DEFINING AND OPERATIONALIZING ELEARNING THEORY THROUGH DISTANCE

EDUCATION

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Online learning (also known as eLearning) has become extremely popular with academic institutions (both face-to-face and distance) and employers worldwide (Ally, 2008, p. 17). There are many advantages to online education and distance education, including the ability to work wherever and whenever the learner desires, therefore it is a natural fit that online learning has informed recent distance education practices. The purpose of this essay is to review the attributes of learning, identify theories that have culminated in the development of online learning theory, and to demonstrate how these developments have been operationalized in distance education.

Attributes of learning

Anderson (2008) quoted Bransford, Brown and Cocking (1999) concerning their opinion that "effective learning environments are framed within the convergence of four overlapping lenses" (p. 46). They stated that "effective learning is community-centred, knowledge-centred, learner-centred, and assessment-centred" (Anderson, 2008, p. 47).   The learner-centred domain asks that teachers identify learners understanding and misconceptions of material at the start of the learning experience, and establish a culturally sensitive learning environment. A knowledge-centered approach allows students to identify requisite knowledge and reflect on this knowledge. An assessment-centred approach includes opportunities for both formative and summative evaluations, and a community-centred approach incorporates "social cognition" (Anderson, 2008, pp. 47-51).

Learning Theories

The building blocks of online learning theory are rooted in behaviorist, cognitivist and constructivist theories (Ally, 2008). In fact, Ally (2008) quotes Ertmer and Newby (1993), arguing that these three theories of learning all have a role, and can be used concomitantly. Ally

further describes how Janicki and Liegle (2001) identified elements of each of these theories and how they have driven the development of distance education through online learning.

Behaviorist Learning Theory is described by Harasim (2012) as focusing "on that which is observable: how people behave and especially how to change or elicit particular behaviors" (p. 10). A fairly rigid model, behaviorism allows for the observation and measurement of outcomes (e.g., the "right" answer). Pavlov was known for "classical conditioning" (e.g., Pavlov's dogs), representative of behaviorist learning theory (p. 11). Per Ally (2008), behaviorists' strategies are used to teach and assess acquisition of facts (p. 20).

Cognitivist Learning Theory describes the learners ability to make sense of facts, and understand. Harasim offers "cognitive information processing" as a description of this learning theory where learners mentally work through making sense of new information. Ally likens cognitivism to learning the "how" (p. 20).

The third learning theory is the Constructivist Learning Theory, which Harasim (2012) describes as how "learners construct meaning" (p. 12). Further Harasim describes a basic tenet of adult learning as part of their learning theory, where learners create their own understanding through experiences and their reflections of those experience (p. 12). Ally (date)states that constructivist strategies can be used to promote higher-level thinking (p. 20).

Operationalizing online learning theory in distance education

Ally (2008) described how the necessity to teach and assess acquisition of facts (Behaviorist School of Learning) can be operationalized in distance online education by share learning outcomes with learners at onset, and using formative and summative assessments administered online to ascertain the learner's level of achievement (pp. 20-21).

The internal processing of information (Cognitivist School of Learning) can be achieved with online distance education by carefully laying out the online learning (e.g., layout of material, highlighting important information, clearly articulating why learning is important and relates to other course content), "chunking" new information (to avoid information overload), and giving learners an opportunity to apply newly learned information (Ally, 2008, pp. 23-26). For example, when teaching health care students, having learners apply newly learned information to patient cases may be helpful.

Making sense of new information is often facilitated by using a multimedia approach. Mayer describes multimedia instruction as the use of pictures and words to convey an educational message (Mayer, 2009, p. 5). He refers to this as "dual-mode" (or "dual format," "dual-code," or "dual-channel learning") learning because two senses are being engaged (p. 5).

Constructivism is an active learning process as opposed to passive. In this learner-centric model, learners construct knowledge based on their reflection on learning activities, culminating in "transformative learning" (Ally, 2008, p. 30). Strategies used in online distance education used to embrace constructivism include providing opportunities for student collaboration and reflection. This can be accomplished in an online distance environment by assigned students to work in virtual groups and produce a tangible product for others to review. The use of an eportfolio is commonly used to enhance the student's ability to reflect on learning activities.

Conclusion

In conclusion, online learning theory has built on earlier work and theories including behaviorists', cognitive and constructivist strategies. Anderson (2008) outlined strategies than can be used to optimize online learning strategies in the distance education platform to address

the four components of "the way people learn" (learner-, knowledge-, community-, and assessment-centred). Anderson elaborated that constructing a learning environment to meet all these needs can be difficult. It would behoove instructional designers and instructors to develop a keen appreciation for these learning styles to maximize educational outcomes with eLearning.

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