Web 2.0 Technologies and Back Channel Communication in an Online Learning Community

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Abstract

Communication, collaboration and community development are processes that contribute to student satisfaction and learning in online courses. This paper describes a study that investigated how campus and distance graduate students in a library science program communicated with one another outside the official boundaries of their courses. We conducted a survey to answer two research questions: 1) What Web 2.0 technologies do students use to communicate with one another outside of the formal structure of their online courses? and 2) What do they talk about in such communication? The results showed that, while students used a variety of technologies to communicate with one another, those enrolled at a distance made greater use of technology to communicate with one another. Moreover, clear preferences emerged according to age. Younger students preferred mobile technologies while older students experimented with a wider range of web-based technologies. We interpret these results and offer recommendations for practice based on our interpretation.

Keywords: Computer-mediated communication, distance learning, online learning, social learning, Web 2.

Traditionally, college students have been one of the earliest and most active groups of computer users. Many of today’s students grew up with computers as an integral part of their learning experiences. In 1982, Time Magazine named the personal computer as “Machine of the Year.” Throughout the 1990s, computer use expanded into personal communication through emails, instant messaging and chat rooms. Since 2000, students have participated in social networking sites such as Facebook, MySpace, LinkedIn, Twitter, and Friendster. Aleman and Wartman (2009) note that the “Net Generation college student consumes, produces and makes meaning of social bonds and relational connections in the new real time of online communication” (pp.21-22). In addition to social networking sites are technologies like wikis and blogs which facilitate content creation and sharing on the World Wide Web, social bookmarking sites like del.icio.us (Hammond, Hannay, Lund, and Scott, 2005) and even virtual worlds like Second Life (Cheat, 2007). Social software applications like these constitute what has become known as Web 2.0, the “socially connected Web where everyone is able to add to and edit the information space” (Anderson, 2007, p. 5). The number of Web 2.0 technologies continues to grow with the Web site, Go2Web20 (n.d.), featuring over 3000 social networking sites.

By 2006, Time Magazine’s Person of the Year was “you,” i.e., the ordinary person using Web 2.0 technologies to create, share, find and remix web-based content. Educational practitioners have become interested in learning how these tools might be harnessed for their instructional power. Some researchers (e.g., Conole, de Laat, Dillon, and Darby, 2006) have already shown how students use them to assist in self-regulated learning. We undertook our study to shed light on how students in online courses were using this new generation of social networking tools along with more established technologies to achieve both academic and social goals within their learning communities.

In many courses, there is a network of out-of-class dialogues among students that we have termed back channel communication. Although these conversations occur outside of the structured course activities and beyond the instructor’s knowledge and control, they have the potential to contribute to the sense of community among students. Tinto and others (Tinto
& Goodsell-Love, 1993; Tinto & Russo, 1994) have shown that participation in a community of learners benefits students both socially and academically by providing social support, introducing multiple perspectives on course content and learning strategies, enhancing student performance and increasing persistence. The authors further suggest that these benefits are even more important to non-traditional students who are not immersed in campus life. With the surge of new communication technologies and the growth of online education, it is important to understand the role technology plays in enabling the back channel communication needed to foster community development among learners in online courses. The purpose of this study was to examine how students used Web 2.0 and other communication technologies (e.g., cell phones, chat, text messaging) in their back channel communication.

**Literature Review**

Our study is situated within the framework of social constructivism (Huang, 2002), which proposes learners actively create knowledge as they interact with one another (Dewey, 1916; Vygotsky, 1978). More recently, Wenger (2004) has proposed that communities of practice provide the context for “…collective learning in a shared domain of human endeavor.” Common among these theories is the importance they place on the social aspect of learning. When students participate in online courses, the communication that is needed to create and maintain the social dimension usually requires technological mediation. Moreover, the ability of participants in technology-mediated communication to project a social presence contributes to the successful development of a learning community (Tu & Corry, 2002). Thus, our literature review covers social presence and online learning communities as well as technology use among students.

**Social Presence**

Social presence has been shown to have a positive relationship with student satisfaction in online learning (Gunawardena, 2002; Gunawardena & Zittle, 1997). Other researchers (Picciano, 2002; Richardson & Swan, 2003) have found that social presence is positively correlated with perceived learning. While the relationship between social presence and actual learning is not clear, they stress the importance of further study between the constructs.

In the early social presence literature, Short, Williams, and Christie (1976) described social presence as the level at which people involved in a transaction via that media feel socially aware of each other. In other words, social presence involved communicators and the communication medium. Rourke, Anderson, Garrison, and Archer (1999) recognized social presence in online learning as the ability of learners to project themselves socially into a community of inquiry. Tu (2002) also studied social presence in Web-based courses and described high levels of social presence as including the attributes of sociable, personal, sensitive, and warm communication.

Complex factors such as intimacy, immediacy, interaction, trust and off topic exchanges contribute to students’ perceptions of social presence. Tu and Corry (2002) identified three aspects of online courses that contribute to social presence. The first aspect is social context or being familiar with other learners and finding the right balance between too much and too little participation. For example, assertive students who participate frequently are sometimes intimidating to other participants who struggle to keep up with the dialogue. Second, social presence is built through online communication skills which include strong computer keyboarding skills, use of spell check, expressions of emotions, and control of the number of discussion board postings. Third, interaction skills that include quick response times to discussion board postings and appropriate length for messages contribute to social presence. As learning through technology becomes more prevalent, developing skills to enhance social presence has also become more important for both instructors and students.

**Online Learning Communities**

Online community development is an important topic for online learning because of the current value placed on social learning in general and because of ongoing questions about the capacity for online learning environments to engender true community development (Swan & Shea, 2005). In her study of verbal immediacy behaviors in online discussion, Swan (2002) found that students employ these behaviors to achieve and maintain a sense of community. Wegerif (1998) showed that students’ success in an online education course depended upon their ability to perceive themselves as “insiders” within an online learning community. In a case study of two online graduate courses, Goertz and Kristjansson (2007) found that “an effective collaboration process…is deeply intertwined with the nature of interpersonal engagement among participants” (p. 227). Wang’s (2005) qualitative exploration of social interaction in an on-