Chapter 5.4
The Students' Participation in WebCT:
An Activity Theory Perspective on Online Collaboration of Knowledge Construction

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ABSTRACT

This chapter reports on the students' interaction taking place within the virtual learning environment, WebCT. It is particularly critical of Computer-Mediated Communication (CMC) analysis regarding the knowledge construction, evidenced by the transcripts of their online discussions. The guiding theory, Activity Theory, provides perspectives that can help instructors and teachers understand emerging learning participation mediated by computers. From this perspective, computers do not simply facilitate learning that could have been done without their presence. Rather, computer mediated communication could alter the entire flow of knowledge construction processes.

INTRODUCTION

Universities are now increasingly encouraged to utilize virtual or electronic learning environments (VLEs) to expand the process of education. In general, VLEs are defined as web-based online environments that are relatively open systems, allowing for interactions and knowledge sharing, as well as providing access to a wide range of information resources (Caladine, 2008; Holmes & Gardner, 2006; Littlejohn & Higgison, 2003; Fisher & Coleman, 2001-2002). This definition covers a broad range of a VLEs' features, ranging from static, informative individual web pages to interactive *bulletin boards*; from asynchronous email messages and WebCT discussion forums to synchronous chat rooms and e-conferences.

Evidences from previous studies show that Virtual Learning Environments have enriched the

DOI: 10.4018/978-1-4666-0011-9.ch5.4

context for learning processes (Bonk, 2009; Salam, 2009; Dutton, Cheong, & Park, 2004; Lange, Suwardy, & Mavondo, 2003; Bunt-Kokhuis, 2001; Bonk & King, 1998). These studies have found that global networks of computers have contributed to the ease of accessing vast resources for learning, as well as to promoting interpersonal interaction. Classrooms are no longer limited by physical buildings; learners may reach virtual resources located in other universities and are able to easily communicate with people around the world.

Situated in such environments, learning is not simply defined as knowledge acquisition; rather, it includes the skills to manage information, as put forth by Rüschoff and Ritter's (2001) argument that "learning should be regarded as a process of information gathering and knowledge processing" (p.224).

This approach requires learners to be active and interactive toward their environments. The notion of *active* learning is highlighted in contrast to a traditional approach, which treats learners as passive information recipients (McLuckie & Topping, 2004; Hughes & Daykin, 2002). The notion of *interactive* learning, on the other hand, refers to the students' interaction with both physical resources and other people (Sims, 2003; Tam, 2000). The VLEs provide learners with opportunities to construct their understanding by conjoining in online communication (Sims, 2003; Yakimovicz & Murphy, 1995). Here, as noted by Bonk and King (1998), the construction of knowledge has been represented by learners' contribution and interaction through electronic collaboration.

Activity Theory emphasizes the interconnected relationship between individuals, tools, and sociocultural contexts. Learning does not exist in isolation; rather it involves participants within a cultural context in which individuals engage with each other. The VLEs are in fact electronic environments that enable users to communicate with broader communities at any time and from any place.

The current study aims to explore the Education Faculty students' participation in such environments. Particularly, this chapter will analyze online collaboration processes of knowledge construction.

THEORETICAL BACKGROUND

To explore the collaborative process of knowledge construction, we need to examine the sociocultural view of activities. This perspective views learning as being distributed across people and tools. Hutchins (1995) argues that higher order thinking cannot be understood by simply studying individual cognition per se; rather, one should investigate the whole system in which the individual operates. This view shares much with Activity Theory in considering a system of people and technology as they engage together.

Leontiev (1978) introduces the concept of *activity* as we understand it today. He conceptualizes activities as micro systems that are complex processes driven by objects and motives (Leontiev, 2005b). In relation to the social nature of human activities, Leontiev argues that an activity never stands by itself; rather, it is connected with other activities; "the action of a single given person [is] under conditions of the activity of other people, that is, it presumes a certain joint activity" (Leontiev, 2005b, p. 62). An object is seen as something that is realized through individual actions that are goal-driven. Leontiev (2005a), furthermore, proposed that activities can be described in three different ways, or three "functionally subordinated hierarchical levels" (Kaptelinin, Nardi, & Macaulay, 1999, p. 29): the *activity* level, the *action* level, and the *operation* level.

Activities are seen by Leontiev to consist of distinct actions or series of actions, which in turn consist of operations (Leontiev, 2005a). Activities are undertaken in order to fulfill *motives*. Leontiev explains that "the sign of an activity is that the object and the motive coincide" (2005b, p. 63);