

COGNITIVE LEARNING THEORY

Dissatisfaction with behaviorism's strict focus on observable behavior led educational psychologists such as Jean Piaget and William Perry to demand an approach to learning theory that paid more attention to what went on "inside the learner's head." They developed a cognitive approach that focused on mental processes rather than observable behavior. Common to most cognitivist approaches is the idea that knowledge comprises symbolic mental representations, such as propositions and images, together with a mechanism that operates on those representations. Knowledge is seen as something that is actively constructed by learners based on their existing cognitive structures. Therefore, learning is relative to their stage of cognitive development; understanding the learner's existing intellectual framework is central to understanding the learning process.

Cognitive psychology derives its name from the Latin *cognoscere*, referring to knowing and information. While behaviorists maintain that knowledge is a passively absorbed behavioral repertoire, cognitive constructivists argue instead that knowledge is actively constructed by learners and that any account of knowledge makes essential references to cognitive structures. Knowledge comprises active systems of intentional mental representations derived from past learning experiences. Each learner interprets experiences and information in the light of their extant knowledge, their stage of cognitive development, their cultural background, their personal history, and so forth. Learners use these factors to organize their experience and to select and transform new information. Knowledge is therefore actively constructed by the learner rather than passively absorbed; it is essentially dependent on the standpoint from which the learner approaches it.

Cognitive Learning Theory implies that for those with effective cognitive processes, learning is easier and new information can be stored in the memory for a longer time. On the other hand, ineffective cognitive processes result to learning difficulties that can be seen anytime during the lifetime of an individual. People with these impairments may have trouble learning new things, making generalizations from one situation to another, and expressing themselves through spoken or written language.

An example of behaviorist versus cognitive theories can be seen in how human children acquire language. B. F. Skinner, who is known as the father of behaviorism, believed that language is acquired through principles of conditioning, including association, imitation, and reinforcement. In contrast well-known linguist Noam Chomsky argues that human brains have a language acquisition device (LAD), an innate mechanism or process that allows children to develop language skills. According to this view, all children are born with a universal grammar, which makes them receptive to the common features of all languages. Because of this hard-wired background in grammar, children can easily learn a language when they are exposed to its

particular grammar. Chomsky argued that children's patterns of language acquisition are too systematic to be the product of parents' operant conditioning. There is something more going on than mere stimulus and response.

The organismic world view, for which the basic metaphor is the organism, represents the universe as a unitary, interactive, developing organism presented to experience in multiple forms. Living beings are organic rather than mechanical in nature. Learning is a formal cause caused by the essential nature of man's form. This world view results in a model of man as an active organism rather than a reactive organism, as a source of acts, rather than as a collection of acts initiated by external forces. It also represents man as an organized entity. The individual who accepts this model will tend to emphasize the significance of process over products, and qualitative change over quantitative change. He will also emphasize the significance of the role of experience in facilitating or inhibiting the course of development, rather than the effect of training as the sources of development as in a mechanistic view.

Cognitive learning is an active form of learning. The learner uses various modalities to learn-- visual, auditory, touching, experiential and then, the brain processes the information and hopefully stores and retains it. Everyone uses different learning styles to process information in the brain. An example of cognitive learning would be when a teacher presents a new concept in a math classroom. Solving this problem involves cognitive learning, as one goes through the steps after watching a sample problem and then thinks about it, processes it and applies those steps to a different problem.

The first direct protest against the mechanistic model of the associations was made by John Dewey in 1896. Dewey (1859-1952) was an American philosopher, psychologist, and educational reformer whose ideas have been influential in education and social reform. He placed emphasis on the role of interest and effort and on the child's motivation to solve his own problems; his views became the starting point for a line of theorizing that has been given the label *functionalism*. Functionalists suggest different methods of teaching, because some children will easily learn from one method and some from another method. Dewey was a central pioneer in progressive education, which he said should be based on an understanding of the developing child's needs, and teaching should be done according to the pace and capacity of the students. He believed that teaching should be oriented toward the student rather than the subject matter. Dewey's basic education principles with those of the traditional system, we will examine them in detail later.

Cognitive theorists prefer to define learning in terms of growth, development of capacities, and fulfillment of potential. Growth is characterized by increasing independence of response from the immediate nature of the stimulus. This means we are able to stop and think rationally about how we will react to a certain situation. There is an internalizing of events into a

“storage system” that corresponds to the environment. Intellectual development depends upon a systematic and contingent interaction between a tutor and a learner; teaching is vastly facilitated by the medium of language. Intellectual development is marked by increasing capacity to allocate time in a manner appropriate to dealing with several alternatives and consequences simultaneously.

More and more people are seeing learning not as a process of controlling, changing, or shaping behavior but more in the context of competency-development. This sort of learning involves certain concepts such as having the quality of *personal involvement*, the person feels she is part of the learning event. This learning is *self initiated*, even when the impetus comes from the outside, the sense of discovery, of reaching out and grasping and comprehending, come from within. It is *pervasive*, this type of learning makes a difference in the behavior, attitudes, and 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 essence of this learning is meaning, when such learning takes place an element of meaning to the learner is built into the whole experience.

Abraham Maslow (1908–1970) was an American psychologist who was best known for creating Maslow's hierarchy of needs, a theory of psychological health predicated on fulfilling innate human needs. Maslow saw the goal of learning to be self-actualization, and he said there were two sets of forces operating within each individual. “One set clings to safety and defensiveness out of fear, tending to regress backward, hanging on to the past, afraid to grow.. The other set of forces impels him forward toward wholeness of Self and uniqueness of Self, toward full functioning of all his capacities, toward confidence in the face of the external world at the same time that he can accept his deepest, real, unconscious Self.”

Maslow wanted to know what motivates behavior, According to him, our actions are motivated in order achieve certain needs. Maslow first introduced his concept of a hierarchy of needs in his 1943 paper "A Theory of Human Motivation". This hierarchy suggests that people are motivated to fulfill basic needs before moving on to other, more advanced needs. Learning falls into the upper levels of the hierarchy, having to do with healthy self esteem and ultimately self-actualization.

Recent insights from the behavioral sciences have significantly expanded the perception of human potential, through a re-casting of the image of man from a passive, reactive recipient to an active, seeking, autonomous, and reflective being. There has been a new emphasis on the concept of *independent learning*, especially in the adult education setting. These theorists see man as always learning by himself, learning is not a task or problem; it is a way to be in the world. Man learns as he pursues goals and projects that have meaning for him. Therefore the learner has the need and the capacity to assume responsibility for his own continuing learning.

Edward Chace Tolman (1886-1959) was an American psychologist famous for his studies on behavioral psychology. He saw human behavior as purposive, as being regulated in accordance with objectively determined ends. Purpose is, of course, an organismic concept. He rejected the idea that learning is the association of particular responses to particular stimuli, Tolman believed that it is the route to the goal that is learned. He believed that organisms, at their respective levels of ability, are capable of recognizing and learning the relationships between signs and desired goals; in short, they perceive the significance of the signs. Tolman and others who held an organismic view took issue with the propositions that all learning consisted of the simple connection of responses to stimuli, and insisted that experience is always structured, that we react not to just a mass of separate details, but to a complex pattern of stimuli. We perceive stimuli in organized wholes, not in disconnected parts. Tolman drew on Gestalt psychology which maintains that the human mind considers objects in their entirety before, or in parallel with, perception of their individual parts; suggesting *the whole is other than the sum of its parts*.

According to some cognitive learning theorists, each student has their own way they learn including: visually, verbally, mathematically, kinesthetically, with music, alone, in a group setting, as a naturalist or as an existentialist. If a teacher can identify which one is a student's strength, it could be used in a classroom to help with cognitive learning.

Phenomenal field theory is a contribution to the psychology of personality proposed by Donald Snygg and Arthur W. Combs. According to this theory, all behavior is determined by the phenomenal field of the behaving organism, and can only be understood if the researcher sees the world through the individual's eyes and mind. Combs and Snygg's believed that man behaves in terms of what is real to him and related to his self at the moment. Learning is a process of discovering one's personal relationship to and with people, things, and ideas. When an individual recognizes some inadequacy and a change is needed to maintain or enhance the self, it is made by the individual as the right and proper thing to do. The role of the teacher is to facilitate the process. Given a healthy organism, positive environmental influences, and a nonrestrictive set of percepts of self, there is no end to what the individual can learn. Learning is permanent because it generates problems that may be shared by others and to the degree that continued sharing itself is enhancing.