

Preface

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 book takes an applied perspective of what the instructor can do to identify and manage learner-learner relationships in a CSCL environment. This information will provide insight to both corporate trainers and K-12 and university educators on how instructors can promote appropriate and positive learner-learner interaction in CSCL environments.

Computer-Supported Collaborative Learning

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 computer mediation creates 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.

In 2006, Orvis and Lassiter proposed that instructors have the ability to influence and promote effective learner-learner interactions by identifying problems and stepping in to facilitate their processes. However, an assertion was made that 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, information sharing) and relationships (e.g., cohesion, efficacy, trust) between team members (Zaccaro, Ardison, & Orvis, 2004; Orvis, 2004). That research incorporated 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. This was, in part, due to the minimal amount of published research on the topic of the instructor and how they are able to facilitate learner-learner interactions in a CSCL environment.

The Contribution of This Book

The purpose of this book was to pull together chapters which focus on the role of instructors in promoting learner-learner interactions in a CSCL environment. Our vision for the book was twofold: First, to provide a document which would help corporate trainers and K-12 and university educators learn how to promote appropriate and positive learner-learner interaction in CSCL environments; second, to promote additional research in the area of instructor-group interactions. To accomplish this goal, we bring together academics and practitioners from a variety of disciplines, including business, communication, education, psychology, and information technology. In addition, this is a multinational effort with contributions from the USA, Greece, Poland, Turkey, and the United Kingdom.

The Organization of This Book

This book has XIV chapters, divided into four sections. Here we briefly describe each section and its accompanying chapters.

Section I: Setting the Stage

The first section of the book includes two chapters which offer interesting findings and ideas to consider throughout the rest of the book.

In Chapter I, Traci Sitzman of the Advanced Distributed Learning Co-Lab in Alexandria, Virginia, Katherine Ely of George Mason University, and Robert Wisher of the Department of Defense present results from a meta-analysis that compares the effectiveness of Web-based instruction (WBI) to classroom

instruction (CI). They identify which instructional methods incorporated in WBI are the critical factors in determining trainees' knowledge acquisition. Among those instructional methods were providing the appropriate kind of learner-learner interactions. Based on their meta-analytic findings, the authors of this chapter make several recommendations for Web-based course design.

In Chapter 11, Orlando Olivares, a professor at Bridgewater State College, examines CSCL in the context of cooperative and collaborative learning, highlighting similarities and differences between the two. Dr. Olivares also makes suggestions for how the instructor should approach the digital classroom, based on the conceptual differences between collaborative and cooperative learning.

Section II: Student Development Case Studies

Section II is made up of five chapters which describe and draw conclusions from case studies involving CSCL environments. Although each chapter proposes guidelines for what instructors could do to promote learner-learner interactions, each case is supported by different technologies and/or focuses on different instructional methods. This section highlights the variety of approaches to studying this area of research.

In Chapter III, Stephanie Cawthon and Alycia Harris from Walden University report student and instructor reactions concerning how social factors influence learning outcomes during an online research lab. They use Community of Practice theory as a lens for this exploration. The chapter includes strategies used by the instructor, perspectives from students, and recommendations for ways to overcome obstacles to a successful online research community.

In Chapter IV, Stephanie Brooke of the University of Phoenix presents the case method as one pedagogical approach for teaching online courses and promoting collaboration among learners. Pedagogical approaches to working with novice and seasoned online students are addressed.

In Chapter V, Evelyn Johnson of Boise State University and Jane Pitcock of Walden University present a brief overview of the importance of social learning theories and existing research that supports learner-learner interaction as an important aspect of learning. They then report and discuss findings from a qualitative study examining the use of an ecological assessment tool to evaluate an online course's ability to support learner-learner interaction. Throughout the chapter, they focus on the instructor's role in supporting learner-learner interactions.

In Chapter VI, Erman Yukselturk and Kursat Cagiltay of the Middle East Technical University monitor the input, processes, and outcomes of a selection of online learning groups through semi-structure interviews. They focus on describing how such groups work collaboratively, how to facilitate them and what makes work in such groups satisfactory and successful. They find that group homogeneity and the opportunity for face-to-face communication play a major role in successful group work.

In the final chapter of this section, Donna Ashcraft of Clarion University of Pennsylvania and Thomas Treadwell of West Chester University examine problems instructors and students experience in collaborative learning by drawing on social psychological literature and their personal experiences in implementing online collaborative learning. They make propositions for how instructors should manage learner-learner interactions through a social psychology lens. The authors draw on their experiences with CORAL (Collaborative Online Research and Learning) in order to demonstrate these phenomenon and recommendations.

Section III: Professional Development Case Studies

CSCL environments are not exclusive to the K-12 or college courses. CSCL is increasingly being used to develop professionals in the workplace. The selection of chapters in Section III presents approaches and lessons learned within the context of CSCL professional development efforts.

In Chapter VIII, Ellen Nuffer of Keene State College examines principles of adult learning and cognition as well as theories and perspectives on collaboration that inform best practices in supporting faculty as they find creative ways to work together. These best practices are examined in their applications to faculty collaboration using course management system software. Four projects are described and analyzed. Recommendations are then discussed.

In Chapter IX, Eileen B. Entin of Aptima, Inc., Jason Sidman of Aptima, Inc., and Lisa Neal of eLearn Magazine discuss considerations and tradeoffs in developing an online teamwork skills training program for geographically distributed instructors and students. The chapter focuses on supporting active engagement of learners and meaningful and thoughtful learner-learner interactions for a professional training program. The authors propose lessons learned in leveraging the advantages of both self-paced and group learning, providing opportunities to practice the teamwork concepts being trained,

creating social presence, and promoting interaction and reflection among the course members.

Section IV: Diversity in CSCL Environments

Diversity is a topic which is becoming increasingly important as technology enables collaboration to take place over barriers of time and space. Multinational collaborations offer an additional challenge to learner-learner interactions and instructors in CSCL environments. The fourth section of this book offers three chapters which investigate the influence of diversity on real world student collaborations.

In Chapter X, Anna Michailidou and Anastosios Economides of the University of Macedonia discuss the impact of demographic diversity in learner-learner interaction in CSCL teams. They pull from the virtual teams literature and assert that instructors must invent new ways to implement successful collaboration, particularly in cross-cultural learning collaborations.

In Chapter XI, Janice Whatley of the University of Salford, Elena Zaitseva of Liverpool John Moores University, and Danuta Zakrzewska of the Technical University of Lodz introduce peer reviewing as a form of collaborative online learning which encourages students to engage in reflective critical evaluation of each other's work. They describe two cases in which this method was applied and discuss challenges particular to a multinational collaborative setting.

In Chapter XII, Derrick L. Cogburn of Syracuse University and Nanette S. Levinson of American University report on a nine-year case study of collaborative learning in cross-national and cross-university virtual teams. They define a triple track approach to the opportunities and challenges of cross-cultural collaborative learning. The authors analyze alternative delivery modes, identify best practices, and highlight critical success factors including trust-building, cross-cultural communication, and collaborative learning champions.

Section V: Looking Forward

The chapters in this section offer some interesting research areas moving forward, specifically that of shared cognition in CSCL environments and the role of instructor assessment in managing learner-learner interactions.

In Chapter XIII, Marissa L. Shuffler of the University of North Carolina and Gerald F. Goodwin of the Army Research Institute explore the concept of shared mental models within the context of CSCL environments. They present the challenges that a dispersed environment brings to establishing a shared understanding and explore what instructors can do to facilitate the development of shared knowledge among learners.

In Chapter XIV, John LeBaron of Western Carolina University and Carol Bennett of the WRESA Elementary & Middle Grades Curriculum Coordinator, discuss the issue of self-assessment in CSCL environments. The chapter outlines recommendations on how instructors can assess whether they are actually managing learner-learner engagement in the ways they intended. They advocate the use of multiple data sources collected over time. This chapter offers an interesting area for further research.

Conclusion

Research surrounding the instructors role in CSCL is still in its infancy. Though this book highlights research being conducted within that topic, much of the research is anecdotal in nature. Although we learn valuable lessons from these studies and gather additional insight into the challenges facing CSCL instructors and suggested solutions, we propose that there is also a role for more rigorous empirical research. Therefore, we encourage future research to examine some of the topics and findings highlighted in this book within the context of more structured research methodology.