Adult Learning

Adults

With the growth of non-traditional adults in higher education, institutional leaders need to look at learning models that fit adult education requirements (Chen, 2013). When designing, or redesigning, online courses for adults, adult learning theory should provide the framework for effective strategies targeting adult learners (Britt, 2015). Theories guiding adult learning are not just for adult students in higher education, but also for teachers in higher education who are learning content or pedagogical skills to enhance student learning (Taylor & Hamdy, 2013). Adult learners bring life experiences to the classroom (Yoo & Huang, 2013). These life experiences may be positive to building critical foundations for college success or a negatively entrenched belief hindering academic learning (Kenner & Weinerman, 2011). Adults are extrinsically and intrinsically motivated to learn (Pallof and Pratt, 2011). Motivation is just one tenant of Andragogy. Andragogy, a term from the early 1800’s, based on German teacher Kapp’s reflection on Plato’s original ideas of self-directed learning. Adult learning theory has a background in organization theory from the business industry where learning theory was used to provide employees with the tools needed for better work performance (Kenner & Weinerman, 2011). Using work from the 1950’s and 1960’s, Knowles, more recently defined andragogy as the art and science of adult learning (1980). Since most Ph.D. candidates and higher education professors are adults, and non-traditional students in higher education are also adults, the theories, and studies of andragogy aid developing effective professional development strategy, for use in higher education, related to the online learning environment. One description of sound pedagogical design is alignment between the curriculum, teaching methods, learning environment, and assessment (Mayes & de Freitas, 2013). This same definition applies to worthy andragogical design.

Professional development in higher education is about teaching adults. Adult learners are empowered to take a more active role in the learning process (Kenner & Weinerman, 2011; Ward & Benson, 2010). The established centers for teaching and learning excellence should use andragogy to guide professional learning. The inclusion of facilitation standards as part of professional development strategies guides consistency in online classes to meet 21st-century learner expectations (Keengwe & Kidd, 2010).

Learning includes the acquisition of knowledge, skills, and abilities (Taylor & Hamdy, 2013). Any theory derived or added upon should then ideally account for learning in all three spheres. Since this research into Theory of Instruction relates specifically to adults in the field of higher education, these three areas should be addressed. The relationship between andragogic theories and practical application of those theories is discussed in various fields such as medicine (Taylor & Hamdy, 2014) and the knowledge gained from previous research in other disciplines could affect application and theory in education.

Research in learning theories provides information about the relationship between instructional components and instructional design (Ertmer & Newby, 2013). Research proven components are not enough for an effective online class. The placement of the proven components is part development and a factor in Theory of Instruction. Learning theories are mostly found in the realm of pedagogy, but because Andragogy is also the study of learning, a deeper understanding of three main learning theories (behaviorism, cognitivism, and constructivism) as they relate to adults has provided insights to design and development of online courses. The same three theories provide perspective on facilitation standards for online courses. Mayes and de Freitas (2013), indicate behaviorism, cognitivism, and constructivism all contribute to the design of learning outcomes (design), learning environments (development), and teaching methods (delivery/facilitation).

Learning Approaches

Behaviorism

Behaviorism focuses on how students learn and guides the creation of effective teaching strategies (Taylor & Hamdy, 2013). Skinner’s (1954) research led to consequences, rewards, and punishments, to shape behavior with conditioning by using three elements to enhance learning; frequency, contiguity, and contingency. Frequency refers to the number of times the stimulus to learning is presented. Contiguity refers to the time delay between the received response and the reception of the reward. Contingency refers to the ongoing connection between the stimulus and the reward (Taylor & Hamdy, 2013). Behaviorists believe learning is accomplished when the correct response follows the presentation of a stimulus (Ertmer & Newby, 2103). For example, in math, the correct answer (response) is given by the learner about an equation (stimulus) is written on the board. An important distinction is the order of the stimulus with the consequences. Behaviorism, in more recent times, is seen as a lower order thinking process; recalling facts, defining concepts, performing specified tasks. A different learning theory explains higher order thinking processes, cognitivism.

Cognitivism

A cognitivist perspective’s focus is on achieving or measuring learner understanding. Gagne considered cognitive strategies as the outcome of instruction from learned capabilities (2005). Cognitivism moves into higher order thinking involving more complex cognitive processes including problem-solving, concept formation, and information processing (Ertmer & Newby, 2013). Behaviorists want to know what a student can do and cognitivists want to know how a student processes the right answer. For example, in math, a behaviorist wants to know the right answer and a cognitivist seeks to see the analytical work leading to the right answer. Behaviorists place focus on the teacher providing content presentation and stimuli to elicit a response and cognitivists place the teacher as a guide on the side to assist but not direct the learning process (Ertmer & Newby, 2013).

Constructivism

A constructivist approach to andragogical design focuses on what the learner is doing (Mayes & de Freitas, 2013). A constructivist schema forms a theoretical foundation to assist development, guide teaching strategies, create student assessments, and evaluate programs (Taylor & Hamdy, 2013). Rather than what does the student know, cognitive asks what the student can do (Gagne, 2005). For example, in math, a behaviorist wants to know the right answer, a cognitivist wants to see the mathematical work leading to the right answer, and a constructivist wants to know the reasoning process to arrive at the right answer and to know if the reasoning process can be applied to other learning situations (Ertmer & Newby, 2013). Student learning should be active, constructive, intentional (Bain, 2004; Hwang, Sung, Hung, & Huang, 2013; Horton, 2012; Tennyson, 2010), authentic, and cooperative. Active learning is an example of a constructivist practice (Carr, Palmer, Hagel, 2015). Vai and Sosulski (2011) share how to *design* online courses and the placement of effective components within the course leading to participation on the part of the student. The constructivist *development* focuses on learning activities engaging the student. The *delivery* focus is on facilitation of a course (Mayes & de Freitas, 2013).

Learning Theory

Social

The last decade has seen an emergence of social constructivism as a learning theory focused on knowledge distributed socially. Social environments, where people grew up, is one area where life experiences collect (Azer & El-Sherbini, 2011) affecting future learning connections (Abel, Brown, & Suess, 2013). One element of social theory is community (Taylor & Hamdy, 2013). Social and cultural settings influence learners (Mayes & de Freitas, 2013, p. 9). Social interaction positively affects the learning process (Baker, 2011). Not only does socialism affect learning but it affects technology because social cognitive theory models are being used to study the use of educational technology tools (Florenthal, 2016). A social constructivist learning theory focusing on student interactions, whereas the social constructivist teaching theory concentrates on the interaction between the student and teacher with an emphasis on student engagement with the content (Bryant & Bates, 2015; Moreillon, 2015).

Being well versed in each of the three relevant learning theories (behaviorism, cognitivism, and constructivism) allows an instructor to choose the best fit for the learner’s present level of knowledge and the best method for achieving optimal outcomes (Ertmer & Newby, 2013). These three positions on learning (Ertmer & Newby, 2013) have implications for Instructional Theory and Instructional Design Theory as well. What is known about the way people think (learning theory) may facilitate changes in teaching strategies (Instructional Theory) and provide a foundation for instructional solutions (Instructional Design Theory) to aid translating theory into practice (Ertmer & Newby, 2013; Rickey, Klein, & Tracy, 2011).