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SOCIAL PRESENCE AND COMMUNICATION TECHNOLOGIES

Tales of Trial and Error

Patrick Lowenthal and Dave Mulder

Social presence, as evident in the chapters throughout this book, continues to be a hot topic in online education. Social presence resonates with people because education depends on effective communication, but communication changes when it is electronically mediated. From its inception, social presence theory has focused on how technology influences communication.

In the 1970s, the new hot technology was telecommunications. Short, Williams, and Christie (1976) and others at the Communications Studies Group at the University College in London began studying the effects this new technology had on communication. They developed the theory of social presence based on their research. They defined *social presence* as the degree of salience (i.e., quality or state of being there) between two communicators using a communication medium; they argued that people perceive some media as having a higher degree of social presence (e.g., video) than other media (e.g., text) and that media with a high degree of social presence are seen as sociable, warm, and personal, whereas media with a low degree of social presence are seen as less personal. During the 1990s, though, online educators began to question the technological deterministic perspective of Short and colleagues (see Danchak, Walther, & Swan, 2001; Gunawardena, 1995; Gunawardena & Zittle, 1997; Tu, 2000). They argued that it matters more what one does with—and how one uses—a communication medium than what any supposed inherent capabilities of a communication medium are (Walther, 1992, 1996). However, at the same time, and partly motivated by their dissatisfaction with the predominate forms of asynchronous communication used in online courses, online educators have continued to explore the affordances and constraints of emerging communication technologies. As communication technologies evolve, online educators will likely continue to experiment with how to best leverage the affordances of these technologies to establish participants as being "real" and "there" in online courses. In this chapter, we provide a background of the relationship between social presence and technology, summarize research that can be seen as adopting a "social presence as technologically facilitated" lens, and conclude with implications for practice.

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Background of Social Presence and Technology

Short and colleagues (1976) focused on how communication media influence the way people communicate. Influenced by earlier work done by Argyle and Dean (1965) and Wiener and Mehrabian (1968), Short and colleagues (1976) were interested in how people establish immediacy and intimacy using communication media. They defined *social presence* as the "salience of the other" (p. 65) when using a communication medium, which they believed was largely due to the type of communication medium being used. They believed that some media have high social presence capabilities, whereas others have low social presence capabilities based on the availability of nonverbal and relational cues.

During the 1980s, as the use of e-mail increased, researchers continued studying the social capabilities of communication media. Taking a technological deterministic approach similar to that of Short and colleagues (1976), Daft and Lengel (1986) developed the media richness theory. The media richness theory stated that communication media "vary in the capacity to process rich information" (Daft & Lengel, 1986, p. 560). For instance, they argued that face-to-face communication is more media rich than, say, an impersonal written document (Daft, Lengel, & Trevino, 1987). Around the same time, Rutter and colleagues developed the Cuelessness Model; this model basically states that the fewer social cues available, the greater the psychological distance between communicators (Rutter, 1984; Rutter, Pennington, Dewey, & Swain, 1984). Rutter and colleagues were specifically interested in how social cues decreased when using different communication media.

These theories are often referred to as *cues-filtered-out theories* because they focus on what is missing and not on what is gained when using different media. In fact, Walther (1992, 1996) labeled these *deficit theories*. Walther argued that just as cues are filtered out, other cues are filtered in and therefore computer-mediated communication (CMC; CMC was his specific area of interest) could have some affordances that face-to-face communication lacked. He believed that given enough time, people's social nature would eventually drive them to use CMC in very personal or even *hyperpersonal* ways (Walther, 1992, 1996).

Over time, and likely influenced at least in part by the work of Walther, people, especially online educators, started to question these highly technological deterministic cues-filtered-out perspectives. For instance, although these perspectives suggest that asynchronous CMC was inherently antisocial, Gunawardena (1995) argued that social presence can actually be cultured between participants in text-based online learning environments. Tu (2000) later promoted a balanced perspective that acknowledged that communication media have some limitations in terms of the amount of information they can transmit but that people's social immediacy behaviors can make up for these constraints. Garrison, Anderson, and Archer (2000) pushed this thinking a little further when they developed the Community of Inquiry (CoI) model that recognized not only that social presence was important (which, as Walther suggested, will naturally develop when given enough time) but also that there were things instructors could do to help design for and elicit social presence (i.e., through teaching presence). In their foundational article on assessing social presence, Garrison and colleagues (2000) concluded,

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> We do not believe that the effect of media per se is the most salient factor in determining the degree of social presence that participants develop and share through the mediated discourse. Rather, the communication context created through familiarity, skills, motivation, organizational commitment, activities, and length of time in using the media directly influence the social presence that develops. (pp. 94–95)

Research on Social Presence and Technology

Despite the commonly held belief that electronically mediated communication can be very social and personal and even hyperpersonal depending on one's experience and context, online educators regularly experiment with the educational, and specifically the social, capabilities of new communication technologies. In the following section, we highlight some of the more popular technologies that online educators use in hopes of improving social presence in online courses.

Online Video and Social Presence

People have always been attracted to the fidelity of video (see Daft & Lengel, 1984, 1986; Daft et al., 1987; Rutter, 1984; Short et al., 1976). Online educators in particular, especially in terms of social presence, like that video enables people to visually see each other while they communicate. Although synchronous video conferencing is the prototypical example of using video as a communication technology, today there are actually many different ways to use video to communicate with others. For instance, video can be synchronous (e.g., Skype) or asynchronous (e.g., a YouTube video)—each of which can then be used for one-to-one, one-to-many, or many-to-many communication (Lowenthal, 2015).

Synchronous Video

Synchronous video can be one-to-one (e.g., a Skype call between a teacher and a student), one-to-many (e.g., a webinar in which the presenter focuses only on his or her presentation and doesn't interact with the audience), or many-to-many (e.g., a collaborative live meeting in which every member has audio and video access). Each use of synchronous video communication can address common challenges of asynchronous communication. For instance, synchronous video happens in real time and therefore can be more expedient and help establish others as being "real" and "there" by enabling people to visually see each other in real time (Dray, 2011; Fadde & Vu, 2014). At the same time, synchronous video does require that a teacher and student(s) be online at the same time, which can present challenges of its own. Fadde and Vu (2014) identified multiple benefits of using synchronous video in asynchronous online courses, such as improving engagement, instructor social presence, and the formation of a community of learners, but they also identified some drawbacks, such as a decrease in instructional efficiency. They acknowledged that the challenge of using synchronous video "is to find a combination of synchronous and asynchronous activities that leverage the technology affordances of each mode, are within the capabilities of instructors, and satisfy the preferences of learners" (p. 33).

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In another study, Olson and McCracken (2015) examined the use of weekly synchronous video-based class meetings in primarily asynchronous online courses. They were interested to see if the benefits of synchronous class meetings were worth the effort involved to plan and host them (Olson & McCracken, 2015). The authors found no statistical difference when comparing learning outcomes, sense of community, and student satisfaction between students in a completely asynchronous online course and students in an asynchronous online course with weekly synchronous video meetings. Olson and McCracken (2015) identified additional challenges of synchronous meetings, including the time it took to prep for the synchronous meetings and the struggle to schedule live meetings at a time that worked for all students. They concluded three elements were essential to consider before deciding to incorporate synchronous video into online courses: the student's learning, experience, and time and resource investment (Olson & McCracken, 2015).

Asynchronous Video

Online learning grew out of the distance education tradition that places emphasis on enabling learners to do their course work at a time that is convenient for them. Therefore, online educators have been especially interested in the power of asynchronous video. Asynchronous video is video that is recorded and shared with others to watch at their convenience. This can be video recorded (e.g., with a webcam or even a phone) and shared with others (e.g., e-mailed, uploaded to a learning management system [LMS], or hosted on a video server like YouTube) or even video hosted in web-based applications like VoiceThread. VoiceThread enables instructors and students to narrate and record presentations and then discuss the recording using multimodal commenting tools (Ching, 2014; Dunlap & Lowenthal, 2011b). Online educators have been particularly interested in using VoiceThread for multimodal discussions, and the potential multimodal communication has to "humanize" or make more "authentic" the online discussion experience (Ching & Hsu, 2013; Pacansky-Brock, 2012, 2014; Trespalacios & Rand, 2015).

Borup, West, and Graham (2012) investigated student perceptions of asynchronous video. Faculty in three different online courses used VoiceThread or YouTube to engage students in asynchronous video discussions. Borup and colleagues (2012) found that asynchronous video "had a substantial impact on establishing the instructor's social presence" (p. 201) but less of an impact on establishing the social presence of students' classmates. Borup, West, Thomas, and Graham (2014) conducted a follow-up study in which they interviewed four different types of online learners about their perceptions of asynchronous video. Interestingly, they found that extroverts enjoyed making asynchronous videos but did not enjoy watching the videos of others. They also found that the type of discussion prompt influenced students' perceptions of asynchronous video use in the classroom.

In another study, Pacansky-Brock (2014) set out to encourage the use of video commenting in VoiceThread; she noticed over the years that her students would often choose to leave text instead of video comments when given the chance. She found that she was able to increase the number of video comments students left in VoiceThread by (a) using a VoiceThread icebreaker early in the course, (b) requiring students to leave a voice or video comment the first time they used VoiceThread in the course, (c) providing choices

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about what students could respond to, and (d) welcoming students by name to comment on the VoiceThread (Pacansky-Brock, 2014). Participants reported stronger perceptions of community and improved nuance and emotion when leaving voice or video comments instead of text-only comments.

Working from the theory that the more visual cues the better, Lyons, Reysen, and Pierce (2012) investigated recorded online lectures that included a free-floating instructor in the corner of the lecture. Contrary to public opinion, they found that adding social presence cues (i.e., a video of the instructor talking) negatively affected perceived learning and interactivity, especially among students with lower technological efficacy.

An additional and increasingly popular approach to using asynchronous video involves the use of video feedback. Lowenthal and Dunlap (2011) found that detailed feedback—specifically asynchronous video feedback in the format of screencasts of students' work—was one of the best ways to establish instructor social presence in the courses they taught. Borup and colleagues (2014), however, found no significant difference in students' perceptions of instructor social presence between those who received video feedback and those who didn't in their mixed-methods study of video feedback in blended online courses. Despite this finding, instructors and students in Borup and colleagues' study stated that the power of video feedback is that it allows instructors to speak in a conversational tone, share emotion in their voice, and create a sense of closeness. Students suggested, though, that the blended nature of the course lessened the impact of video feedback.

Digital Storytelling

In addition to video feedback, Lowenthal and Dunlap (2011; Dunlap & Lowenthal, 2014) also found in their study comparing various strategies to establish social presence that digital storytelling was a powerful way to use asynchronous video to establish social presence. Research has shown that sharing stories and self-disclosing can help establish social presence (Rourke et al., 1999). Digital stories are unique—short personal stories told with the use of graphics, audio, and video (Lowenthal, 2009; Lowenthal & Dunlap, 2007). The basic idea is that sharing personal multimodal stories can help establish someone as a "real" person. Lowenthal and Dunlap (2010) identified multiple ways of using teacher- and student-created digital stories in the online classroom; they later reported that students actually identified digital storytelling to be one of the best strategies they used for establishing social presence (Dunlap & Lowenthal, 2014; Lowenthal & Dunlap, 2011).

Although digital storytelling holds much promise for elevating social presence, it has some pitfalls. First, although much of the power of digital stories lies in hearing the emotion in one's voice as one shares a personal story, some faculty and students are simply not comfortable recording their own voice or self-disclosing personal details about their life. Second, as Walsh and Hoskisson (2015) pointed out, despite the aforementioned benefits, digital stories lack a live listener providing immediate feedback.

Motivated by the popular belief that video is a superior communication medium for social presence and by his own personal experience with students not watching videos he created, Lowenthal (2015) investigated student perceptions of various forms

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of video (e.g., video announcements, instructional screencasts, and video feedback). He found that although students reported that video was a better communication tool to establish and maintain social presence, in practice it depends on when and how the video is used, and there are times when it is just easier and more expedient to use text.

Social Networking and Social Presence

Social networking applications such as Twitter and Facebook have also attracted online educators because of their "social" capabilities; these applications alone have hundreds of millions of regular users. In addition, and perhaps even more important, many of these social network users are already adept (i.e., literate) with socially interacting with others in electronically mediated environments where cues are filtered out (Ostashewski, Reid, & Dron, 2013; Veletsianos & Navarrete, 2012).

Twitter

Dunlap and Lowenthal (2009a, 2009b) were attracted early on to the possibilities of using Twitter for social presence in online courses. They found that online courses often lack the just-in-time hallway interactions often present in face-to-face courses. Thus, they explored using Twitter to enhance social presence by providing a mechanism for just-in-time social interactions. They found that students who regularly used Twitter reported that it did help them get a sense that others in the class were "real" or "there." However, follow-up interviews with students later suggested that although many students liked using Twitter, some hated it, and still many others actually preferred other ways of establishing and maintaining social presence (Dunlap & Lowenthal, 2014; Lowenthal & Dunlap, 2011).

Other researchers have since investigated using Twitter to increase student-to-student and student-to-teacher interaction, engagement, and ultimately social presence in online courses (Munoz, Pellegrini-Lafont, & Cramer, 2014; Rohr & Costello, 2015; Thoms, 2012). However, overall, they have had mixed success. For instance, although Rohr and colleagues (Rohr & Costello, 2015; Rohr, Costello, & Hawkins, 2015) found Twitter was effective at encouraging engagement and community in large online classes, Munoz and colleagues (2014) found that Twitter did not help build a sense of social presence with culturally and linguistically diverse students. Bartholomew and Anderson (2010) also had mixed success using Twitter to post class announcements. Bartholomew and Anderson also pointed out that the instructor in their study made little effort to educate students on how to use Twitter in the first place.

Facebook

Facebook is the world's most popular social network; there are over 150 million active users in the United States alone (Statista, n.d.). As such, there are natural benefits of using a social network for educational purposes when millions of learners already log in each day. However, this very affordance can also be a constraint. Facebook is more of a friendship-driven social network than other platforms like Twitter (Dunlap &

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Lowenthal, 2011a); therefore, teachers and students alike can find it uncomfortable to "friend" each other (Wang, Scown, Urquhart, & Hardman, 2014). Despite possible constraints like this (which some address by creating special groups or avatars), educators (online or not) continue to experiment with using Facebook for social presence purposes.

Online educators like to blame any shortcomings of online education on the LMS (Lane, 2009). Therefore, it is not surprising to find that many have turned to Facebook in hopes of a less restrictive experience. DeSchryver, Mishra, Koehler, and Francis (2009), though, found in their investigation of using Facebook as an LMS that participants did not post longer or more frequent messages on Facebook than the traditional LMS. Participants also did not report any higher sense of social presence using Facebook as compared to the traditional LMS. They explained that this could be due to the fact that they did not require students to "friend" each other. They used Facebook only for course discussions, and they still used the traditional LMS for other functions (e.g., grade book, calendar) (DeSchryver et al., 2009). The researchers also suspected that students' reactions could have been influenced by the fact that discussions in Facebook are not threaded. Despite their results, DeSchryver and colleagues (2009) remained optimistic about Facebook's ability to develop social presence and recommended further research in this area.

Wang and colleagues (2014) also investigated using Facebook to create social presence in online courses. They were interested in how students use Facebook for personal and academic purposes. They found that Facebook strengthened relationships in both teacher-to-student and student-to-student interactions and that Facebook was useful for group work, especially in forming groups and facilitating discussion (Wang et al., 2014).

Regardless of the social network, the results are clearly mixed. Faced with inconsistent findings like these, researchers are quick to point out the importance of up-front planning. For instance, Rohr and colleagues (2015) pointed out,

> From a learning-design perspective, Twitter's use ought to be carefully considered for suitability to the course's philosophy, content, and participants' capabilities. It should be closely tied to other class activities and content, both in terms of topics and timing. Its reason for being used ought to be communicated to students, be it for communication of course logistics, reporting on current events, or other assessment-related activities.

One additional thing appears to be clear. Just because learners are comfortable communicating in social networks does not mean that they are prepared to use these tools for educational purposes. Additional research is definitely needed on the power of social networks to establish social presence.

Low-Tech Strategies and Social Presence

Online educators do not always focus on high-tech tools. Some have found multiple ways to use low-tech strategies to establish and maintain social presence.

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Pictures

Many researchers believe that photographs may help to "humanize" online interactions (Lowenthal & Dunlap, 2011). For instance, Kear, Chetwynd, and Jefferis (2014) found that simply adding a photograph to an online profile can increase social presence. In fact, providing students with the opportunity to use pictures as part of their self-presentation has been found to help students develop relationships in computer-mediated environments (Sachdev, 2011). Kear and colleagues (2014) found in one study that a majority of students (61%) immediately uploaded a profile picture when they accessed their course. Although headshots were the most common, some students would even upload pictures that provided a sense of their interests or hobbies. Students reported that they uploaded profile pictures because they believed it would help foster a sense of community—"putting a face with a name" (Kear et al., 2014, p. 6). Kear and colleagues (2014) went on to explain that adding personal pictures helped individuals project their identity into the community, shaping how they would like others to perceive them and providing classmates with a visual cue to help them "get a feeling for who they are" (p. 9).

Dunlap and Lowenthal (2014) experimented with multiple ways to use photographs to increase social presence. One easy strategy they used was cocreating a photo roster with students using a Google document (that includes a photograph and a brief bio); students were then encouraged to print the roster so that they would have a quick overview of their fellow students at a glance. Another creative activity was to have students create a "virtual paper bag" where students chose five photographs to illustrate aspects of themselves using Flickr; the students then had the opportunity to explore each others' paper bags and learn more about how "real" their classmates actually are (Dunlap & Lowenthal, 2014). Using pictures in both simple and more creative ways has the potential to help establish each student as a "real" and unique person (Dunlap & Lowenthal, 2010, 2014).

Messaging

Online discussions are often thought of as the central place for all course communication. As useful as asynchronous discussion forums can be, online educators must not forget the value of one-to-one communication for increasing social presence (Lowenthal, 2015). Although many people like to poke fun and say that e-mail is dead, personal e-mails between an instructor and an individual student can be a powerful way to connect and foster social presence (Dunlap & Lowenthal, 2010). There are also a host of other messaging applications one can use to communicate with students (see DuVall, Powell, Hodge, & Ellis, 2007; Zawacki-Richter, Müskens, Krause, Alturki, & Aldraiweesh, 2015). For instance, DuVall and colleagues (2007) investigated using text messaging on cell phones as a means of developing and supporting social presence. In their study, they examined a computer-to-phone texting application; the instructors composed messages on the computer that were then sent directly to their students' phones as text messages. Instructors sent messages about course updates, grade information, calendar reminders, and weekly "hot topics" for the course. The results were mixed; some students definitely enjoyed the stronger connection to the instructor, whereas other students reported that the text

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communications were really not necessary (DuVall et al., 2007). Other online educators are exploring the usefulness of group messaging tools like Slack (see Whalen, 2016).

Implications for Practice

Emerging communication technologies can be alluring. However, online educators must not forget what decades of research have shown: It is not the medium but rather how one uses the medium that makes the difference (Clark, 1983, 1994). To complicate matters further, at least in terms of using media to establish social presence, research has suggested that people perceive social presence differently and each person has different social presence needs (i.e., some people might desire a stronger sense of immediacy and intimacy when communicating than others). Therefore, one strategy might not work equally for all learners. Furthermore, students have historically reported feeling isolated and alone in online courses, but their social presence needs are likely to change as they spend more time and become more adept (i.e., literate) with electronically mediated communication and learning online. With this in mind, the following are some rules of thumb to follow when experimenting with new communication technologies in online courses:

- *Media alone does not establish social presence; people establish social presence.* Every communication technology has affordances and constraints. For instance, video can provide more visual cues than other types of communication technology, but that does not mean that video is always the best or right media for every situation.
- *The way you use communication technologies matters, and your context should always influence your use.* Teachers and students need to focus more on how they use communication media than any so-called inherent capabilities of media. Just as a written letter can be impersonal or highly personal (e.g., a love letter), video as well can be impersonal or highly personal. Instructional designers in particular need to conduct research (e.g., design-based research) on better ways to use certain media given the context (which includes understanding the unique needs of the teachers and the students).
- *Teachers and students need practice using new communication technologies.* Simply because one has experience using some communication technologies does not mean that he or she is versed in the nuances of all communication technologies or how to use the technologies for teaching and learning purposes. Online educators need to take time introducing and supporting students as they use new communication technologies.
- *Share the purpose for using emerging communication technologies.* Online educators should have a good reason for introducing new communication technologies into their courses. They must take the time to share the reason and purpose with their students and explain how the technologies will help students meet the course learning objectives.
- *Give students options when appropriate.* Students are different, and they are taking courses online for a variety of reasons. Although there are good reasons to have

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all students complete a specific assignment in the same way, there are also times when you can give students a choice. For instance, some students might not feel comfortable sharing a recording of their voice each week. This does not mean that education should not challenge students' comfort level but rather that we should not assume that all students have the same social presence needs and comfort levels using emerging communication technologies.

Conclusion

The relationship between social presence and technology has interested researchers and practitioners for decades. Although online educators, generally speaking, have come to acknowledge that it matters more what one does with a communication technology than any inherent capabilities of that technology, they still continue to explore the affordances and constraints of each new emerging communication technology. Online educators will likely continue to experiment with how to best leverage the affordances of new technologies. In this chapter, we provided a background of the relationship between social presence and technology, summarized some research on social presence and various communication technologies, and concluded with some implications for practice.

Chapter Review

- Social presence theory has evolved from a focus on inherent qualities of a medium to a focus on how a medium is used.
- Different communication technologies have different affordances.
- Online educators are attracted to the affordances of synchronous and asynchronous online video.
- Low-tech strategies, such as including photos and engaging in one-on-one communication, can improve social presence.
- Media alone does not establish social presence; *people* establish social presence within mediated environments.

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