

CHAPTER TWO

TRADITIONAL LEARNING THEORIES

Think about building a home. First you map out where the home will sit on the lot, then you lay the foundation, followed by framing in the structure, raising walls, and adding a roof. So before we build this house of adult learning, we will first examine the foundation upon which the rest of the structure sits. We begin by exploring the notion of learning itself, then review several theories of learning and show how these theories have informed the growing body of knowledge about *adult* learning.

What Is Learning?

Human beings would not have survived without learning and even today there is the recognition that learning is a basic human endeavor, one that is truly lifelong. The study of learning and what it means to know used to be a philosophical undertaking rather than the arena of psychology or education. The West drew from Aristotle and Plato while for much of Asia, Confucius defined the nature of learning. The nature of knowledge and how we know and learn were topics of philosophical debate and analysis. Aristotle, for example, believed that knowing was a sensory experience, that is, we come to know through our five senses, whereas for Plato knowing involved introspection (Hergenhahn & Olson, 2005). Confucius,

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however, defined learning as a moral and ethical endeavor with the goal of becoming “fully human” (Kee, 2007, p. 159).

While for centuries philosophers explored the nature of knowledge and what it meant to know, it was not until the late nineteenth century that learning was investigated “scientifically”; that is, psychologists in Europe and North America began to systematically study learning by conducting laboratory experiments and observing behavior. And perhaps because of the focus on behavior, learning first became defined as a *change in behavior*. But, as many have pointed out, one can learn something such as an attitude or an emotion without any accompanying overt behavior change (Hill, 2002). A more nuanced definition of learning is “a change in human disposition or capacity that persists over a period of time and is not simply ascribable to processes of growth” (Gagné, 1985, p. 2). Now learning is thought to be both a process, as in “I am learning to use my new iPhone,” or “I am learning to cope with diabetes,” and an outcome, as in “I have figured out how to use my iPhone.” Further, learning can emphasize the cognitive as in gaining knowledge of something, psychomotor as in learning a new physical skill, or affective, having to do with emotions and attitudes.

To explore the multidimensionality of learning a bit more, think about something you have recently learned. Did you study the motor vehicle manual in preparation to take the test to get your driver’s license? That would be cognitive learning. Or maybe you practiced some new plays in coaching your daughter’s soccer team, primarily a psychomotor learning activity, or you assisted a loved one to get help for an addiction and in so doing learned how to deal with your own emotional response. These are all examples of learning. Learning theories, which we now turn to, are more comprehensive explanations of human learning.

Learning Theories

Nothing is so practical as a good theory, the saying goes. What this means with regard to learning theory is that the theory provides an explanation of how learning occurs as well as being suggestive as to how such an explanation translates into practice. Learning theories, then, are explanations of what happens when learning takes place. Unfortunately there is little consensus as to which orientations are considered “theories” or how many theories there are. Further, different writers divide and label the knowledge base using different criteria. Gross (1999), echoing Reese and

Overton (1970), groups theories according to either a mechanistic or an organic worldview. Gredler (1997) discusses seven contemporary "perspectives." Even adult educators vary in their classifications of learning theory. Garrison and Archer (2000) discuss three orientations—behaviorist, cognitive, and "integrative," which considers the interaction between the environment and the learner. Illeris (2004b) draws from a number of learning theorists under three general "dimensions" of learning—cognitive, psychodynamic, and social-societal.

Given the lack of consensus as to how many and which perspectives are learning theories, we have chosen to discuss five orientations that offer different explanations of learning and which also have ready application to adult learning (Merriam, Caffarella, & Baumgartner, 2007). Beginning with the earliest scientifically developed learning theory, behaviorism, these five orientations/perspectives/theories are presented in somewhat chronological order. The five orientations are behaviorist, humanist, cognitivist, social cognitivist, and constructivist. These five are considered traditional learning theories and are foundational to what we have come to understand about adult learning.

Behaviorism—Learning Is a Change in Behavior

One of the most famous experiments of all time involved a dog, a bell, and some food—known as Pavlov's dog experiment. Back in the 1890s, the Russian psychologist Ivan Pavlov discovered that if he rang a bell whenever he fed the dog in his laboratory, eventually, just by ringing the bell, the dog would salivate as if food had been presented. This is a conditioned reflex, a precursor to the 20th century theory of behaviorism.

Founded by Watson in the 1920s and developed into a comprehensive theory by Skinner and others, behaviorists believe that human behavior is the result of the arrangement of particular stimuli in the environment. If this behavior is reinforced or rewarded, it is likely to continue; if it is not reinforced it is likely to disappear. Thus what one learns is a response to particular stimuli arranged in the environment for the purpose of bringing about learning. Further, observable behavior, not internal mental processes or emotional feelings, determines whether learning has occurred. Learning for behaviorists is defined as a change in observable behavior. Skinner (1971) in particular felt that a behavioral approach to education was crucial for the survival of human beings and societies. By arranging the environment to bring about desired behavior, he thought we could control how people behave and thus develop a better society. Consistent

with a behaviorist perspective, Skinner (1971) made the case that personal freedom is an illusion—personal freedom "is the avoidance of or escape from the so-called 'aversive' features of the environment" (p. 42).

Edward L. Thorndike, a contemporary of Watson, has been called "perhaps the greatest learning theorist of all time" (Hergenhahn & Olson, 2005, p. 54). Thorndike studied many aspects of learning theory and educational practice including intelligence testing, transfer of learning, environmental versus innate causes of behavior, and how to measure the quality of life. He and his colleagues were the first to systematically study adult learners and published the first book on this topic in 1928 titled *Adult Learning* (Thorndike, Bregman, Tilton, & Woodyard, 1928). Their research seems rather quaint now, but nearly one hundred years ago it was considered groundbreaking. Basically interested in the question of whether adults could learn and whether there was a decline in learning ability as people age, they presented various memory and learning tasks to people between the ages of fourteen and fifty. They concluded that "teachers of adults of age twenty-five to forty-five should expect them to learn at nearly the same rate and in nearly the same manner as they would have learned the same thing at twenty" (pp. 178–179). Later research that considered previous education along with age and eliminated time pressure, found that adults up to age seventy did as well as younger adults (Lorge, 1944).

The key components of a behaviorist approach to learning are part of our everyday vocabulary. For example, we might "reward" ourselves with a special purchase when we reach a particular weight-loss goal, we "reinforce" our children's good behavior with a compliment (and ignore bad behavior so as to not reinforce it), and we use behavioral objectives in our instruction, objectives that specify the conditions under which behavior will be performed and the criteria for judging that behavior.

Not only are behavioral principles integrated into K–12 curriculum and instruction, behaviorism is also alive and well in adult education practice. Adult educators often use behavioral objectives to specify particular learning outcomes, and the notions of competency-based curricula, instructional design models, and some program-planning models are behaviorist in nature. What has become known as evidence-based practice wherein quantifiable, systematic, and observable "outcomes" are used as markers of learning and in turn used to structure learning activities is a behavioristic-oriented model permeating adult basic education (ABE) and continuing professional education especially in the areas of health and medicine (Das, Malick, & Khan, 2008).

Behaviorism is particularly evident in adult career and technical education, business and industry, and the military. Much of adult vocational education is focused on identifying skills needed for specific occupations, teaching those skills from basic to expert levels, and then requiring learners to demonstrate certain levels of competency in performing those skills. Whether learning to be an auto mechanic or a chef, one begins as a novice learning and practicing the basic skills before progressing to higher skill levels. Some countries, such as Australia, Singapore, and the United Kingdom, have national skill qualification programs across manufacturing and service sectors of their economies. In business and industry and the military, the emphasis for many is on performance improvement, training, and behavioral change. Sleezer, Conti, and Nolan (2003) note that human resource development professionals "who rely on behaviorism . . . emphasize rewards, the stimuli that learners receive from the environment, [and] the systematic observation of behavior" (p. 26).

Finally Mackeracher (2004) points out that behaviorism permeates our lives as learners through (1) instructional technology "encompassing the development of sound educational resources such as instructional manuals, self-instructed learning modules . . . and so on"; (2) programmed learning modules and computer-based training programs "to assist learners to acquire and master skilled behavior"; (3) programs designed to modify behavior, "such as assertiveness training and anger management"; and (4) biofeedback programs "designed to help the learner change behaviours, such as those that cause high blood pressure" (p. 213).

Behaviorism is so embedded in our daily lives and our practice as educators that we may not even acknowledge its presence. And we certainly do not mean to imply that all educators subscribe to behaviorism's learning principles at the expense of other approaches. However, as reflective practitioners it is important to recognize the role of feedback, the nature of reinforcement, learning objectives, and behavior modification in structuring learning activities for adults. Further, Roessger (2012) has suggested that the field of adult education needs to revisit behaviorism as "the current monolithic understanding of behaviourism is inaccurate and unjustly applied to Skinner's philosophy. As a result, educators and learners are denied effective and valuable practical applications" (p. 17). At the same time, behavioristic principles have been soundly criticized as too mechanistic and too controlling. With regard to curriculum design and instruction in adult education, there is a concern that too slavish adherence to behaviorism's principles ignores the complexity of the human being in the learning process. We now turn to a very different orientation

to learning which most challenges the assumptions underlying behaviorism, that of humanism.

Humanism—Learning Is About the Development of the Person

It would be difficult to find a perspective more different from behaviorism than humanistic psychology. To highlight the difference between these two perspectives, picture yourself attending a workshop or training event that your employer has mandated that you "need." You are not the least bit interested in this topic, or you already know the content, or you foresee no need to ever know the content. Material is delivered by the instructor and at the end you will be asked to demonstrate how much you "learned" by taking a multiple-choice exam. In contrast to this rather behavioristic model, you discover that you rather enjoy cooking. You find it relaxing and creative and you feel a sense of accomplishment and pride when you share your dishes with friends. You decide you would like to learn more about a particular cuisine and you plan how you would like to learn this new cuisine. You might take a class, read a book, hire an expert, or experiment on your own. You would decide when you have learned what you want to know. This more self-directed model, lodged in a humanistic worldview, evolved as a contrast to what was seen as the mechanistic and impersonal nature of learning predetermined by the teacher arranging the environment to elicit certain behavior. Called the "third force," humanistic psychology rejected both behaviorism and Freudian psychology, which presented behavior as determined by the subconscious mind.

Originally drawing from the philosophy of humanism, by the 1950s humanistic psychologists such as Maslow and Rogers in particular, had firmly established this alternative perspective on human nature and learning. Underpinning this perspective is the assumption that human beings have the potential for growth and development and that people are free to make choices and determine their behavior. In contrast to external, overt behavior, the spotlight in this orientation is on the whole person including body, mind, and spirit, and the potential of humans for growth and development. The goal of learning for Maslow (1970) is self-actualization, whereas for Rogers (1983) it is to become a fully functioning person.

Few symbols are as famous for this perspective as Maslow's triangle depicting human motivation as a hierarchy of needs. At the base of the triangle are the basic physiological needs for survival such as hunger and

thirst, needs which must be addressed before moving to the next level, that of safety needs. Here one has to feel safe and secure before attending to the next levels of belonging and love, self-esteem, and finally, the need for self-actualization. This need for self-actualization pertains to what a person's full potential is and realizing that potential. Maslow (1954) describes self-actualization as "the desire to become more and more what one is, to become everything that one is capable of becoming" (p. 92). What one is capable of becoming is specific to each individual. For example, one individual may have the strong desire to become an ideal parent, "in another it may be expressed athletically, and in still another it may be expressed in painting pictures, or in inventions" (p. 92). As mentioned before, in order to reach a clear understanding of this level of need one must first not only achieve the previous needs of physiological, safety, love, and esteem, but also master these needs. While this hierarchy is not without its critics, its emphasis on motivation translates well into an educational milieu. The focus is on the inner person, that person's needs, desires, and wants and how these require attending to in any learning encounter.

An even stronger influence in establishing humanistic psychology as a learning theory, especially for adult educators, was Carl Rogers. From his client-centered therapy approach, he is credited with establishing a "student-centered" versus teacher-centered approach to learning. In this approach the teacher is a *facilitator* of self-directed learning rather than a dispenser of knowledge. Rogers' understanding of learning can be found in his 1983 book *Freedom to Learn for the 80s* where he defines learning in terms of five principles. Significant learning, according to Rogers,

has a quality of personal involvement—the whole person in both feeling and cognitive aspects being in the learning event. It is self-initiated. Even when the impetus or stimulus comes from outside, the sense of discovery, of reaching out, of grasping and comprehending, comes from within. It is pervasive. It makes a difference in the behavior, the attitudes, perhaps even the personality of the learner. It is evaluated by the learner. She knows whether it is meeting her need, whether it leads toward what she wants to know, whether it illuminates the dark area of ignorance she is experiencing. The locus of evaluation, we might say, resides definitely in the learner. Its essence is meaning. When such learning takes place, the element of meaning to the learner is built into the whole experience. (italics in original, Rogers, 1983, p. 20)

Finally, over forty years ago Rogers (1969) articulated the very contemporary notion that in this high-speed globalized world what is really crucial for survival is that we all become lifelong learners. He wrote that an educated person is one "who has learned how to learn . . . how to adapt and change" and realizes "that no knowledge is secure, that only the process of seeking knowledge gives a basis for security" (p. 104).

Humanistic learning theory has had a profound effect on adult learning theory. The three major adult learning theories (or models, as some call them) of andragogy, self-directed learning, and transformative learning all have roots in humanistic psychology. Malcolm Knowles's writings on self-directed learning, groups, and andragogy in particular, are firmly lodged in humanistic principles. The assumptions of andragogy (see Chapter 3)—for example, that the adult learner becomes more independent and self-directed, is internally motivated, and can use experience as a resource for learning—all suggest the adult's capacity to grow, develop, and learn—and participate in making decisions about his or her own learning.

Self-directed learning (see Chapter 4), a second major thrust in adult learning research and theory, is also firmly grounded in humanistic psychology. The focus is on adults directing their own learning with the goal of self-development in mind. Further, the role of educators in self-directed learning "is to act as facilitators, or guides as opposed to content experts" (Caffarella, 1993, p. 26). Finally, the third major adult learning theory to have some connection to humanistic tenets is Mezirow's theory of transformative learning (see Chapter 5). Key to his theory is the notion of personal development, that is, through transformative learning experiences our perspective becomes more inclusive, open and permeable. The process is in fact, "the central process of adult development" (Mezirow, 1991, p. 155).

Cognitivism—Learning Is a Mental Process

Humanistic psychologists were not the only ones to challenge behaviorists' theories of learning. *Gestalt* (a German word meaning pattern or shape) psychologists found behaviorists' explanations too simple, too mechanized, and too dependent on observable behavior. Known as cognitivist or information-processing, this theory represented a shift in the locus of learning from the environment (behaviorists), or the whole person (humanists), to the learner's mental processes. A common metaphor for this approach is the computer with its input, throughput, and output and in fact this is where the "information processing" label originated.

The mind sees patterns, they felt, and uses prior knowledge to process new information. "The human mind," according to cognitivists, "is not simply a passive exchange-terminal system where the stimuli arrive and the appropriate response leaves. Rather, the thinking person interprets sensations and gives meaning to the events that impinge upon his consciousness" (Grippin & Peters, 1984, p. 76). Cognitivists focus on insight (the moment when a solution to a problem becomes clear), information processing, problem solving, memory, and the brain. Given the broad sweep of this particular orientation to learning, it is difficult to single out a particular theorist or set of research most prominent in informing adult learning. However, a brief look at three areas of research would seem to have relevance for adult educators—cognitive development, memory, and instructional design theories.

The ability to process information is related to one's cognitive structure. Piaget (1972) is considered a pioneer in this area and his four-stage model of cognitive development provided the basis for theory development with adults. In his model the human being moves from the infancy stage of a sensory-motor response to stimuli, to the early childhood stage of being able to represent concrete objects in symbols and words (called "preoperational"), to understanding concepts and relationships of middle childhood (concrete operational), to being able to reason hypothetically and think abstractly called formal operational. There have been a number of critiques of Piaget's theory, the most serious of which is with the invariant nature of his model. Some feel that adults can move among the stages and the context may well determine which level of thinking is most appropriate (Knight & Sutton, 2004).

Building on this theory, neo-Piagetian scholars have suggested there is evidence of postformal thought in which one goes beyond problem solving and instead thinks creatively to perhaps reformulate the problem itself—or "problem-finding" (Arlin, 1975; Sinnott, 1998/2010). Piaget inspired research on cognitive development and several of these models have entered the adult learning knowledge base. Perry (1999) proposed a nine-position model of cognitive development from his research with male college students. However, recent research suggests that his model may not account for cultural differences (Zhang, 2004). Building on Piaget, King and Kitchener developed a seven-stage model of reflective judgment (1994, 2002), and Kohlberg (1981) focused on moral development. In 1986 Belenky, Clinchy, Goldberg, and Tarule published *Women's Ways of Knowing* in which they identified five "positions" of women's cognitive development ranging from silence to constructed knowledge. Yet

others dismiss the notion of stages or positions of cognitive development and concentrate on the development of dialectical thinking where one recognizes the contradictions, paradoxes, and ambiguities of modern life and lives within that recognition. Whether one believes cognition is a developmental or dialectic process is directly linked to one's view of how information is processed.

Research on memory is also central to the cognitivist perspective. "When learning occurs, information is input from the environment, processed and stored in memory, and output in the form of some learned capability" (Driscoll, 2005, p. 74). This processing is dependent upon memory—sensory, short-term, and long-term memory. The process begins as we take in information from the environment via our senses. For example, knowing I am planning a trip to Italy, a friend of mine introduces me to a friend of hers who has just returned from there. I hear her name and I see what she looks like; through hearing and vision her name and an image of her enters my memory system. Within seconds this information is lost (if I don't want to remember it) or if I want to remember it I "process" it and it enters my short-term memory. This processing involves sorting and filing the data in some manner as to "remember" it. I might "file" her name along with other information I have collected regarding my future trip to Italy. Or I might visualize a map of Italy but instead of writing "Italy" on the map, I instead place this woman's name on the map. This processing in short-term memory leads to it being stored in long-term memory. Sometime later I retrieve her name from the storage of my long-term memory. (See Chapter 9 for more on memory.)

This is of course a very simplified version of the role of memory in cognitive processing. However, it is a central component of understanding cognitive or information processing learning theory and, as we come to learn more about memory and aging, it is particularly relevant to adult learning. For example, declining acuity in hearing and vision may impact sensory memory. (If, in the previous example, I did not hear her name, it cannot be registered into my working memory). Research with older adults also suggests that as people age they appear to become less efficient at both processing information into long-term memory, and retrieving material from long-term memory storage (Bjorklund, 2011). This research is by no means conclusive, however, and many factors such as personal interest and good instructional techniques may well mitigate any memory and aging deficits.

In addition to cognitive development and memory, theories of instruction intersect with cognitive theory. We briefly review the main

contributions of Ausubel, Gagné, and Bloom to better understand information processing as a learning theory. Ausubel (1967) proposed a theory of meaningful learning as that learning which can connect with concepts already in a person's cognitive structure. "This cognitive structure is made up of sets of ideas that are organized hierarchically and by theme" (Driscoll, 2005, p. 117). Rote learning, on the other hand, is soon forgotten as it does not relate to a person's cognitive structure. To connect new knowledge to one's cognitive structure, Ausubel suggested the use of advance organizers. "Advance organizers are relevant and inclusive introductory materials, provided in advance of the learning materials, that serve to 'bridge the gap between what the learner already knows and what he needs to know before he can meaningfully learn the task at hand' (Ausubel et al., 1998, pp. 171–172)" (Driscoll, p. 138).

Information processing theory is the foundation for Gagné's instructional design theory (Gagné, 1985). His theory is rather complex and includes a taxonomy of learning outcomes (for example, intellectual, affective, and motor skills), learning conditions for attaining the outcomes, and nine "events" of instruction. His theories are still used today, especially in the planning of instruction from a cognitivist theory perspective. Recently Gagné's nine events of instruction were suggested for planning educational programs on genetic cancer risk for African American communities (Kendall, Kendall, Catts, Radford, & Dasch, 2007). For example, the first condition, "gain attention" could be addressed by presenting "a culturally relevant family history," or by presenting "a surprising fact about cancer genetic risk and the African American community" (p. 284). Transfer, the ninth condition, could be facilitated by following up with the same group some time after the program's conclusion.

Finally, most have heard of Bloom's taxonomy of cognitive outcomes (Bloom, 1956). He is also credited with identifying three types of learning outcomes—cognitive, affective, and psychomotor. His taxonomy is used for curriculum planning and developing learning objectives. At the lowest level of Bloom's six-level taxonomy is knowledge—the remembering of specific facts or concepts. The next level is comprehension, which is understanding the material, followed by application, analysis, synthesis, and evaluation. Critics have suggested that these six "outcomes" may not be hierarchical, or that synthesis is a higher level skill than evaluation, or that while the first three are hierarchical, the last three are parallel (Anderson & Krathwohl, 2001). Most agree, however, that the higher level skills require more cognitive flexibility.

Clearly, cognitive learning theory explains a lot about how we use the brain and our senses to process information. For adult educators, the work in cognitive development, memory, and instructional design theory can be used to facilitate learning and plan instruction with adults.

Social Cognitive Theory—Learning Is Social and Context Bound

While *social* cognitive theory is sometimes included as a subset of cognitive learning theory, we feel the social dimension to understanding how learning occurs is particularly important and relevant to adult learning and so we present it separately. "Social cognitive learning theory highlights the idea that much human learning occurs in a social environment. By observing others, people acquire knowledge, rules, skills, strategies, beliefs, and attitudes. Individuals also learn about the usefulness and appropriateness of behaviors by observing models and the consequences of modeled behaviors, and they act in accordance with their beliefs concerning the expected outcomes of actions" (Schunk, 1996, p. 102). So not only do we cognitively process information as we learn, we also observe others and model their behavior. These observations are also "processed" and often physically replicated.

Social cognitive theory draws from both behaviorism and cognitive theory in the following manner. Some theorists felt that observation and imitation of behavior were not enough for learning to occur; this behavior had to be reinforced for learning to occur (Hergenhahn & Olson, 2005). Bandura (1976), the major theorist for this perspective, focused on the cognitive processes involved in observation and maintained that "persons can regulate their own behavior to some extent by visualizing self-generated consequences" (p. 392). But for Bandura, the cognitive component of learning was only part of the picture. He felt behavior was a function of the interaction of the person with the environment. He pictured his model of learning as a triangle in which learning, the person, and the environment are interactive and reciprocal (Bandura, 1986).

The addition of a social dimension to learning theory models resonates well with what we have come to know about adult learning. Adults learn social roles by observing and modeling others. For example, learning to be a parent of a newborn often involves observing how friends have managed. Further, mentoring is a process that offers adult learners models to observe and has been much written about in the adult learning literature (Daloz, 2012; Mullen, 2005). A variation of mentoring is cognitive apprenticeships (see Chapter 6) wherein the mentor or instructor

models how to think about whatever is being learned. For example, a medical student might model how her instructor reasons through a diagnosis, or a novice gardener might model a master gardener in arranging plants in a garden for maximum growth. Finally, Gibson (2004) suggests that social cognitive theory is relevant to the workplace where on-the-job training and behavior modeling can assist in socializing employees to the workplace.

Constructivism—Learning Is Creating Meaning from Experience

Constructivism is less a single theory of learning than a collection of perspectives all of which share the common assumption that learning is how people make sense of their experience—learning is the construction of meaning from experience. Driscoll (2005) contrasts this view with behaviorists and cognitivists: “Behaviorists define desired learning goals independent of any learner and then proceed to arrange reinforcement contingencies that are presumed to be effective with any learner; only the type of reinforcer is assumed to vary according to the individual. Although information processing theorists put mind back into the learning equation, they, too, appear to assume that knowledge is ‘out there’ to be transferred into the learner. The computer metaphor itself suggests that knowledge is input to be processed and stored by learners” (p. 387).

In contrast, constructivists see knowledge as “constructed by learners as they attempt to make sense of their experiences. Learners, therefore, are not empty vessels waiting to be filled, but rather active organisms seeking meaning” (Driscoll, 2005, p. 387). Constructivists draw from a number of well-known theorists including Piaget, Dewey, and Vygotsky. From Piaget comes his theory of cognitive development wherein our cognitive structure changes as we mature, allowing us to construct meaning at more sophisticated levels (reviewed above under cognitivism). Dewey’s notion (1938) of experience is that it is “a transaction taking place between an individual and what, at the time, constitutes his environment” (p. 41). This experience then, is the basis for “genuine education.” Vygotsky (1978) drew attention to the very important role of the sociocultural context in how people construct meaning from experience. He pointed out that this process is a social process mediated through a culture’s symbols and language. As a result of these and other theorists’ contributions to constructivism, a continuum has emerged with a more psychological

orientation on one end drawing from Piaget, to what is called social constructivism on the other end drawing more heavily from Vygotsky.

Constructivism is foundational to understanding much of adult learning theory and practice. As Candy (1991) observed, “teaching and learning, especially for adults, is a process of negotiation, involving the construction and exchange of personally relevant and viable meanings” (italics in original, p. 275). Indeed, aspects of constructivism, especially the social construction of knowledge are central to self-directed learning, transformational learning, experiential learning, reflective practice, situated cognition, and communities of practice.

A closer look at situated cognition or contextual learning (see Chapter 6) as it is sometimes referred to, reveals the constructivist nature of this theory. Situated cognition posits that learning occurs in context, that is, our learning is situation specific, and in fact the nature of the context structures the learning. But this learning is also social and mediated through the use of tools (either physical such as computers, maps, books, or psychological/cultural such as language). Workplace learning is very “situated” for example, as employees learn their job using the tools of that environment in social interaction with others. As another example, Sharan, who lived for a year in Asia learned how to shop in the outdoor night market by interacting with the merchants and other shoppers (social interaction), in conjunction with using the local language and currency to buy fruits and vegetables (tools).

Understanding learning from a constructivist, situated cognition perspective has led to suggestions for maximizing learning in this manner in an instructional setting. Learning in context is emphasized in cognitive apprenticeships wherein the thinking process is modeled and supported for new learners; communities of practice where members share and learn from each other (Wenger, 1998), making learning as “authentic” as possible through field trips, case studies, and service learning; and problem-based learning. Brooks and Brooks (1999) discuss a dozen strategies instructors can use as “mediators of students and environments, not simply as givers of information and managers of behavior” (p. 102). Several of these strategies, such as encouraging dialogue with the teacher and each other and building on what students already know about a concept before presenting their own ideas and theories, are quite congruent with what we know about maximizing adult learning. Finally, Brandon and All (2010) make a persuasive case for a constructivist perspective in nursing education: “The essential role of nurse faculty is to engender active-learning

processes in settings where nursing is taught: the classroom, the skills laboratory, and the clinical environment" (p. 91).

Chapter Summary

Beginning with the earliest learning theory, behaviorism, we have presented five learning theories in roughly the order of their appearance in the psychological and educational literature. Behaviorism, humanism, cognitivism, social cognitivism, and constructivism are foundational to understanding current thinking about adult learning. We have linked each of these to adult learning theory and practice and will continue to reference them as we explore theories and research specific to adult learning in more depth in the following chapters. A useful summary of the five orientations along with a suggested activity can be seen in Exhibit 2.1. Other applications of some of these orientations can be found in Walters's (2009) discussion of adult environmental education, and Wang and Sarbo's (2004) model of how adult educators need to adapt their philosophy and roles to facilitate transformative learning.

Linking Theory and Practice: Activities and Resources

1. As can be seen in Exhibit 2.1, Taylor, Marienau, and Fiddler (2000) have applied the five orientations to learning to thinking about our roles as adult educators. Study the Exhibit and determine which orientation or orientations best "fit" your perspective on learning. For example, if you believe that the locus of learning is stimuli in the external environment, then your orientation to learning is predominantly behaviorist. If you identify the purpose of education as becoming self-actualized and autonomous, then you have a humanist orientation. They point out that our orientations are often a mix of these perspectives: "In our own practice, we three find that whatever our philosophical starting point, we actually move frequently and fluidly among them, as circumstances warrant. One of our own adult programs, for example, stresses self-directed learning within a competency-based outcomes framework. At the same time, it focuses on constructing meaning from experience and developing metacognitive skills toward becoming life-long learners" (p. 359).

2. Another assessment tool that students might find helpful in identifying one's orientation to learning is Zinn's Philosophy of Adult

EXHIBIT 2.1 RELATIONSHIPS OF DIMENSIONS OF TEACHING AND ORIENTATION TO LEARNING

When Your Belief That the Locus of Learning Is

Stimuli in external environment
Internal cognitive structuring
Affective and cognitive needs
Interaction of person, behavior, and environment
Internal construction of reality by individual

When You Identify the Purpose of Education as

Producing change in desired direction
Develop capacity and skills to learn better
Becoming self-actualized, autonomous
Modeling new roles and behavior
Constructing knowledge

When You View Your Role as a Teacher Is to

Arrange environment to elicit desired response
Structure content of learning activity
Facilitate development of the whole person
Model and guide new roles and behavior
Facilitate learners' negotiation of meaning

When Your View of the Learning Process Is

Changes in behavior
Internal mental process
A personal act of fulfill potential
Interaction with and observation of others in a social context
Construction of meaning from experience

When Your Efforts with Adults Are

Toward meeting behavioral objectives
Competency-based
Toward skill development and training
Toward cognitive development
Learning how to learn
Correlating with intelligence, learning, and memory with age
Framed by andragogy
Toward self-directed learning
Toward socialization and social roles
Framed by mentoring
Orientation to the locus of control
Framed by experiential learning
Toward perspective transformation
Toward reflective practice

Your Orientation to Learning Is Predominantly

Source: Taylor, Marienau, & Fiddler (2000), adapted from Merriam and Caffarella (1999).

Education Inventory (PAEI) (Zinn, 1990). Based on the philosophical orientations of Behavioral Adult Education, Liberal Arts Adult Education, Progressive Adult Education, Humanistic Adult Education, and Radical Adult Education, PAEI asks respondents to indicate how much they agree with various statements about how people learn best, and their preferred teaching methods. This self-scoring inventory is helpful in reflecting upon and identifying one's personal beliefs and values about adult education practice. Typically, the PAEI reveals a primary orientation or a combination of two orientations is also common (such as progressive and humanistic). The PAEI is available free online at http://www25.brinkster.com/educ605/paei_howtouse.htm (though you do have to create an account). It is also available in Zinn (1990).

3. An activity that we have used in our own instruction to highlight the underlying principles and differences among the five learning theories is to divide students into five groups representing each of the five theories (a small class could divide into three or four orientations). Each group is to design a three-hour workshop for returning adult students on the topic of "How to Balance Work, Family, and Student Life." Each group is to use an *exaggerated* version of their particular theory. For example, behaviorists might test for correct responses to learned material and "reward" participants with a certificate or some other reinforcement; humanists might invite participants to determine their own learning needs; social cognitivists might bring in students who have successfully balanced family, work, and student roles as models or mentors to workshop participants. As each group presents their plan for the workshop, other participants are asked to point out how congruent the plan is with the particular learning theory (or how it deviates if it does).

4. In a variation of the graduate student workshop above, Allen (2007) reports on a similar application of adult learning theory to leadership development programming. Using behaviorism, cognitivism, social learning theory and constructivism, Allen suggests learning strategies and activities for leadership development that are congruent with each of these theories. For example, in a behaviorist orientation, immediate feedback for new behaviors is important and program developers might also link the learning to "some form of prestige or desirable outcome. For instance, a promotion, a degree, a certificate or some other reward will motivate learners to incorporate and internalize new behaviors" (Allen, 2007, p. 29). Similarly, students could be encouraged to apply two or three theories to their own field of practice as Rostami and Khadjooi (2010) did in contrasting behaviorism and humanism in medical education.

5. Yet another activity for working with these learning theory orientations would be to ask yourself or your students to think about a time when they learned something new. Perhaps they learned a new software program for work, or how to install a ceiling fan, or studied French in anticipation of a visit to Paris, or investigated what shrubbery might grow best in their yard. How did they learn this? Did they have some instruction, did they read about it, experiment, or watch someone else do it? Tracing back through the learning experience will reveal what theory or combination of theoretical orientations best captures how the learning occurred.

Chapter Highlights

- Learning is a complex behavior that can involve how we think (cognitive), feel (affective), or do something (psychomotor).
- Behaviorism emphasizes skills and overt behavior, while a humanistic learning theory focuses on the inner person. Andragogy, self-directed learning, and transformative learning have roots in humanistic learning theory.
- Cognitive learning theory is about how the brain processes information; social cognitive theory includes learning through observing, modeling, and mentoring.
- Constructivist learning theory is not only about how we mechanically process information, but how we make *meaning* of that information, meaning which is shaped by our sociocultural context.

