

Learning Theories/Adult Learning Theories

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Overview

Typical adult learning theories encompass the basic concepts of behavioral change and experience. From there, complexities begin to diverge specific theories and concepts in an eclectic borage of inferences. Up until the 1950's basic definitions of learning were built around the idea of change in behavior (Merriam and Caffarella, 1999). After this point more complexities were introduced “such as whether one needs to perform in order for learning to have occurred or whether all human behavior is learned ” (Merriam and Caffarella, 1999, p. 249).

Jean Piaget contends that there are "four invariant stages of cognitive development that are age related" (Merriam & Caffarella, 1999, p. 139). According to the authors, Piaget contends that normal children will reach the final stage of development, which is the stage of formal operations, between the age of twelve and fifteen. As cited by Merriam and Caffarella (1999), Arlin (1975, 1984), established from the work of Gruber (1973) on the development of creative thought in adults, has attempted to identify a fifth stage of development, in addition to Piaget's formal operations. "She [Arlin] contends that formal thought actually consists of two distinct stages, not one, as Piaget proposed" (p. 141). Arlin (1975) proposes that Piaget's fourth stage, formal operations, be renamed the problem-solving stage. According to Merriam and Caffarella (1999), Arlin's hypothesized fifth stage was the problem-finding stage. This stage focuses on problem discovery. Though Arlin's proposed fifth stage produced more questions than answers, it opens the door to understanding the learning needs of adults; to be approached as thinkers.

According to a literature review by Ross (2002), humanism, personal responsibility orientation, behaviorism, neobehaviorism, critical perspectives, and constructivism are all important facets of, and perspectives on, adult learning theory. The most common treatments of the research of these areas of self-directed adult learning are learning projects, qualitative studies, and quantitative measures. Collins (1991) explores adult learning as the interactive relationship of theory and practice. In basic terms, the adult learner studies a particular theory and then puts it into practice when presented with the opportunity to do so. Thus, the understanding of an adult learning theory can prompt practice and practice can prompt adult learning theory revision.

Adult learning theories in and of themselves have very little consensus amongst them. There is great debate on an actual determined amount of theories that are even possible, as well as labeling those theories into groups like Hilgard and Bower's (1966) stimulus-response and cognitive theories as large categories of their eleven theories. Another groups dynamic labels theories as mechanistic and or organismic (Merriam and Caffarella, 1999). Overall it seems that the theory of adult learning is broken down into two elements; 1) a process that creates change within the individual, and 2) a process to infuse change into the organization.

Malcolm Knowles might well be considered the founding father of adult learning. He contrasted the “concept of andragogy, meaning “the art and science of helping adults learn,”...with pedagogy, the art and science of helping children learn” (Merriam & Caffarella, 1999, p. 272). Knowles' original studies and writings arose from the assumption that there are significant, identifiable differences between adult learners and learners

under the age of eighteen. Primarily, the differences, according to Knowles, relate to an adult learner being more self-directing, having a repertoire of experience, and being internally motivated to learn subject matter that can be applied immediately – learning that is especially “closely related to the developmental tasks of his or her social role” (p. 272).

Andragogy

Knowles (1968) popularized this European concept over thirty years ago. Andragogy, (andr - 'man'), contrasted with pedagogy, means "the art and science of helping adults learn" (Knowles, 1980, p. 43). Knowles labeled andragogy as an emerging technology which facilitates the development and implementation of learning activities for adults. This emerging technology is based on five andragogical assumptions of the adult learner:

1. **Self-Concept:** As a person matures, he or she moves from dependency to self-directness.
2. **Experience:** Adults draw upon their experiences to aid their learning.
3. **Readiness:** The learning readiness of adults is closely related to the assumption of new social roles.
4. **Orientation:** As a person learns new knowledge, he or she wants to apply it immediately in problem solving.
5. **Motivation (Later added):** As a person matures, he or she receives their motivation to learn from internal factors.

These five assumptions dovetail with the thoughts and theories of others. Merriam and Caffarella (1999) point to three keys to transformational learning: experience, critical reflection and development. The aspect of experience (the second assumption to andragogy) seems like an important consideration in creating an effective learning opportunity for adults. The learning opportunity needs to be relevant and applicable to a person's set of experiences. Argote, McEvily, and Reagans (2003) point to experience as an important factor in one's ability to create, retain and transfer knowledge.

Critical reflection is the second key to transformational learning and part of andragogy's self-directed learning. Reflection/think time is yet another essential principle to creating an effective learning experience for adults. Garvin (1993) shares the importance of fostering an environment that is conducive to learning including time for reflection and analysis. Adult learners need time to contemplate the ramifications of the learning experience to their experience and responsibilities.

The third key to transformational learning is development (corresponding to the third assumption of andragogy). Merriam and Caffarella state that “the ability to think critically, which is mandatory to effecting a transformation, is itself developmental” (p. 330). If development is the outcome of transformational learning, then an effective adult learning opportunity needs to be created that will take personal development into consideration

Andragogy assumes the following about the design of learning:

1. Adults have the need to know why they are learning something.
2. Adults learn through doing.
3. Adults are problem-solvers.
4. Adults learn best when the subject is of immediate use.

According to Knowles (1984, Appendix D) an example used to apply the principles to personal computer training:

1. Explain why certain skills are taught (functions, commands).
2. Task oriented instead of memorizing. Tasks should be common tasks .
3. Take diversity into play. Acknowledge different learning levels and experience.
4. Allow adults to learn on their own and from their mistakes. (M.Knowles)

Some would contend that Knowles only introduced a theory of teaching rather than a theory of adult learning. In commenting on this thought, Merriam and Caffarella (1999) referring to Hartree suggest, "that it is not clear whether Knowles had presented a theory of learning or a theory of teaching, whether adult learning was different from child learning, and whether there was a theory at all-perhaps these were just principles of good practice" (p. 273). It is further contended that Knowles did not establish a proven theory, rather he introduced a "set of well-grounded principles of good practice" (Brookfirtle, 1986, p. 98).

“Within companies, instructional methods are designed for improving adult learners’ knowledge and skills. It is important to distinguish the unique attributes of adult learners so as to be better able to incorporate the principles of adult learning in the design of instruction” (Yi, 2005, p. 34). Within this context, adult learning is aimed at not only improving individual knowledge and skill, but ultimately it is the goal to improve the organizational performance by transfer of learning directly to work applications. Yi suggest three methods to foster learning in adult organizations: Problem-Based Learning which seeks to increase problem-solving and critical thinking skills; Cooperative Learning, which builds communication and interpersonal skills; and Situated Learning, which targets specific technical skills that can be directly related to the field of work (Yi, 2005). Each of these methods support the assumptions about how adults learn; specifically they are more self-directed, have a need for direct application to their work, and are able to contribute more to collaborative learning through their experience.

Multiple Intelligences

Howard Gardner represents those theorists who have dismissed the idea of one type of intelligence as typically measured by today’s psychometric instruments. He posited that there were seven (later eight) types of intelligences (Gardner, 1993):

1. Linguistic intelligence
2. Logical-mathematical intelligence
3. Spatial intelligence or the ability to form a mental model of the spatial world and to maneuver within it using this model.
4. Musical intelligence.
5. Bodily-kinesthetic intelligence, or the ability to solve problems using one’s body as performed by athletes, dancers and other craftspeople.
6. Interpersonal intelligence or the ability to understand other people.
7. Intrapersonal intelligence or the ability to understand one’s self.

Gardner (1993) maintains that the first two are the types of intelligence commonly measured by IQ tests, and which are commonly accepted as “intelligence.”

Gardner later added an eighth intelligence to his taxonomy, Naturalist Intelligence, which he defined as “expertise in the recognition and classification of the numerous species -- the flora and fauna -- of his or her environment” (Gardner, 1999, p. 48) Sternberg’s Triarchic Theory can be viewed as an interpretation of intelligence as information processing. Li (1996) provides us with a useful summary of Sternberg’s theory. He tells us that: “In Sternberg’s general theory, there are three subtheories: the componential subtheory, the experiential subtheory and the contextual subtheory, each divided into subdomains of concern. The contextual subtheory deals with the context of intelligence. Intelligence in the real world requiring adaptation, selection, and/or shaping the environment. Measurement of contextual intelligence would relate to the issue of social perception, culture fairness, and cultural relativeness. The experiential subtheory deals with the issue of novelty and automatizing of processing. It is related to the notion of learning and the dynamic interplay between controlled and automated processing in the competition for cognitive resources. Finally, there is the componential subtheory, which is subdivided into (a) metacomponents, (b) performance components, and (c) knowledge acquisition components, which are directly related to learning” (p. 38)

Conditions/Environment

Some research suggests that situational circumstances constitute an environment that promotes or discourages learning. Those circumstances may be created by organizational structure, positive or negative environmental situations, or time constraints. Child and Heavens (2003) suggest, "The learning capabilities of organizational members are, at least in part, socially constructed by national, occupational, or other institutions" (p. 310). They further suggest that internal boundaries are established by specialties or departments within the framework of organizations that hinder cross-boundary learning.

In following the thread of environmental issues within organizations supporting or hindering learning, Starbuck and Hedberg (2003) suggest that positive outcomes are much more apt to result in a positive and successful learning experience. They contend, "Pleasant outcomes (successes) reinforce Stimulus-Response links whereas unpleasant outcomes (failures) break Stimulus-Response links. As a result, pleasant outcomes are much more effective at teaching new behaviors" (p. 331). This concept follows the transformational leadership theory providing positive opportunities for individuals to grow within the framework of organizational life.

Weber and Berthoin Antal (2003) suggest, "A key question is how long organizational learning processes take and whether the duration can be externally influenced" (p. 353). They further contend that learning processes that require practice are much slower than those that do not require practice. Time consideration is an important element in considering the process of learning within an organization that must meet specific deadlines or has a client base that needs to be managed continuously. The conditions may not be suitable for an elaborate training or educational program. Organizations must consider time pressure as a tool that can encourage learning and speed up processes. However, Weber and Berthoin (2003) contend, "Time pressure can both accelerate and slow down learning processes...is experienced as motivating or threatening...if the sense of threat becomes too excessive, however, learning can be slowed or made impossible altogether" (p. 355).

Experiential learning

Experiential Learning Theory emphasizes the role that true experiences play in the learning process. It is this

emphasis that distinguishes itself from other learning theories. Cognitive learning theories emphasize cognition over affect and behavioral learning theories deny any role for subjective experience in the learning process.

Scholars in the field of education have two contrasting views when it comes to the concept of experiential learning. The first view defines experiential learning as a sort of learning which enables students to apply newly acquired knowledge in a relevant setting. The relevant setting can be a sponsored institution of learning with trainers, instructors, teachers, or professors to guide the lesson. The other school of thought defines experiential learning as "education that occurs as a direct participation in the events of life" (Houle, 1980, p. 221). Thus, learning is not achieved in a formal setting, but in the practice of reflection of daily experiences. Kolb furthers the second definition of experiential learning by developing a model which details learning process through experiences. Kolb and Fry's (1975) experiential learning model is a continuous spiral process which consists of four basic elements:

1. Concrete experience
2. Observation and reflection
3. Forming abstract concepts
4. Testing in new situations

Immediate or concrete experiences are the basis for observation and reflections. These reflections are assimilated and distilled into abstract concepts from which new implications for action can be drawn (Kolb & Fry).

According to Kolb and Fry (1975), the adult learner can enter the process at any one of the elements. The adult learner moves to the next step once he or she processes their experience in the previous step.

Anxiety and the Adult Learner

In an interview with psychologist Edgar Schein, Coutu suggests that more often than not, organizations fail at transformational learning. They rarely fundamentally change the behaviors within the organization. Schein dismisses the notion that learning is fun, especially for adults. He equates adult learning within organizations with that of the brainwashing techniques he observed while studying prisoners of the Korean War (Coutu, 2002). Organizations must find a method to deal with the anxiety adults experience when they are forced to "unlearn" what they know and learn something new (Coutu, 2002, p. 6). Schein discusses two kinds of anxiety: learning anxiety and survival anxiety. It is in this manner that he draws the parallel to brainwashing; that is "learning will only happen when survival anxiety is greater than learning anxiety" (Coutu, 2002, p. 6). Each of these anxieties could be managed, for example learning can be constructed in a "safe" environment where the consequences of failure are minimal. Survival anxiety can obviously be increased by threatening job loss, a lack of security, or recognizing competitive elements of the market.

Jarvis's Learning Process and Adult Learning Theory

One of the most significant qualities unique to adult learning as compared to that of children, teens, and traditional college students is life experience. That experience offers adult learners a meaningful advantage in the learning process. The sum of those experiences provides many reference points for exploration, new application, and new learning.

Merriam & Cafarella (1999) review Jarvis's Learning Process in a wider discussion of adult learning. These authors quote Jarvis (1987a, p. 16) who suggests, "All learning begins with experience." Real learning begins when a response is called for in relation to an experience. If an individual is unchanged by a situation, Jarvis questions whether real learning has taken place. He proposes that new experiences need to be experimented with, evaluated, reflected upon and reasoned about for the most effective change and therefore learning to take place. Jarvis continues, suggesting that these post experience behaviors culminate in the best and highest form of learning where change and increased experience have happened. Jarvis's model offers an excellent learning model that can assist both facilitators and learners in advancing education and learning situations.

A few questions come to mind in light of Jarvis's theory. Does Jarvis's model reflect a deeply postmodern worldview where experience is either ultimate or paramount? How might this worldview expand or narrow learning theory? Does Jarvis's model seem to accept the maxim that 'experience is the best teacher'?

Is it possible that some hurtful and negative life experiences could be avoided if a person learned from another person who has already encountered and experienced a significantly negative life situation? Learning from an older or more experienced mentor provides an incredibly valuable learning forum and support network. Listening, and learning from a mentor's successes, failures, or mistakes can help expand one's knowledge base and shorten learning cycles experience alone would require. It seems that living largely out of one's personal experiences also short-circuits meaningful, relational connections that expand one's horizons and better equip one to succeed in this world and avoid so many of its pitfalls.

Case studies & workplace examples

The adult learning experience presented itself in all of its glory and contradictions through a curriculum review taking place in a school setting. The objective was to examine the current school curriculum and evaluate it for strengths and weaknesses. The purpose for this review was to both align the curriculum with current practice and augment the curriculum to enhance student learning. Interestingly, the teachers involved in this process seemed to exhibit all the qualities of adult learners mentioned previously: learning through projects, applying self-direction to the process, challenging the process for purpose, and some approached the process with much anxiety. Engaging in the process illustrated that adult learning is individual and there were as many approaches to adult learning as there were people involved in the process.

At GM, there are several examples of learning opportunities in manufacturing operations that fulfill the key criteria of adult learning. That is, they provide adults with the need to know why they are learning something, usually via a review of competitive analysis and the importance of the topic to our improved competitive position. Secondly, they are often done in a workshop-type format, where adults can learn through doing. Next, the format typically will cover an application that will have immediate use and will require the students to bring their experiences to the class to assist and involve themselves with problem solving. Typical courses or learning opportunities cover safety issues, quality improvements, and productivity improvements as they apply to specific departments in the plant. In these workshop-style classes, actual problems are brought to the class for the students to learn and practice problem-solving skills. The outcomes and recommendations are then immediately applied in the regular operations.

At Medical Protective, adult learning has been promoted and encouraged among the entire community. Some

learning is required for work-related functions, but other types of courses are intended to benefit professional development. Motivational factors, such as monetary incentives, courses being paid for, recognition, and the hope of advancement have encouraged all employees to participate in a learning course. By utilizing various information technologies, knowledge programs can be accessed online, downloaded to a PC, or printed off for manual review, depending on the need of the individual learner. Medical Protective employees are constantly adapting to the changing IT environment in the market around them, and are using these systems to become more efficient, knowledgeable workers.

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Learning :Interorganizational · Practice

Knowledge Challenges · Processes · Leadership · Change

Management :

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