

# Social Connection Theory for Online Problem-Solving Groups

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## INTRODUCTION

Scholars in business, psychology, education, psychiatry have tried to understand face-to-face (F2F) group process since World War II (Poole, 1985; Gersick, 1988; Bales, 1951). The desire was to identify those characteristics and processes that could be facilitated for optimal performance. Research findings influenced how groups are facilitated today. Researchers now focus on studying online groups. Is the process the same?

Some internet oriented scholars find online communication differs (MacDonald, 2002; McIsaac & Blocher, 1998). A variety of disciplines need to understand the online environment (Posey & Pintz, 2006; Kling & Courtright, 2003). Instructors need a better understanding of the online environment and how the student experience is impacted before designing the online educational process (Bolen, 2003; Molinari, 2004; Molinari, 2003; Vrasidas, 2002; Brown, 2001). A grounded theory approach was used to study the critical thinking in two online groups working on a collaborative project. The goal was to develop a preliminary theory for further empirical study.

## BACKGROUND

Grounded theory (GT) was designed to meet the research needs of fast changing social conditions (Chenitz & Swanson, 1985). Grounded theory provides a suitable beginning for the role of social comments in online problem solving groups research due to the fast pace of social change on the internet. The methodology permits concepts to emerge from the data rather than subjecting the data to hypotheses (Strauss & Corbin, 1998). Traditional education focuses on information sharing, transfer and retention. The advent of discussion boards and automated email software enables dialogue and online problem solving (Kenny, 2006). The question arises of how social exchanges work online? Do they

serve similar or different purposes as they do in face-to-face groups?

Some problem-solving group theorists describe socially related dialogue as superfluous and detrimental to group goals (Poole & Holmes, 1995; Poole, 1983; 1981; Poole & Roth, 1989). While others like Hirokawa (1983) state social comments contribute to relationship development which influences product quality outcomes. Online educators are now studying the importance of social comments in order to better manage group process (Minasian-Batmanian, 2002).

The debate moved online as the constructivist school of instruction encourages increasing numbers of learning communities (Puntambaker, 2007; MacDonald, 2002). Group dialog produces more student engagement, activation of higher order thinking skills, and the development of social and team skills (Bos & Shami, 2006; Chebli, 2006; Brunt, 2005; Hlahane, Greeff, & duPlessis, 2006). The online group grows more popular as computer mediated conferencing develops (Lou, 2004; Curtis & Lawson, 2001).

Mann and Stewart (2000) define computer-mediated communication as a hybrid language. Researchers state that online communications change the way people think, problem solve, and interact because the technology redefines the spatial and temporal parameters of the interaction. Colbeck, Campbell, and Bjorklund (2000) reason online small decision-making groups do not receive visual cues and so the social aspects of problem solving such as turn taking and relationship building alter (Whitman, Malzahn, Chaparro, Russell, Langrall, & Mohler 2005).

Several research approaches to online communication are underway. Community studies undertake to understand the development process and its outcomes. Boyer's (Boyer, Malher, & Kirkman, 2006.) theory focuses on the three stages of community building: developing friends, accepting each other, and developing camaraderie after intense, long-term involvement. Boyer states that community building is dependent on

iterative and deeper stages of self-revelation. Her theory does not address problem-solving. Few studies focus on problem solving in collaborative online learning groups although there are many studies of online communities and online classes (Romiszowski, & Mason, 2004; Hoskins & van Hoof, 2005; Murphy, Mahoney, Chen, Mendoza-Diaz, & Yan, 2005; Wang, 2005).)

Since communication theorists believe that all communication serves a function (Hirokawa, 1983), a look at the function of online social communications is justified. Social communications are defined as the presence or lack of words, punctuation, graphics, and fonts that do not pertain directly to the task/solution processes. Other scholars focus on social presence. Social presence is defined as the ability of learners to project themselves and their personalities affectively into a community of inquiry (Rourke & Anderson, Garrison, & Archer, 2001; Short, Williams & Christie, 1976). Both teachers and students endeavor to create online presence with which others can relate (Lin, 2004; Tu, & McIsaac, 2002).

Few studies focus on the role of social comments in online decision making groups so a grounded theory study was devised to explore the issue. In three studies of online problem solving the author found social communications made a difference in outcome product quality (Molinari 2001). The question of what roles communication types played was not answered. Using the assumption that people will transfer what they know to new environments, sixty years of communications research served as a foundation for the study.

## MAIN FOCUS: THE STUDY

Registered nurses participated in a required online research course. The majority were over the age of thirty and working full time. All participants presented as novices to online, collaborative, problem solving of ill-structured challenges.

A content analysis of 482 electronic messages was completed according to grounded theory procedures. Each message was broken into statements, words, graphics, and punctuation, and then coded for problem solving or social communication. Only social communications were analyzed for this study. Results of task oriented messages are given elsewhere. Although most message content remained task oriented, 43% of all codes in the larger study pertained to social messages. These findings are similar to other studies (Rourke, Anderson, Garrison & Archer, 2001). During the first third of the course, social codes accounted for the majority of content.

The constructs identified what students communicated (Table 1). Social constructs indicate people were either giving information about themselves (self-revelation) or acknowledging others' information (tying). Students also used some form of oral or written etiquette to organize message content and establish social presence.

Students who quit the course sent different amounts and types of communication. Those who dropped the course revealed their thoughts but didn't respond to others' comments by answering questions, or talking

*Table 1*

Self-Revelation Category	Tying Category	Etiquette Category
Advice given	Address individuals	Conclusions
Agent/Patient Statements	Agree/Disagree	Greetings
Answer Personal Questions	Approval	Organizational Elements
Apology/Excuse/Explanation	Ask Personal Questions	Thanks
Emotional/Social Statements	Softening Statement	
Place Statements	Validation	
Reflection		
Soothing Statements		
Use of Fonts, Punctuation, for Emotion		

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