## Adult Learning

(excerpted from Wikipedia for the purpose of editing)

## 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 barrage of inferences. Up until the 1950s 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 states 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.

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 six andragogical assumptions of the adult learner:

1. Need to Know: Adults need to know the reason for learning.

2. Experience: Adults draw upon their experiences to aid their learning.

3. Self Concept: Adult needs to be responsible for their decisions on education, involvement in planning and evaluation of their instruction.

4. Readiness: The learning readiness of adults is closely related to the assumption of new social roles.

5. Orientation: As a person learns new knowledge, he or she wants to apply it immediately in problem solving.

6. Motivation (Later added): As a person matures, he or she receives their motivation to learn from internal factors.

These six 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

“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):

**Linguistic intelligence, Logical-mathematical intelligence, Spatial intelligence or the ability to form a mental model of the spatial world and to maneuver within it using this model, Musical intelligence, Bodily-kinesthetic intelligence, or the ability to solve problems using one’s body as performed by athletes, dancers and other craftspeople, Interpersonal intelligence which is the ability to understand other people, Intrapersonal intelligence which is 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)

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