Process and Product Oriented Online Collaborative Learning Tasks

Xinchun Wang
California State University, Fresno, USA

INTRODUCTION

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. Among others, some of the known factors that affect the outcomes of interactive learning include 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 between process and product oriented collaborative learning. This study explores the differences between process and product oriented group learning activities and their impact on online cooperation and collaboration in Web-based courses.

BACKGROUND

The pedagogical advantages of student interaction in collaborative construction of knowledge are grounded in the social constructivist perspective of learning. (Duin & Hansen, 1994; Kern, 1995; Wang & Teles, 1998; Wu, 2003). Although the benefits of collaborative learning in web-based learning environment are well accepted by researchers, much needs to be done in instructional design of applicable collaborative online learning tasks that motivate sustained student participation and interaction. Research has shown that computer mediated communicative (CMC) tasks require more active role of students than traditional instruction in the face-to-face environment does (Wang & Teles, 1998). Students need to be willing to send a formal written question rather than have a casual conversation with peers or with the instructor in order to have their questions answered (Kuhl, 2002). To communicate effectively with peers and the instructor, students need to create the context through written messages, which requires the writing skills to identify their problems and express them precisely in order to have the questions answered (Kuhl, 2002; Macdonald, 2003).

In addition to negotiation skills online, previous research has identified a number of other factors that influence student participation and interaction in a web-based learning environment. Among others, the assessment of collaborative learning tasks plays a crucial role in ensuring student participation (Kear, 2004; Kear & Heap, 1999; Macdonald, 2003; Wang, 2007). In general, assessed collaborative learning tasks attract student participation at the cost of unassessed tasks. Furthermore, grade for discussion was also positively related to students' perceived learning (Jiang & Ting 2000).

The structure of discussion in CMC is found to be another important factor in ensuring the amount of participation and level of interaction and collaboration among the peers. Such structure includes the size of the discussion groups, the nature and types of discussion topics (Williams & Pury, 2002), and whether the collaboration emphasizes on the process of learning or the end product of such collaboration, or both (Kear, 2004; Kear & Heap, 1999; Macdonald, 2003; Wang 2007).

To summarize, online negotiation skills, the direct link between collaborative tasks and assessment, the structure of online discussions such as the nature and types of discussion topics, the size of the group, and the differences between process and product oriented collaborative tasks are some of the factors that influence student participation, interaction, and collaboration. Table 1 summarizes the above listed factors that affect student online interaction and collaboration.

Moreover, there is also evidence that online interactive learning and collaboration are not always sustainable and students' participation in CMC collaborative tasks may wane after the assessed tasks that require the postings are completed (Macdonald, 2003; Sadler, 2007). In a recent survey on college student's attitudes toward participation in electronic discussions,

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Table 1. Factors that influence students' participation of online collaborative tasks

Factors		
Tasks	Required	Optional
Assessment	Direct assessment	Un-assessed, indirect assessment
Topics	Course contents	Other contents
Time frame	Strict deadlines	Open-ended
Structure	Process oriented	Product oriented

Williams & Pury (2002, p.1) found that "contrary to much literature on electronic collaboration suggesting students enjoy online collaboration, our students did not enjoy online discussion regardless of whether the discussion was optional or mandatory." Collaborative tasks that promote sustained student online interactive learning and collaboration require careful instructional design.

MAIN FOCUS OF THE CHAPTER: PROCESS VS. PRODUCT ORIENTED COLLABORATIVE LEARNING

This study explores the differences between product oriented and process oriented online collaborative learning tasks and their effects on learning. The data are based on a post-course questionnaire survey that analyzes students' attitudes towards both forms of collaborative learning in a web-based course that employed both tasks.

Online collaboration can be either process or product oriented. Forum discussions regarding course contents or related issues are commonly process oriented as the sharing of ideas help learners understand the issues without necessarily leading to a final product. Students are assessed individually based on their participation and quality of their contributions. Alternatively, online interaction and collaboration may lead to a final product such as an essay, a project, or a webpage, etc. There can be two assessment elements to such tasks, a common grade for the group for the overall quality of the collaborative product and individual grades for the contribution of each individual to the collaborative endeavor (Kear, 2004; Kear & Heap, 1999; Macdonald, 2003). The similarities and differences of process and product oriented learning tasks are summarized in Table 2.

Course Information

The course reported in this study was an upper division general education course in Bilingualism and Bilingual Education delivered entirely on Blackboard in Spring and Fall 2004 at a state university in California. A total of 60 students, 22 in the Spring Semester class, and 20 and 18 students in the two Fall Semester classes completed the course. All were local students who took the course online because the same course offered face to face conflicted with their schedules. Some students

Table 2. Similarities and differences between process and product oriented online collaborative learning tasks

Process oriented tasks	**Product oriented tasks**
Exchange of views to share ideas that may or may not lead to agreements	Exchange of views that are consensus building to reach agreements
No end product	End product: a project, report, etc.
Relatively easy to interact and share views	Difficult to reach agreement by a time line
Individual grade	Common and/or Individual grade

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