Chapter 5.5

What Factors Promote Sustained Online Discussions and Collaborative Learning in a Web-Based Course?

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ABSTRACT

Although the pedagogical advantages of online interactive learning are well known, much needs to be done in instructional design of applicable collaborative learning tasks that motivate sustained student participation and interaction. This study investigates the factors that encourage student interaction and collaboration in both process and product oriented computer mediated communication (CMC) tasks in a Web-based course that adopts interactive learning tasks as its core learning activities. The analysis of a post course survey questionnaire collected from three online classes suggest that among others, the structure of the online discussion, group size and group cohesion, strictly enforced deadlines, direct link of interactive learning activities to the assessment, and the differences in process and product driven interactive learning tasks are some of the important factors that influence participation and contribute to sustained online interaction and collaboration.

INTRODUCTION

Theoretical Framework

The pedagogical advantages of student interaction in collaborative construction of knowledge are grounded in the social constructivist perspective of learning. From the social constructivist perspective, all learning is inherently social in nature. Vygotsky's theory of the Zone of Proximal Development posits that learners benefit most from social interactions concerning tasks they cannot do alone but can do in collaboration with more knowledgeable or more experienced peers (Kern, 1995). Knowledge is discovered and con-

structed through negotiation, or collective sense making. Pedagogically sound tasks in an online learning environment should, therefore, reflect social learning and collaborative construction of knowledge.

In designing and implementing online collaborative learning tasks, educators also draw heavily from Bakhtin's social theories to support their models of social interaction in collaborative construction of meaning in an online learning environment (Duin & Hansen, 1994; Wang & Teles, 1998; Wu, 2003). A speaker gives voice to a thought, an utterance, this utterance, though representing the ideas of an individual, reflects a social environment that is shared. The listener interprets the utterances in a purposeful, conscious act, in terms of his or her own concept of the social context, in terms of what the words mean to him or her individually. Therefore, speech and writing are dialogical in that the meaning of an utterance is created by both the speaker/writer and listener/reader through social interaction (Duin & Hansen, 1994). Pedagogically sound online learning tasks should therefore facilitate such online interactive learning for knowledge construction.

Interactive Learning and Online Collaboration

From a student's perspective, online interaction in learning takes place at two different levels: interaction with content and interaction with instructors and between peers (Gao & Lehman, 2003). There is evidence that pedagogically well-designed interactive learning tasks actually increase rather than decrease student access to instructors; increase interactions between instructors and among students; and increase students involvement of course content as well (Lavooy & Newlin, 2003; Mouza, Kaplan, & Espinet; 2000; Wu, 2003). Interactive learning tasks also promote greater equality of participation (Mouza, Kaplan & Espinet, 2000), more extensive opinion giving and exchanges (Summer & Hostetler,

2002), empower shy students to participate, and promote more student-centered learning (Kern, 1995; Wang & Teles, 1998)

At the level of interaction with content, students benefit more from producing explanations than receiving explanations. Such proactive learning engages students in a higher level of thinking than the reactive type of learning (Gao & Lehman, 2003; Wu, 2003). To promote such proactive learning, online course instructors need to integrate more active learning tasks that require more production than reception of explanations. Therefore, tasks that require written explanations should be considered over multiple choice type of reading comprehension in interpreting learning materials. Computer Meditated Communication in both synchronous and asynchronous discussion forums is inherently supportive of tasks for exchange of such written explanations. Furthermore, the systems can also archive written explanations posted in online forums and can be easily accessed and retrieved for references.

Although CMC supports interaction and collaborative learning, it also has inherent shortcomings. Disadvantages include the time it takes to exchange messages and the increased difficulties in expressing ideas clearly in a context reduced learning environment and the difficulty in coordinating and clarifying ideas (Sumner & Hostetler, 2002). The increased time it takes to reach consensus and decisions (Kuhl, 2002; Sumner & Hostetler, 2002) and to produce a final product (Macdonald, 2003). Given all these difficulties students need to overcome in order to collaborate effectively in interactive learning environment, online instructors need to address these obstacles with careful instructional design and provide support for collaborative learning with appropriate interactive learning tasks.

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