



UNDERSTANDING THEORIES OF LEARNING

J. Augustus Richard

Assistant Professor, PPG College of Education, Coimbatore,
Tamilnadu

Abstract:

Learning theories provide a pedagogical basis for understanding how students learn. Learning is a lifelong continuous process. It takes place everywhere as it does not require any boundary like classroom. In recent years the learning strategy has become contemporary due to the development in Information and Communication Technology. The internet and web applications have fastened the learning process by supplying knowledge from worldwide in short time. The 21st century skill requires new theories of learning as propounded by many educational researchers. This paper focuses on the various theories of learning that has to be identified for every teachers and learners. In this paper only few theories has been intensively reported. Apart from these theories there are many theories emerge from time to time.

Learning:

Students learn in different ways from listening, watching, questioning, doing and helping others to learn. Different learners have different cognitive processes, learning styles, preferences and past experiences that they apply when learning takes place. An individual's learning style will affect the manner in which information is processed during learning and thinking, having a considerable effect on the learning effectiveness and efficiency. Sadler-Smith referred to 3 dimensions of learning preferences:

- ✓ Dependent learners prefer instructor-directed, highly structured programmes with explicit assignments and assessment by the instructor;
- ✓ Collaborative learners are discussion oriented and favour group projects, collaborative assignments and social interaction;
- ✓ Autonomous learners prefer to exercise an influence on the content and structure of the learning programmes within which the instructor is a resource.

Just as there are different methodologies that learners prefer in a classroom situation it is sensible to assume that the same situation exists when someone is using a technology-supported environment.

Introduction to Learning Theories:

Learning theories are conceptual frameworks that describe how information is absorbed, processed and retained during learning. Learning brings together cognitive, emotional and environmental influences and experiences for acquiring, enhancing or making changes in one's knowledge, skills and values. There are three main categories of learning theory. They are behaviorism, cognitivism and constructivism. Behaviorism focuses only on the objectively observable aspects of learning. Cognitive theories look beyond behavior to explain brain-based learning and constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts. Apart from the traditional theories of learning many new theories have been evolved as a change in society. This paper explains various theories of learning briefly.

Behaviorism:

Behaviorist Theory maintains a focus on the change in observable behaviors as the manifestation of learning. The theory emphasizes changes in behaviors due to the influence and control of the external environment, rather than the internal thought process of the subject. The hypothesis behind behaviorist learning theories is that all

learning occurs when behavior is influenced and changed by external factors (Merriam & Caffarella, 1999). The founders and proponents of this theory are John B. Watson in the early 20th century, B.F. Skinner, Ivan Pavlov and others. The key concept in this theory is stimulus-response. According to this theory all behavior is caused by external stimuli. All behavior can be explained without the need to consider internal mental states or consciousness. In this theory the learner is viewed as passive, responding to environmental stimuli.

Cognitivism:

The Cognitive Learning Theory explains why the brain is the most incredible network of information processing and interpretation in the body as we learn things. This theory can be divided into two specific theories: Social Cognitive Theory (SCT) and Cognitive Behavioral Theory (CBT). The basic concept of learning mainly focuses on the Cognitive Learning Theory. This theory has been used to explain mental processes as they are influenced by both intrinsic and extrinsic factors, which eventually bring about learning in an individual. According to this theory the learner is viewed as information processor. This theory determines how processes such as thinking, memory, knowing and problem-solving occur.

Cognitive Learning Theory implies that the different processes concerning learning can be explained by analyzing the mental processes first. It proves that with effective cognitive processes, learning is easier and new information can be stored in the memory for a long time. On the other hand, ineffective cognitive processes result in learning difficulties that can be seen anytime during the lifetime of an individual.

Social Cognitive Theory:

The Social cognitive theory includes 3 variables, namely, behavioral factors, environmental factors (extrinsic) and personal factors (intrinsic). These 3 variables in Social Cognitive Theory are said to be interrelated with each other, causing learning to occur. An individual's personal experience can converge with the behavioral determinants and the environmental factors.

Cognitive Behavioral Theory:

Cognitive behavioral theory describes the role of cognition (knowing) to determining and predicting the behavioral pattern of an individual. This theory was developed by Aaron Beck. The Cognitive behavioral theory says that individuals tend to form self-concepts that affect the behavior they display. These concepts can be positive or negative and can be affected by a person's environment.

Constructivism:

Constructivism is a synthesis of multiple theories diffused into one form. It is the assimilation of both behaviorist and cognitive ideals. Constructivists believe learner-centric instructional classroom methods will strengthen the commitment and involvement of self-motivated learners because of their high level of interaction. Today's trend in incorporating technology into the classrooms to support instructional learning methods is founded on this theory of learning. The founders and proponents of this theory are John Dewey, Jean Piaget, Jerome Bruner, Lev Vygotsky and others. The basic idea of this theory is learning is an active and constructive process. According to this theory, the learner is viewed as information constructor. People actively construct or create their own subjective representations of objective reality. New information is linked to prior knowledge.

A reaction to didactic approaches such as behaviorism and programmed instruction, constructivism states that learning is an active, contextualized process of constructing knowledge rather than acquiring it. Knowledge is constructed based on

personal experiences and hypotheses of the environment. Learners continuously test these hypotheses. Each person has a different interpretation and construction of knowledge process.

Humanist Theories:

Humanism, a paradigm that emerged in the 1960s, focuses on the human freedom, dignity, and potential. A central assumption of humanism, according to Huit (2001), is that people act with intentionality and values. This is in contrast to the behaviourist notion of operant conditioning (which argues that all behaviour is the result of the application of consequences) and the cognitive psychologist belief that the discovering knowledge or constructing meaning is central to learning. Humanists also believe that it is necessary to study the person as a whole, especially as an individual grows and develops over the lifespan. It follows that the study of the self, motivation, and goals are areas of particular interest. Key proponents of humanism include Carl Rogers and Abraham Maslow. A primary purpose of humanism could be described as the development of self-actualized, autonomous people. In humanism, learning is student centred and personalized, and the educator's role is that of a facilitator. Affective and cognitive needs are key, and the goal is to develop self-actualized people in a cooperative, supportive environment.

Activity Theory:

Activity Theory is more of a descriptive meta-theory or framework than a predictive theory. Considers entire work/activity system beyond just one user. The unit of analysis is motivated activity directed at an object (goal). It includes cultural and technical mediation of human activity, artefacts in use. Activities consist of goal-directed actions that are conscious. Constituents of activity are not fixed, they can dynamically change. Engestrom's model is useful for understanding how a wide range factors work together to impact an activity. In order to reach an outcome it is necessary to produce certain objects (e.g. experiences, knowledge, and physical products). Human activity is mediated by artefacts. Activity is also mediated by an organization or community. Also, the community may impose rules that affect activity. The subject works as part of the community to achieve the object. An activity normally also features a division of labour.

Levels of Activity:

There are three levels of activity. They are, Activity towards an objective (goal) carried out by a community, action towards a specific goal carried out by an individual or a group possible goals, and operation structure of activity typically automated and not conscious concrete way of executing an action in according with the specific conditions surrounding the goal

Identity Status Theory:

Based on Erik Erikson's groundbreaking work on identity and psychosocial development in the 1960s, Canadian developmental psychologist James Marcia refined and extended Erikson's model, primarily focusing on adolescent development. Addressing Erikson's notion of identity crisis, Marcia posited that the adolescent stage consists neither of identity resolution nor identity confusion, but rather the degree to which one has explored and committed to an identity in a variety of life domains from vocation, religion, relational choices, gender roles, and so on. Marcia's theory of identity achievement argues that two distinct parts form an adolescent's identity: crisis and commitment. He defined a crisis as a time of upheaval where old values or choices are being re-examined. The end outcome of a crisis leads to a commitment made to a certain role or value.

Upon developing a semi-structured interview for identity research, Marcia proposed Identity Statuses of psychological identity development. They are,

Identity Diffusion: The status in which the adolescent does not have a sense of having choices, he or she has not yet made a commitment.

Identity Foreclosure: The status in which the adolescent seems willing to commit to some relevant roles, values, or goals for the future. Adolescents in this stage have not experienced an identity crisis. They tend to conform to the expectations of others regarding their future like allowing a parent to determine a career direction.

Identity Moratorium: The status in which the adolescent is currently in a crisis, exploring various commitments and is ready to make choices, but has not made a commitment to these choices yet.

Identity Achievement: The status in which adolescent has gone through an identity crisis and has made a commitment to a sense of identity that one chose.

Systems Thinking Theory:

System thinking is an important 21st century skill. It is the ability to think about a system as a whole, rather than only thinking about its individual parts. The world is a complex system; there is a need to promote the understanding of its interconnected pieces and relationships. Many other entities such as organizations, schools, and cities or phenomena occurring in nature such as climate change, the Milky Way galaxy, or systems in the human body like the digestive system should be viewed in terms of systems. Biologist Ludwig von Bertalanffy is often credited as one of the first to propose systems theory in the 1930's and 40's. Von Bertalanffy believed in not reducing an entity such as the human body into its individual parts such as just the organs or cells. Importantly, he suggested that the coordination and relationships of the individual parts, how they form a more complete whole, actually lead to new properties. Systems thinking and sustainability visionary Donella Meadows defines a system as "a set of elements or parts that is coherently organized and interconnected in a pattern or structure that produces a characteristic set of behaviors, often classified as its 'function' or 'purpose'.

E-Learning Theory:

E-learning theory consists of cognitive science principles that describe how electronic educational technology can be used and designed to promote effective learning. Mayer, Moreno, Sweller, and their colleagues established e-learning design principles that are focused on minimizing extraneous cognitive load and introducing germane and intrinsic loads at user-appropriate levels. These include the many empirically established principles. They are Multimedia principle, Modality principle, Coherence principle, Contiguity principle, Segmenting principle, Signalling principle, Learner Control principle, Personalization principle, Pre-Training principle, Redundancy principle and Expertise Effect.

Gamification Theory in Education:

Gamification describes the process of applying game-related principles particularly those relating to user experience and engagement to non-game contexts such as education. In 1980, Thomas Malone published the study "What Makes Things to Learn: A Study of Intrinsically Motivating Computer Games." Later, in 2002, the Woodrow Wilson International Center for Scholars, based in Washington D.C., established the Serious Games Initiative to explore the application of game principles to public policy issues. From that initiative, gamification for education emerged and gradually evolved into a field of study. The term gamification was coined in 2003 by Nick Pelling. Today, many game researchers have extended serious advancements in the

application of gamification to educational contexts. Gamification in education or gamification in learning, is sometimes described using other terms: gameful thinking, game principles for education, motivation design, engagement design, etc. It is different from game-based learning in that it does not involve students making their own games or playing commercially-made video games. It operates under the assumption that the kind of engagement that gamers experience with games can be translated to an educational context towards the goals of facilitating learning and influencing student behavior. Since gamers voluntarily spend countless hours playing games and problem-solving, researchers and educators have been exploring ways to harness videogames' power for motivation and apply it to the classroom.

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