

Case study: cognitive theories



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There are three predominantly cognitive theorists that will be discussed in this paper. They are Jean Piaget, Edward Chace Tolman, and Albert Bandura. This paper will discuss the theorist's main theories and the applications that their theories has on education.

Jean Piaget's major theoretical concepts are intelligence, schemata, assimilation and accommodation, equilibration, and interiorization (Olson & Hergenhahn, 2009). Edward Chace Tolman's major theoretical concepts are confirmation versus reinforcement, vicarious trial and error, learning versus performance, latent learning, place learning versus response learning, and reinforcement expectancy. Albert Bandura's major theoretical concepts are attentional processes, retentional processes, behavioral production processes, motivational processes, reciprocal determinism, self-regulation of behavior, moral conduct, and determinism versus freedom (Olson & Hergenhahn, 2009).

Jean Piaget was born on August 9, 1896 in Neuchatel, Switzerland. Jean Piaget conducted a program of naturalistic research that has profoundly affected our understanding of child development (Olson & Hergenhahn, 2009). Piaget called his general theoretical framework genetic epistemology because he was primarily interested in how knowledge developed in human organisms (Olson & Hergenhahn, 2009).

Tolman's theorizing has been called purposive behaviorism and is often considered the bridge between behaviorism and cognitive theory and it attempts to explain goal directed behavior, or purposive behavior (Olson & Hergenhahn, 2009). It must be emphasized that Tolman used the term

purpose as purely descriptive. According to Tolman's theory of sign learning, an organism learns by pursuing signs to a goal, for example learning is acquired through meaningful behavior. He believed individuals do more than merely respond to stimuli; they act on beliefs, attitudes, changing conditions, and they strive toward goals (Olson & Hergenhahn, 2009).

The main theorist that will be discussed is Albert Bandura. Albert Bandura was born in Mundare a small town in Alberta, Canada on December 4, 1925 (Boeree, 2006). He received his bachelor's degree in Psychology from the University of British Columbia in 1949. He got his M. A. in 1951 and his Ph. D. in 1952 from the University of Iowa. During these years he was influenced by Behaviorist perspectives and became interested in learning theory (Boeree, 2006).

Bandura's early work in the 1960's was Social Learning Theory (Learning Theories Knowledgebase, 2011). In the social learning theory people learn through observing others' behavior, attitudes, and outcomes of those behaviors. Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action. Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences. The social learning theory has often been called a bridge between behaviorist and cognitive learning theories because it encompasses attention, memory, and

motivation. The theory is also related to Vygotsky's Social Development Theory and Lave's Situated Learning, which also emphasize the importance of social learning (Learning Theories Knowledgebase, 2011).

Observational learning is the process of learning by observing a model and then duplicating a skill, process, strategy, or task that is demonstrated by the model (Kearsley, 2011). This occurs without overt instructional activity, and the model may not even know he/she is serving as an instrument of learning for the observer. According to Bandura, this type of learning is an information processing activity. Bandura's models evolved over approximately 25 years of his career. By 1986 the model appeared as a three-part model with the three parts interacting and influencing each other. According to Bandura, expectations are important in this model (Kearsley, 2011).

The most common examples of social learning situations are television commercials (Kearsley, 2011). Commercials suggest that drinking a certain beverage or using a particular hair shampoo will make us popular and win the admiration of attractive people. Depending upon the component processes involved such as attention or motivation, we may model the behavior shown in the commercial and buy the product being advertised (Kearsley, 2011).

Long-running TV and radio programs founded on social psychology are helping people around the world make positive changes in their lives, from encouraging literacy to raising the status of women in societies (Dittmann, 2004). Bandura's social learning theory which emphasizes how modeling and

enhancing people's sense of efficacy can help them improve their lives is at the heart of numerous serial dramas now airing in Africa, Asia and Latin America. And research is finding the dramas' gripping storylines and realistic characters are proving influential by encouraging people to adopt family planning methods, seek literacy programs, improve women's status and protect against AIDS infection (Dittmann, 2004). These dramatic productions are not fanciful stories. They portray people's everyday lives, help them see a better future and provide them with strategies and incentives that enable them to take the steps to realize it.

According to Bandura, the television programs spark such behavioral and social changes using four guiding principles: Contrasting role models with positive and negative models exhibiting beneficial or detrimental lifestyles and transitional models changing from detrimental to beneficial styles of behavior (Dittmann, 2004). Vicarious motivators that serve as incentives to change by showing the benefits of the positive lifestyles and the costs of the detrimental ones. Attentional and emotional involvement within the programs to sustain viewers' attention. Environmental supports with each program that contain an epilogue providing contact information for relevant community services and support groups (Dittmann, 2004).

Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences (Boeree, 2006). There are four component processes underlying observational learning. They are Attention, Retention, Motor reproduction, and Motivation. The first is attention. Attention can be affected by various factors such as the increase or decrease in the amount of attention that is

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paid. If you are going to learn anything, you have to be paying attention. Anything that puts a damper on attention is going to decrease learning, including observational learning. If, for example, you are sleepy, groggy, drugged, sick, nervous, or hyper, you will learn less well. Likewise, if you are being distracted by competing stimuli. One's characteristics such as sensory capacities, arousal level, perceptual set, and past reinforcement affect attention (Boeree, 2006).

Second component processes underlying observational learning is retention (Boeree, 2006). One must be able to retain / remember what you have paid attention to. This is where imagery and language come in; we store what we have seen the model doing in the form of mental images or verbal descriptions. When stored, you can later bring up the image or description, so that you can reproduce it with your own behavior (Boeree, 2006).

Third component processes underlying observational learning is reproduction (Kearsley, 2011). One has to translate the images or descriptions into actual behavior. So you have to have the ability to reproduce the behavior in the first. For example one could watch Olympic ice skaters all day long, yet not be able to reproduce their jumps, because they cannot ice skate at all! On the other hand, if one could ice skate, then one's performance would in fact improve if one was to watch ice skaters who are better than they are. Another important thing about reproduction is that our ability to imitate improves with practice at the behaviors involved also our abilities improve even when we just imagine ourselves performing! Many athletes, for example, imagine their performance in their mind's eye prior to actually performing (Kearsley, 2011).

The fourth component processes underlying observational learning is motivation and yet, with all this, you're still not going to do anything unless you are motivated to imitate, i. e. until you have some reason for doing it (Kearsley, 2011). There are a number of motives for doing something some positive and some negative. The positive motives would be past reinforcement, promised reinforcements, and vicarious reinforcements. The negative motives would be past punishment, promised punishment, and vicarious punishment (Kearsley, 2011).

Bandura believed in reciprocal determinism, that is, the world and a person's behavior cause each other, while behaviorism essentially states that one's environment causes one's behavior, Bandura, who was studying adolescent aggression, found this too simplistic, and so in addition he suggested that behavior causes environment as well (Learning Theories Knowledgebase, 2011). Later, Bandura soon considered personality as an interaction between three components: the environment, behavior, and one's psychological processes (Learning Theories Knowledgebase, 2011).

The therapy Bandura is most famous for, however, is modeling therapy (Boeree, 2006). Modeling therapy is form of behavioral therapy where clients are asked to observe persons coping effectively in the situations that they find anxiety provoking. The theory is that, if you can get someone with a psychological disorder to observe someone dealing with the same issues in a more productive fashion, the first person will learn by modeling the second.

Bandura's original research on this involved herpephobics people with a neurotic fear of snakes (Boeree, 2006). The client would be lead to a window

looking in on a lab room. In that room is nothing but a chair, a table, a cage on the table with a locked latch, and a snake clearly visible in the cage. The client then watches another person an actor go through a slow and painful approach to the snake. He acts terrified at first, but shakes himself out of it, tells himself to relax and breathe normally and take one step at a time towards the snake. He may stop in the middle, retreat in panic, and start all over. Ultimately, he gets to the point where he opens the cage, removes the snake, sits down on the chair, and drapes it over his neck, all the while giving himself calming instructions. After the client has seen all this, he is invited to try it himself. Mind you, he knows that the other person is an actor there is no deception involved here, only modeling! And yet, many clients lifelong phobics can go through the entire routine first time around, even after only one viewing of the actor! This is a powerful therapy (Boeree, 2006).

Of the hundreds of studies Bandura was responsible for, one group study stands out above all the others it is the bobo doll studies. (Olson & Hergenhahn, 2009) For those who don't know, a bobo doll is an inflatable, egg-shape balloon creature with a weight in the bottom that makes it bob back up when you knock him down. In this experiment children observed a film in which a model was shown hitting and kicking a bobo doll. One group of children saw the model reinforced for his aggressiveness, one group saw the model punished for his aggressiveness, and one group were neutral that is the model they saw was not reinforced or punished. The children in all three groups were later exposed to the doll and their aggressiveness to the doll was measured. As expected the children who saw the model reinforced for aggressiveness was most aggressive, the children who saw their model

punished were least aggressive and the children who saw the model experience neutral consequences were between the other two groups (Olson & Hergenhahn, 2009).

The children in the first group observed what is called vicarious reinforcement. (Olson & Hergenhahn, 2009) Vicarious reinforcement is the process by which observing another person's behavior being reinforced increases the probability of the observer acting in a similar way. The second group of children observed what is called vicarious punishment. Vicarious punishment is the process by which observing another person's behavior being punished decreases the probability of the observer acting in a similar way (Olson & Hergenhahn, 2009). What that means is when one sees a person do something and get rewarded for it one will be more likely to do the same thing, but if one was to see a person get punished for doing something then one will not be as willing to do the thing that the model got punished for.

What is learning? Considering there are different opinions about the definition of learning, different types of learning, such as classical and instrumental, and differences in how people learn, how can this information be applied (Olson & Hergenhahn, 2009)? The definition of learning is defined as a relatively permanent change in behavior or behavioral potentiality that comes from experience and cannot be attributed to temporary body states such as illness, fatigue, or drugs (Olson & Hergenhahn, 2009). Since we know that everybody learns differently we can take how they learn and teach them the desirable traits that we want them to do or we can get them to stop the undesirable traits that they are doing. We achieve this by using classical conditioning or instrumental conditioning. Classical conditioning is when a

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stimulus is made to elicit a response that was not previously associated with that stimulus (Olson & Hergenhahn, 2009). An example of classical conditioning would be when you take a stimulus such as food and present it to an organism and it causes a natural and automatic reaction such as salivating. Instrumental conditioning is the rate or probability of a response is changed from one value before conditioning to another value following conditioning (Olson & Hergenhahn, 2009).

The implications for using this information in a variety of settings such as clinical, counseling, industrial / organizational, school, and health is that in these settings we can use classical conditioning and or instrumental conditioning to teach our patients, students, or employees how they learn and we can encourage the individuals to perform the desirable traits and have the individuals stop doing the undesirable traits. For this to work in an educational environment one has to get the students or the employees to pay attention. To get the students or the employees to pay attention one would want the model that they are using to be colorful and dramatic it will help keep the students or the employee's attention. Getting the students or the employees to pay attention is not enough if the student or the employees cannot retain or remember what they are paying attention to. This is where imagery and language come in to play because we store what we have seen the model doing in the form of mental images or verbal descriptions. Once the students or the employees store what they have seen the model doing in the form of mental images or verbal descriptions, the students or the employee's use reproduction to translate the images or descriptions into actual behavior. Then there is motivation, the students or

the employees in school or training will work better if they have motivating factors.