Internet and Higher Education 15 (2012) 195–203

Contents lists available at SciVerse ScienceDirect

Internet and Higher Education

Improving online social presence through asynchronous video

Jered Borup *, Richard E. West, Charles R. Graham

Department of Instructional Psychology and Technology Brigham Young University, United States

ARTICLE INFO

Available online 9 November 2011

Keywords:
Asynchronous video communication
Community of inquiry
Social presence
Teaching presence
Online learning communities
Online learning

ABSTRACT

Online learning has become a reality for many students in higher education. Unfortunately, something that has also become a reality is a sense of isolation in online courses, and Moore (1980) has warned that students' sense of distance can threaten their ability to learn. The community of inquiry framework (Garrison, Anderson, & Archer, 2000) has provided insight into ways that online interactions can improve students' and instructors' social presence and learning. Emerging video technologies may be able to improve these interactions and thus more easily support the development of communities of inquiry. In this study we interviewed students in three distinct courses using different video-based instructional strategies. A large majority of students indicated feeling that the video-based communication made their instructors seem more real, present, and familiar, and that these relationships were similar to face-to-face instruction. Video communication impacted students' social presence in similar ways, although to a lesser degree than they believed it impacted instructor social presence. We conclude with discussion for future research and practice.

1. Introduction

Online learning has forever changed the educational landscape, but the same separation that provides online students with accessibility, flexibility, and reflective interaction (Graham, 2006; Garrison, 1997; Rourke, Anderson, Garrison, & Archer, 2001) can also create a sense of isolation, making it particularly difficult for a community of inquiry to thrive. Moore (1980) explained that students' sense of distance can threaten their learning. He also stated that this potential source of difficulty can become a remedy, since students' psychological sense of distance is determined not by location, but by the quantity of their interactions. Dawson (2006) supported this claim by finding a strong correlation between the frequency of interaction and online students' sense of community and satisfaction.

Garrison et al. (2000) stated that stronger online communities of inquiry exist when interactions allow students to establish their social presence as *real people* with individual thoughts, feelings, and humor. Although this is not a new concept, Garrison et al.'s important contribution was their assertion that social presence has direct academic implications (Garrison, Anderson, & Archer, 2010). Rourke et al. (2001) contended that students with social presence are likely to instigate, sustain, and support content-related communication because it becomes more engaging and rewarding. These and other scholars have demonstrated that social presence and a shared emotional connection within the community can positively affect online learning and student satisfaction.

Although researchers recognize these benefits, they do not fully understand how instructors and course designers can effectively establish online social presence. Research has found that social presence can be established in a text-based course (Caspi & Blau, 2008; Garrison et al., 2000; Kehrwald, 2008; Rourke et al., 2001), but the absence of visual conversational cues can make it more difficult (Garrison & Arbaugh, 2007; Garrison et al., 2000; Rovai, 2002b).

Video technologies might contribute to overcoming these challenges. Moore (1993) explained that instructors can decrease students' sense of distance, thus increasing their feeling of emotional connection, by "manipulating the communications media" (p. 25). An extensive survey administered to students in 115 higher education institutions found they wanted the use of technology to be "balanced with the human touch" of a *real* person (Smith, Salaway, Caruso, & Katz, 2009, p. 21). It may be possible to more effectively provide this human/technology balance by manipulating the communications medium to involve more video that could provide visual and audio cues not expressed in text.

Correspondence courses have used synchronous video for this reason; however, synchronous communication requires commitment to a specific time period, removing much of the flexibility that has made distance learning popular. Further, synchronous video technologies do not allow much reflection prior to contributing a comment and can still be technically unreliable, which can create real time and focus costs (Griffiths & Graham, 2010). Some scholars have suggested that the flexible and reflective nature of asynchronous communication could be accomplished via video that is high in fidelity, thus combining the *human touch* aspects of face-to-face communication with the flexibility of online environments (Borup, Graham, & Velasquez, 2011; Griffiths & Graham, 2009a,b).

* Corresponding author at: 150 MCKB, Brigham Young University, Provo, UT 84602, United States.
E-mail address: jeredborup@hotmail.com (J. Borup).

1096-7516/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.iheduc.2011.11.001

As yet there is little research on how instructors can effectively use asynchronous video to strengthen social presence (and by extension cognitive presence) and how students perceive their experience in video-mediated environments. In this paper we first review social, cognitive, and teaching presence as critical components of an online community of inquiry (Garrison et al., 2000). Second, we discuss the limited research related to asynchronous video- and audio-mediated online learning. We then present case studies of three sections of an online instructional technology course for preservice teachers in which the instructors of all sections attempted, in slightly different ways, to foster an effective community of inquiry using video as a main pedagogical tool. We conclude with implications for future design and research of video-mediated online learning with its potential for improving students' affective outcomes.

2. Review of literature

2.1. Social presence within a community of inquiry

In 1997 Garrison recognized the need for a framework for online learning focused less on mass production, self-instruction, and independence and more on communication and personalization. In 2000, Garrison et al. presented the community of inquiry (CoI) framework based on the theory that quality learning results from three core constructs: cognitive presence, social presence, and teaching presence.

Cognitive presence, the most basic of the three, is defined as the extent to which learners can "construct meaning through sustained communication" (Garrison et al., 2000, p. 89). Garrison, Anderson, and Archer (2001) described four essential phases related to student cognitive presence: a triggering event during which the issue is recognized, individual and social exploration of ideas to better grasp the issue, evaluation and integration of the ideas generated, and resolution of the issue though "direct or vicarious action" (p.11). Much like Moore's (1993) assertion that the communication mode can affect dialog, Garrison et al. (2000) explained that cognitive presence "is partly dependent upon how communication is restricted or encouraged by [its] medium" (p. 93).

In the CoI framework, teaching presence and social presence facilitate students' cognitive presence and improve their learning. Anderson, Rourke, Garrison, and Archer (2001) stated that *teaching presence* consists of three core instructor responsibilities: designing and organizing the course, facilitating discourse, and providing direct instruction. Course design includes selecting curriculum materials and communication tools, setting project deadlines, and creating learning activities that best utilize the tools and materials. In addition, instructors motivate, encourage, and assess student performance, and use direct instruction to scaffold student learning.

Social presence is not original to the CoI framework. Short, Williams, and Christie (1976) originally defined *social presence* as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships," specifying that it is the "quality of the medium itself" (p. 65). However, this distinction soon changed, and social presence became less about the objective qualities of the medium and more about perception (Swan & Shih, 2005). Garrison et al. (2000) have also adopted the perceptual view of social presence, defining it as individuals' ability to convey themselves as real people. Garrison et al. further stated that social presence has three identifiers: emotional expression, open communication, and group cohesion. *Emotional expression* includes self-disclosure, humor, and the expression of feelings related to learning. *Open communication* requires that others recognize and respectfully attend to an individual's contributions, enabling risk-free exchanges. The third identifier of social presence, *group cohesion*, can be "exemplified by activities that build and sustain a sense of group commitment" (Garrison et al., 2000, p. 101). Picciano (2002) would later add that social presence includes "a sense of being in a place and belonging to a group" (p. 22).

Teaching presence and social presence are not entirely distinct constructs. Anderson et al. (2001) explained that teaching presence "overlaps with many of the behaviors identified in [the] larger model of 'social presence' as the teacher is an active member of the community of inquiry" (p. 7). Lowenthal and Lowenthal (2010) termed this overlap *instructor's social presence* and stated that research on the topic is extremely limited. Swan and Shih (2005) found instructor social presence to have a larger impact than student social presence on positive course outcomes such as perceived learning.

Notably, the CoI framework emerged from the study of text-based online learning environments, and much of the initial CoI research focused on students' abilities to establish social presence within these textual constraints. Although research has shown that social presence can be established in these text-based environments (Caspi & Blau, 2008; Garrison et al., 2000; Kehrwald, 2008; Rourke et al., 2001), more than 10 years have now passed since Garrison et al.'s (2000) seminal article —a decade during which computer-mediated communication has advanced to become a "media cornucopia" of communication tools including asynchronous video (Rice, Hiltz, & Spencer, 2005). These new tools enable new kinds of interaction possibilities, but little is known about student and instructor use of asynchronous video communication and its effects on the online learning experience.

2.2. Video-mediated online interactions

Some researchers have begun to investigate how high fidelity asynchronous communication tools can establish a strong sense of connection and social presence while still maintaining the flexible and the reflective nature of asynchronous communication. In teaching seven asynchronous text-based online courses, Ice, Curtis, Phillips, and Wells (2007) recognized that connection and social presence were often inadequate, so they began using asynchronous audio feedback. They found through a post-semester survey ($n=31$) and interviews ($n=27$) that most of the students (26 of the 31 survey respondents and 25 of the 27 interviewed students) felt audio feedback was more effective than text because of the vocal cues, a feeling that they were more engaged and could better remember the content, and a stronger perception that their instructor cared about their learning.

Oomen-Early, Bold, Wiginton, Gallien, and Anderson (2008) conducted a similar but larger study involving 156 online students. During the semester instructors posted five audio messages accompanied with text summaries. In addition, students received at least two individual audio feedback comments. A large majority of respondents indicated that audio communication improved the instructor–student relationship (82%) and helped them better comprehend the material (72%). In addition, qualitative survey responses indicated that the audio communication *humanized* the instructor. However, despite these benefits, student preferences were split, with 52% stating they preferred text communication, perhaps because many of the students were enrolled in writing-intensive programs. In addition qualitative survey responses indicated that students used audio messages largely to "augment and expand the text-based commentary" (p. 273). A large majority of students (85%) perceived the combination of audio and text to be beneficial.

Although audio communication contains vocal cues, it lacks visual cues such as facial expressions and hand gestures. Consequently, researchers have begun examining instructors' use of asynchronous video communication. In one study (Griffiths & Graham, 2009a), an instructor used asynchronous video to explain the instructional material and ask students questions. Students recorded and transmitted their responses to the instructor as email attachments, and the instructor responded using asynchronous video. Students in the online section using these methods gave considerably higher ratings on