Chapter XI

Reflection and Intellectual Amplification in Online Communities of Collaborative Learning

Elsebeth Korsgaard Sorensen
Aalborg University, Denmark

ABSTRACT
An alternative theoretical framework for analyzing and designing computer-supported collaborative learning environments is introduced. Bateson’s theory (1973) is used as a starting point for considering in what sense the specific dialogical conditions and qualities of virtual environments may support learning. We need more stringent analytical approaches of research that relate communicative qualities of virtual contexts to qualities of the collaborative knowledge-building process. This approach suggests that new didactic and instructional methods, addressing the learner’s communicative awareness at a meta-level, need to be developed in order to fully utilize the interactive and reflective potential of online collaborative learning. A deeper understanding of the reflective nature of the online environment and its potential for enhancing intellectual amplification will give rise to the birth of new and more innovative designs of online collaborative learning.
INTRODUCTION

Flexible computer-supported learning is rapidly emerging as the educational method of choice in modern society. Although most applications of computer-supported learning are primarily interactions of the learner with software, the envisioned educational expectation within distributed computer-supported collaborative learning (CSCL)\(^1\) is design and delivery of flexible learning environments with deeper collaborative and interactive learning qualities (Kaye, 1994). This expectation has so far not been realized (Collis, 1996; Fjuk, 1998; Sorensen, 1997b, 1998; Collins, Mulholland, & Watt, 2001), primarily because achieving peer interaction remains a complex challenge.

Several studies based on practical applications identify shortcomings in the technology as the main reason for the lack of collaborative learning. They conclude that learning situations unfolding face to face are more conducive to good quality learning than online CSCL situations. In contrast, within CSCL research, the problem of achieving online peer interaction is identified as a shortcoming of not being able to integrate pedagogy, organization and technology (Bates, 1995; Fjuk & Sorensen, 1997) in appropriate ways. CSCL researchers do not interpret online CSCL as lower level quality learning compared to face-to-face learning; instead there is a growing awareness that a more generalized understanding of human interaction and communication is the key to unlocking the interactive learning potential of CSCL (Dillenbourg, Baker, Blaye, & O’Malley, 1995). New insights are needed into the interactive learning conditions of virtual environments.

The general principles of collaborative learning theory are assumed to be at the core of CSCL (Harasim, 1990; Sorensen, 1996, 1997b). However, these principles are only vaguely defined in the continuum between theory and practice and are not focused enough to analyze learning qualities in the virtual environment. We need more stringent analytical approaches that relate communicative potential and qualities of the virtual communicative context to qualities of the learning process. Such insights are expected to inspire new, alternative instructional designs and didactic methods (Koschmann, 1996; Pea, 1994).

This chapter presents an alternative theoretical framework for analyzing and designing CSCL environments, and argues that online collaborative learning environments are conducive to intellectual amplification. It addresses the learning potential of distributed CSCL and the need for and role of meta-instruction. I will assert that the inability to stimulate online interaction may be traced to a lack of understanding among designers and instructors of the characteristics of dialogue in virtual environments. On this basis, I will attempt to explain how specific dialogical conditions and qualities of virtual environments may enhance interaction and intellectual amplification in asynchronous distributed CSCL. Based on the theoretical perspective of Gregory Bateson (1973) and basic “ontological” principles of online learning environments, I suggest potential
Related Content

The Metaverse: 3D Digital Virtual Worlds
(2015). Learning in Metaverses: Co-Existing in Real Virtuality  (pp. 48-81).
www.irma-international.org/chapter/the-metaverse/119765/

Learning-by-Doing Teamwork KSA: The Role of Strategic Management Simulation
Víctor Martín-Pérez, Natalia Martín-Cruz and Pilar Pérez-Santana (2012). International Journal of Virtual and Personal Learning Environments (pp. 21-34).
www.irma-international.org/article/learning-doing-teamwork-ksa/67115/

Collaborative Teaching Experience at the University of Deusto
Alex Rayón, Iratxe Menchaca and Mariluz Guenaga (2014). Building Online Communities in Higher Education Institutions: Creating Collaborative Experience  (pp. 311-326).
www.irma-international.org/chapter/collaborative-teaching-experience-at-the-university-of-deusto/100597/

The Creation of a Theoretical Framework for Avatar Creation and Revision
www.irma-international.org/article/the-creation-of-a-theoretical-framework-for-avatar-creation-and-revision/132854/

Comparing Foreign Language Learners’ Use of Online Glossing Programs
John Paul Loucky and Frank Tuzi (2010). International Journal of Virtual and Personal Learning Environments (pp. 31-51).
www.irma-international.org/article/comparing-foreign-language-learners-use/48220/