Assignment 3: Literature Review

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Introduction

There is an overwhelming amount of research on online learning and e-learning. I am interested in the nature of online learning, specifically what the online classroom offers beyond the “bricks and mortar” classroom, and how teaching and learning are affected by the context in which the learning takes place. This literature review seeks to identify features identified in successful online learning environments suggested by current research. Though there is no formula for success, literature offers a collective direction about what factors must be considered.

As part of learning in general, learning principles apply to online learning (Anderson 2004). Anderson (2004) suggests that effective learning environments are framed by four overlapping lenses common to all learning environments. An effective learning environment is learning centered, knowledge centered, assessment, and community centered (Anderson, 2004). Context takes many forms, is present in each of the lenses, and is a key element of online learning. It is the overarching theme consistent in all the consulted research.

Online Learning

For my purpose, online learning encompasses both synchronous and asynchronous instruction and interaction, referred to as “e-learning” and “online learning”, because I am looking at similarities in successful approaches to learning online in general.

Learner Centered

Learner centered learning involves awareness of learner cognitive structures and prior knowledge, misconceptions, cultural attributes, and language (Anderson 2004). To achieve this, a meaningful environment of communication and collaboration is required (Carwile, 2007). Anderson (2004) finds evidence that social presence is possible in an online context, but that assessing students’ preconditions can be challenging because interaction is less transparent. VanOostveen, Dejardins, and Bullock (2009) also highlight the important role of individual experiences, personal theories, and values in successful training in educational environments. The experiential “Learning Combination Lock” offers a model of learner centered learning, highlighting and characterizing both internal and external environments and their effect on learning (Beard, Wilson, & McCarter, 2007).

Though students may be new to the online learning context, they bring with them cultural preconceptions about the learning environments and required tools, which may or may not be appropriate (Anderson, 2004). For Anderson, “internet efficacy”, the ability to adapt effectively to the online learning environment, is required beyond simple computer and internet competency (2004, p. 36). This must be considered in online learning by means of course design and ease of tool use. VanOostveen, Dejardins, & Bullockc(2009) suggest Problem-Based Learning (PBL) as consistent with constructivist and collaborative perspectives, which enables learners to reconstruct their thinking about the nature of knowledge, which might build what Anderson (2004) refers to as efficacy, leading to transformative learning (Reushul & Mitchell, 2009) and encouraging learner centered learning.

Other context issues are how students learn and “how they learn what” (Anderson, 2004, p. 50). Learning styles are one source of information about students that suggest how instruction and environment can best be designed to support learning preferences. Research shows that preference of instructional technology is influenced by learning style, and academic performance is positively influenced by use of said appropriate technology (Saeed, Yang, & Sinnappan, 2009), knowledge of which would be helpful to learner centered design.

Beyond learning style, it has been theorized that certain outcomes are best achieved though certain activities (i.e. language though imitation and practice; facts through association, drill, memory and questions) (Prenski, 2000, p.156 as cited by Anderson, 2004, pg. 50). These outcomes can be achieved in e-learning by a combination of online community activities, and independent activities (Anderson, 2004) and must be addressed to maximize learner-centeredness. These varied activities relate to the interaction between students, teacher, and content which are enhanced by communication technologies (Anderson, 2004) and supported by the text-based nature of the environment (Reushul & Mitchell, 2009).

Knowledge Centered

Generalized skills and techniques are not best used outside of a learning domain or context in which to apply and understand them (Anderson, 2004). VanOostveen, Dejardins, & Bullock’s (2009) Collaborative Online Learning Environment (COLE) is situated in specific disciplines and fields, to provide context. This application and experience of acquired skills as well as students’ reflection upon their own thinking allows for transfer of knowledge and development of new knowledge structures (Anderson, 2004) and demonstrates the interconnectedness of theory and practice (Reushul & Mitchell, 2009). Compared to “campus-based” learning, online learning can offer extended and “hands-on” opportunity for engagement and interaction with knowledge resources that critically exist in “the now” (Reushul & Mitchell, 2009) affording limitless growth and achieving a knowledge centered environment.

Assessment Centered

According to Reushul & Mitchell (2009), quality online learning provides multiple opportunities for assessment involving teachers, students, peers and others and should be a personalized learning process in context. Formative evaluation, which motivates and informs while providing feedback to learners and teachers, is championed. Reflection is also an essential part of assessment (Anderson, 2004) to enhance learning (Reushul & Mitchell, 2009).

According to Anderson (2004) enhanced communication capacity of online learning allows for “real world” work (p.38), project/workplace based assessment as well as collaboration, peer review and self-assessment, which leads to desirable learning outcomes and competencies of learning like explaining, planning, problem solving, implementing solutions, monitoring, adjusting. VanOostveen, Dejardins, & Bullock’s (2009) Problem-Based Learning Objects (PBLO) are assessment centered and based on real-world problems. They are also based on formative assessments through peer and self-assessments, usually completed through wiki entries, concept maps, and definition negotiation (p. 16).

Community Centered

Online learning needs be social and collaborative, where students dialogue, support and challenge each other resulting in new constructions of knowledge (Anderson, 2004; Reushul & Mitchell, 2009). This type of community building and resource sharing has been found to be enjoyable for students (Saeed, Yang, & Sinnappan, 2009) as long as it is safe (Reushul & Mitchell, 2009, p. 12). As an example of how to achieve this, COLE seeks a learner driven approach in environments where the learner constructs knowledge collaboratively (VanOostveen, Dejardins, & Bullock, 2009).

Challenges to online community include lack of participation and attention, economic restraint, faculty and institution resistance, and the fact that distance education attracts mostly students who crave “temporal freedom” (Anderson, 2004, p. 40). Thus, successful online learning environments require flexibility to accommodate more universal participation while acknowledging that meeting the needs of everyone is impossible (Anderson, 2004).

Conclusion

The literature suggests that the challenge for e-learning is constructing an environment that is learner, content, community, and assessment center simultaneously. There is no single formula that dictates what interaction style will meet the needs of all learners in all domains (Anderson, 2004) but there is consensus that adopting traditional frameworks for understanding and designing online learning environments will not achieve these goals (VanOosteen, Dejardins, & Bullock, 2009). Rather, awareness of context leads to success online: knowing where students comes from and what they brings with them, their preferences, and how and what they learn; The literature suggests that, in more successful online learning environments, clearly articulated subject specific skills are taught; multiple and formative assessment opportunities are given based on applicable real-world issues; and collaboration is the means by which knowledge and understanding is constructed as part of a social community

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