

Chapter 4.13

Computer–Supported Collaborative Learning: The Role of the Instructor

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ABSTRACT

In collaborative learning, interaction among learners is essential for effective knowledge acquisition and increased understanding. Computer Supported Collaborative Learning (CSCL) environments often inhibit or cause problems with learner-learner interactions. This chapter takes an applied perspective of what the instructor can do to identify and manage learner-learner relationships in a CSCL environment. Using a model of virtual team effectiveness, we identify potential motivational, cognitive, and affective problems between learners that are often exacerbated by computer-mediated technologies. Recommendations for instructor interventions designed to promote effective learner interactions are offered. This information will provide insight to both corporate trainers and K-12 educators on how instructors can

promote appropriate and positive learner-learner interaction in CSCL environments.

INTRODUCTION

Computer-supported collaborative learning (CSCL) allows group learning to take place in computer-mediated environments. To receive the full benefit of social learning, collaborative learners must interact with each other, share information, and coordinate actions. Unfortunately, research has indicated that computer mediation contributes to potential barriers to learner-learner interaction. Specifically, members of computer-mediated teams tend to experience slower development of trust, cohesion, efficacy, and shared cognition, all of which impact whether learners interact effectively. A concern for instructional developers and

designers is how to foster effective learner-learner interactions in CSCL environments.

This chapter proposes that instructors have the ability to influence and promote effective learner-learner interactions by identifying problems and stepping in to facilitate their processes. However, most CSCL course developers and instructors have not focused on the instructor's role of promoting learner-learner interaction. Rather, attention has been paid to the choice of technologies used to support this interaction, even though research on virtual teams has found that a leader is able to influence the processes (e.g., coordination and information sharing) and relationships (e.g., cohesion, efficacy, and trust) between team members (Zaccaro, Ardison, & Orvis, 2004; Orvis, 2004). This chapter will incorporate virtual team and CSCL research to focus on the role of the CSCL instructor as a promoter, facilitator, and manager of positive learner-learner relationships and interactions.

The specific objectives of this chapter will be to:

- Describe the importance of learner-learner interactions in collaborative learning environments
- Describe the influence of dispersion and computer-mediation on learner-learner processes
- Focus on the instructor's role in facilitating learner-learner processes
- Suggest practical guidelines for what an instructor can do to overcome problems with learner processes at the group level

COLLABORATIVE LEARNING

Learning is undoubtedly influenced by interactions. Whether in a traditional classroom setting or through computer-mediated learning technologies, we acquire knowledge through our interactions with others. The basis of collaborative

learning is grounded in the belief that learning is a social, rather than an individual, phenomenon (Bonk & Cunningham, 1998). It is an interactive process where students work together to construct knowledge and solve problems, first through an expression of their ideas and then by way of an augmentation of those ideas as influenced by others. Through collaborative tasks such as discussing, summarizing, clarifying, and integrating course content into an overall framework, learners acquire knowledge and gain a deeper understanding of course material (Deatz & Campbell, 2001).

With the introduction of collaborative technologies, there are opportunities for collaborative learning to take place across barriers of time and space. CSCL allows for team learning through electronic means. In addition, many educators believe that CSCL environments are the most promising next generation of distance learning tools (Kreijns, Kirschner, & Jochems, 2002). However, the move to a computer-mediated environment raises some concerns. Collaborative learning is built on the premise that individual learning is promoted through group processing (Enerson, Johnson, Milner, & Plank, 1997). Therefore intra-group interaction is the key element (Kreijns, Kirschner, & Jochems, 2003), regardless of the technology used to support that interaction. Unfortunately much of the literature on dispersed collaborations has shown technology and dispersion makes traditional team processing more difficult (e.g., Avolio, Kahai, Surinder, Dumdum, & Sivasubramaniam, 2001; Webber, 2002), which is problematic, considering quality of the interactions determines the extent and depth of individual learning (e.g., Kreijns et al., 2003).

Kreijns et al. (2003) identified two major pitfalls to meaningful interaction in collaborative learning. The first is the common assumption that merely providing opportunity for collaboration will result in collaborative actions. However, classroom studies have found that the simple act of placing people in a team does not automatically promote cooperation and interaction (Johnson &

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