans.). New York: Basic Books.

Piane, G. (2000). Contingency contracting and systematic desensitization for heroin addicts in methadone maintenance programs. *Journal of Psychoactive Drugs, 32,* 311–319.

Proctor, R., Burns, A., Powell, H. S., & Tarrier, N. (1999). Behavioural management in nursing and residential homes: A randomized controlled trial. *Lancet, 354,* 26–29.

Pullen, M. L. (2002). Joe's story: Reflection on a difficult interaction between a nurse and a patient's wife. *International Journal of Palliative Nursing, 8,* 481–488.

Rogers, C. (1961). *On becoming a person*. Boston: Houghton Mifflin.

Rogers, C. (1994). *Freedom to learn* (3rd ed.). New York: Merrill.

Rogers, L. Q., Matevey, C., Hopkins-Price, P., Shah, P., Dunnington, G., & Courneya, K. S. (2004). Exploring social cognitive theory constructs for promoting exercise among breast cancer patients. *Cancer Nursing, 27,* 462–473.

Santrock, J. W. (2006). *Life-span development* (10th ed.). Boston: McGraw-Hill.

Shapiro, A. (2002). The latest dope on research (about constructivism): Part I: Different approaches to constructivism—What it's all about. *International Journal of Education Reform, 12,* 62–77.

Sherif, M., & Sherif, C. W. (1969). *Social psychology*. New York: Harper & Row.

Shors, T. J. (2006). Stressful experience and learning across the lifespan. *Annual Review of Psychology, 57,* 55–85.

Silverstein, S. M., & Uhlhaas, P. J. (2004). Gestalt psychology: The forgotten paradigm in abnormal psychology. *American Journal of Psychology, 117,* 259–277.

Skinner, B. F. (1974). *About behaviorism*. New York: Vintage Books.

Skinner, B. F. (1989). *Recent issues in the analysis of behavior*. Columbus, OH: Merrill.

Slipp, S. (2000). Subliminal stimulation research and its implications for psychoanalytic theory and treatment. *Journal of the American Academy of Psychoanalysis, 28,* 305–320.

Snowman, J., & Biehler, R. (2006). *Psychology applied to teaching* (11th ed.). Boston: Houghton Mifflin.

Sternberg, R. J. (1996). Styles of thinking. In P. B. Baltes & U. M. Staudinger (Eds.), *Interactive minds: Life-span perspectives on the social foundation of cognition* (pp. 347–365). New York: Cambridge University Press.

Sternberg, R. J. (2006). *Cognitive psychology* (4th ed.). Belmont, CA: Thomson/Wadsworth.

Stiles, A. S. (2005). Parenting needs, goals, & strategies of adolescent mothers. *MCN American Journal of Maternal/Child Nursing, 30,* 327–333.

Stockhurst, U., Steingrueber, H. J., Enck, P., & Klosterhalfen, S. (2006). Pavlovian conditioning of nausea and vomiting. *Autonomic Neuroscience, 129,* 50–57.

Stroebe, M. S., Folkman, S., Hansson, R. O., & Schut, H. (2006). The prediction of bereavement outcome: Development of an integrative risk factor framework. *Social Science and Medicine, 63,* 2440–2451.

Telford, K., Kralik, D., & Koch, T. (2006). Acceptance and denial: Implications for people adapting to chronic illness. Literature review. *Journal of Advanced Nursing, 55,* 457–464.

Tennant, M. (2006). *Psychology and adult learning* (3rd ed.). New York: Routledge.

Vander Zanden, J. W., Crandell, T. L., & Crandell, C. H. (2007). *Human development* (8th ed.). Boston: McGraw-Hill.

Vygotsky, L. S. (1986). *Thought and language*. Cambridge, MA: MIT Press.

Wolpe, J. (1982). *The practice of behavior therapy* (3rd ed.). New York: Pergamon.

Woolfolk, A. E. (2001). *Educational psychology*. Boston: Allyn & Bacon.