Chapter XV
Constructivism and Online Collaborative Group Learning in Higher Education: A Case Study

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ABSTRACT

As educators utilize an increasingly wide range of technologies for facilitating interaction between distant learning parties, there are concerns over the ad hoc use of technology in online course design and activities that are not grounded in sound pedagogical frameworks. This chapter presents a case of a hybrid undergraduate course that is shaped by sociocultural constructivist principles. Survey findings on student experiences of online collaborative learning and group work processes in two constructivist-based learning activities are reported. Results reflecting sociocultural constructivist concepts of scaffolding and appropriation of shared knowledge are presented based on student learning experiences during online synchronous tutorials and collaborative team projects. The conclusion discusses the effectiveness of the two course activities in facilitating collaborative group learning and recommendations are offered to enhance overall student experiences of online collaborative-constructivist group learning processes.
INTRODUCTION

As educators access an increasingly wide range of technological tools for facilitating interaction between distant learning parties, there are concerns over the ad hoc applications of technology in online course design and activities that are not grounded in sound theoretical frameworks. This chapter reviews the philosophical assumptions of constructivism that influence interpretations of the form and function of educational interaction with specific focus on the branch of sociocultural constructivism. A qualitative case of a distance undergraduate course that is shaped by sociocultural constructivism is presented. The chapter also explains the influence of constructivist concepts on the instructional aims, virtual learning environment (VLE) design, the conduct and assessment of two main learning activities facilitated by computer-mediated communication (CMC) technologies, namely, online synchronous (chat) tutorial discussions and a collaborative team project.

Survey findings on student experiences of online collaborative learning and group work processes in the two learning activities are reported. Results reflecting sociocultural constructivist concepts of scaffolding and appropriation of shared knowledge are presented from student learning experiences during online synchronous tutorial discussions (Lim, 2006), and collaborative team projects (Sudweeks, 2003). The conclusion discusses the effectiveness of the two constructivist-based course activities in facilitating collaborative learning. Finally, several recommendations are offered to enhance the overall student experiences of online collaborative-constructivist group learning processes which may be of interest to researchers in the fields of CMC and educational technology, higher education faculty and other professionals involved in distance learning.

BACKGROUND

Although interaction is widely assumed to support learning, distance education literature offers various interpretations of its form and purpose, which are likely to stem from different theoretical beliefs of what constitutes knowledge and learning. This section reviews the philosophical basis of constructivism and discusses the sociocultural constructivist conceptualization of educational interactions in online learning and teaching contexts.

Objectivism and Constructivism

The objectivist view of the basic relationship between the individual and the environment is based on realism, which is “the doctrine that there is an independently existing world of objective reality that has a determinate nature that can be discovered” (Schwandt, 2001, p.176). Moreover, objectivist epistemology claims that knowledge, though produced by individual thought processes, is ultimately determined by real world structures and can be mapped on to learners (Jonassen, Davidson, Collins, Campbell, & Haag, 1995).

In contrast, constructivist philosophy is based on subjectivism, which holds that “all judgments … are nothing but reports of an individual speaker’s feelings, attitudes, and beliefs” (Schwandt, 2001, p.241-emphasis in original). Hence, constructivist epistemology claims that knowledge is a subjective interpretation imposed by the individual on the world. Also, since multiple individual interpretations would lead to multiple realities, no single interpretation is necessarily less valid than another (Jonassen, 1991a). Von Glasersfeld (1995) further argued that this stance is not extended to epistemological nihilism. Essentially, constructivism regards constructed knowledge as dynamic and subject to change when exposed to new perspectives during interaction. The two main schools of thought (radical and sociocultural constructivism) that emerged from this
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