Chapter VI

The Dynamics of Online Collaboration: Team Task, Team Development, Peer Relationship, and Communication Media

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Abstract

This chapter aims to help readers build a solid understanding of the complex dynamics of online collaborative learning from multiple perspectives, and thus become more capable to utilize different instructional strategies to achieve productive online collaboration. On the basis of extensive review and integration of research from multiple disciplines, the authors discuss the dynamics of online collaborative learning from four aspects: team task, team development, member relationship, and communication media, with one section designated to each of them. The sections each comprise presentation of the issue, theoretical frameworks, suggested strategies, and how it relates to other aspect(s), as applicable. The chapter
concludes with implications for practice in online collaborative learning and future research for managing learning in virtual collaborative environments. This chapter is considered a valuable artifact to guide practice and research in online collaborative learning in various settings.

**Introduction**

Research indicates that small groups facilitate learning as compared to individual learning (e.g., Bruffee, 1999; Johnson, Johnson, & Stanne, 1985) and that peer group work has significant impacts on varied learning outcomes in both face-to-face and online learning environments (e.g., Bruffee, 1999; Harasim, 1990; Scardamalia & Bereiter, 1996; Uribe, Klein, & Sullivan, 2003). As a new learning method, however, online collaboration does not happen automatically, nor does it simply make learning easier. Instead, it may be challenging for learners in many ways (Bonk & King, 1998; Zhang, 2001; Zhang & Harkness, 2002). Being very different from traditional learning through face-to-face communication, misunderstanding and miscommunication are more likely to happen and are also less detectable in an online environment. In addition, online communication technology is relatively new as an educational tool, and so learners may experience a learning curve with the technology as well as with the learning method. Zhang and Ge’s research (2004) shows that as a two-fold innovation, online collaborative learning challenges learners with the new methods of learning and the technologies it involves.

Research and instructional efforts have been made to deal with challenges faced by students and instructors in online learning environments and to facilitate successful online collaboration (e.g., Bonk & King, 1998; Clark & Mayer, 2003; Harasim, 1990; Kaye, 1991). Recently, Zhang (2003, 2004), Zhang and Carr-Chellman (2001), and Zhang and Peck (2003) conducted a series of studies investigating the effects of externally structured and moderated peer interactions in online collaborative learning. These studies support the past research on the effectiveness of structuring group work for productive group interactions in face-to-face learning environments (see Webb & Palincsar’s review, 1996). Further, using a naturalistic research approach, Zhang and Carr-Chellman (2001) also explored issues surrounding online collaboration. Four issues emerged from the study as the major themes: team task, team development (or interaction pattern for short-term collaborative groups), peer relationship, and communication media. These themes appeared to be the critical issues that may determine the success of online collaborative learning.

The purpose of this chapter is to develop a deeper understanding of the dynamics of online collaborative learning from the four perspectives, supported by theoretical frameworks and empirical research from related disciplines. Online collaboration is relatively a new pedagogy, and thus it is interdisciplinary by nature. In
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