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Investigating Students' Perceptions of Instructional Strategies to Establish Social Presence

Patrick R. Lowenthal

Boise State University
patricklowenthal@boisestate.edu

Joanna C. Dunlap

University of Colorado Denver
joni.dunlap@ucdenver.edu

Abstract

Social presence is a popular construct used to describe how people socially interact in online courses. Online educators continue to try different ways to establish and maintain social presence in online courses. However, research to date has not identified which strategies, or types of strategies, are best for establishing social presence. We investigated student perceptions of various strategies of establishing and maintaining social presence using a mixed methods case study approach in two different fully online courses. Results suggest that students are more interested in connecting with their instructor than their peers; different students like different social presence strategies; and students have different overall social presence needs. Various strategies and implications for practice are addressed throughout.

Keywords: social presence, community of inquiry, online learning, instructional strategies

Social presence remains a hot topic in online education (Richardson, Swan, Lowenthal, & Ice, 2016). This is largely because education depends on effective communication. Communication, though, changes when it is electronically mediated (Dunlap, Bose, Lowenthal, York, Atkinson, & Murtagh, 2016). As a result, people remain concerned with how these changes in communication influences the teaching and learning process in online courses.

During the 1970s, Short, Williams, and Christie (1976) began investigating how communication media influences the way people communicate. They developed the theory of social presence, which posited that communication media differ in their degree of social presence and that these differences influence how people communicate and in turn interact. They conceptualized social presence primarily as a quality of a communication medium and argued that people perceive some media as having a higher degree of social presence (e.g., video) than other media (e.g., text). More importantly, they believed that a medium with a high degree of social presence is seen as sociable, warm, and personal, whereas a medium with a low degree of social presence is seen as less personal. Based on their theory and research, Short et al. defined social presence as the degree of salience (i.e., quality or state of being there) between two communicators using a communication medium.

During the 1990s and 2000s, as enrollments in online courses increased, online educators began challenging earlier technologically deterministic perspectives of social presence that focused predominantly on how a communication medium influences the way people communicate (see Danchak, Walther, & Swan, 2001; Gunawardena, 1995; Gunawardena & Zittle, 1997; Tu, 2000). These online educators argued that it matters more what one does with—and how one uses—a communication medium than any supposed inherent capabilities of the medium (Walther, 1992, 1996). More specifically, they argued that text-based asynchronous communication could be personal and social, and therefore appropriate for education. Despite this commonly held belief (i.e., that text-based asynchronous communication is “good enough”), online educators continue to experiment with new ways to use established and emerging communication technology to improve social presence in online courses. However, as new communication technologies emerge, online educators are left wondering which techniques (i.e., strategies and technologies) are more effective than others for establishing, maintaining, and improving social presence. Therefore, we investigated student perceptions of social presence techniques used in fully online courses to identify if there were certain techniques students preferred over others. While this research focuses on student perceptions of techniques used in our own courses, a goal of this research was to learn more about the types of social presence techniques students prefer so it might inform how other instructors design and teach their own online courses.

Literature Review

Social presence today is a central concept in online learning and a key component in the Community of Inquiry (CoI) framework. The CoI framework is a comprehensive guide for the research and practice of online learning (Garrison, Anderson, & Archer, 2000). This framework posits that meaningful learning takes place in a CoI, comprised of teachers and students, through the interaction of three core elements: cognitive presence, social presence, and teaching presence (Garrison et al., 2000). Of these three core elements, researchers have focused the most on social presence over the years. While researchers sometimes define social presence differently, social presence is often defined as the sense or perception that others are “real” and “there” when using

a communication medium. Researchers have shown there is a relationship between such things as social presence and student satisfaction (Akyol & Garrison, 2008; Borup, West, Graham, 2012; Gunawardena, 1995; Gunawardena & Zittle, 1997; Hostetter & Busch, 2006; Kim, 2011; Richardson & Swan, 2003; So & Brush, 2008), social presence and community (Pollard, Minor, & Swanson, 2014; Rourke, Anderson, Garrison, & Archer, 1999; Rovai, 2002; Ryman, Hardham, Richardson, & Ross, 2009), and social presence and perceived learning (Caspi & Blau, 2008; Cobb, 2011; Richardson & Swan, 2003) to name a few.

Because of results like these, researchers and practitioners alike continue to try different techniques (i.e., strategies and technologies) to establish and maintain social presence in online courses. For instance, researchers have investigated how to use text messaging to develop and support social presence (DuVall, Powell, Hodge, & Johnson, 2007). DuVall et al. (2007) studied how sending messages—with a computer-to-phone texting application—about course updates, grade information, calendar reminders, and weekly “hot topics” for the course could improve social presence. While some students enjoyed the stronger connection to the instructor, other students reported that the text communications were not necessary (DuVall et al., 2007). Other researchers have investigated how instructors can use social networking applications such as Twitter and Facebook to improve social presence in online courses (Dunlap & Lowenthal, 2009a, 2009b; DeSchryver, Mishra, Koehler, & Francis, 2009; Munoz, Pellegrini-Lafont, & Cramer, 2014; Rohr & Costello, 2015; Thoms, 2012; Wang, Scown, Urquhart, & Hardman, 2014). For instance, Dunlap and Lowenthal (2009a, 2009b) experimented with using Twitter to improve social presence. They were specifically interested in using Twitter to enhance social presence by providing a mechanism for just-in-time social interactions, which are often lacking in online courses. While regular Twitter users reported that Twitter helped them get a sense that others in the course were “real” and “there,” Twitter was less successful for those new to Twitter. In fact, some students reported that they hated Twitter and actually preferred other ways of establishing and maintaining social presence (Dunlap & Lowenthal, 2014; Lowenthal & Dunlap, 2011). Online educators are also increasingly using video—whether synchronous or asynchronous—to increase social presence in online courses (Lowenthal, 2015; Borup, West, & Graham, 2012; Fadde & Vu, 2014; Pacansky-Brock, 2014). For instance, Borup, West, and Graham (2012) conducted a study on student perceptions of asynchronous video. They found asynchronous video “had a substantial impact on establishing the instructor's social presence” (p. 201). However, they also reported it had less of an impact on establishing the social presence of their classmates.

Research on social presence suggests that different students have different social presence needs and that students respond differently to different social presence techniques (Dunlap & Lowenthal, 2014; Lowenthal, 2015). The literature though is unclear on whether there is an optimum level of social presence in online courses as well as whether students prefer certain social presence techniques over others. Given this gap in the literature, we were interested in investigating a variety of techniques (i.e., strategies and technologies)—rather than just one

technique, as many of others have done—in hopes of providing guidance to other online educators and instructional designers on which techniques are better than others.

Background: Social Presence Strategies

Over the years, we have used a number of techniques to establish and maintain social presence in the online courses we teach; in terms of the Community of Inquiry framework, these strategies are a type of teaching presence. The impetus for this study was our desire to find out if we could identify the best combination of techniques (strategies + technologies) or types of techniques for establishing social presence. Social presence is only one part of a meaningful learning experience (Garrison et al., 2000). However, affective outcomes such as student satisfaction with the online-learning experience are equally important to us because they have the potential to support or disrupt students' achievement of learning objectives. In the following section, we briefly describe *some* of the strategies we use to provide context for this study (see Dunlap & Lowenthal 2014, for a detailed description of these strategies and more). Informed by both the literature and our previous experience teaching online, each of these techniques were designed to improve the sense or perception that others (both the instructor and the students) are “there” and “real” and in turn help improve how instructors and students connect with each other as well as the class as a whole.

Introductions

Research suggests that introductions can help establish social presence—that is, that someone is “real” and “there” (Gunawardena & Zittle, 1997; Rourke, Anderson, Garrison, & Archer, 1999; Tu & McIsaac, 2002). Therefore, we begin our online courses with introductions. When introducing ourselves to our students, we intentionally share things about our professional lives (e.g., teaching philosophies, links to articles we have written, presentations we have delivered, our blogs, and so on) as well as our personal lives (e.g., pictures of our kids, vacations we have taken, music we like)—sometimes via text and sometimes in a digital format (see Lowenthal & Dunlap, 2010). We encourage our students to share things about their professional and personal lives when they introduce themselves to the class. We have done this in a variety of ways over the years. For instance, we have had students create digital stories, describe a superhero power they wish they had, or even simply have 5-minute phone conversation with us (Dunlap & Lowenthal, 2010a).

Orientations

Orientations have also been shown to establish social presence (Borup, Graham, Velasquez, 2011). We use a variety of strategies ranging from short orientation videos at the beginning of the course, to orientation videos at the beginning of each module, to orientation videos at the beginning of major projects. In addition to using video, we also orient students with the announcement tool in our Learning Management System (LMS; which was eCollege at the time of this study), where we remind students of what they should be doing while also

intentionally including personal information (e.g., what we did over the weekend). The first author has even recently begun creating videos introducing students to the physical university campus (e.g., recording videos right in the middle of “the Quad” or giving a tour of faculty offices). These strategies are an effort to specifically establish the instructor’s social presence—that is, that she or he is a real person who is there in the course to support students.

Personalized, Detailed Feedback

In our experience, instructors often dislike grading. We strive to give students personalized and detailed feedback to not only improve their learning but to improve instructor social presence because previous research suggests that personalized feedback is related to perceptions of social presence (Borup, West, Thomas, & Graham, 2014; Hodges & Cowan, 2012). While there are many ways to provide personalized detailed feedback, one strategy is to simply send one-on-one emails (see Dunlap & Lowenthal, 2010a; Lowenthal, 2015). Another strategy is to have students post specific assignments in discussion forums and then provide feedback to students in the discussion forums so other students benefit from the instructor’s individualized feedback; it also helps students have a better sense of the instructor as “real” and “there” (see Lowenthal & Thomas, 2010). Finally, another strategy is to provide students with audio / video feedback on specific assignments, which research has shown can improve instructor social presence (Borup, West, & Thomas, 2015; Borup et al., 2014).

Reconnecting

Research is inconclusive on how social presence changes throughout a semester (Lowenthal, 2012). However, we have found that it takes time to get to know others and to get a sense that others are “real” and “there” in online courses. Therefore, we try to reconnect students every few weeks. While we do this in a few different ways, one strategy we use is called the “soundtrack of your life.” For this activity, we have students create and share a playlist of six songs using a digital jukebox: two songs that represent their past, two songs that represent their present, and two songs that represent their planned/hoped for future. We then ask questions about the songs to figure out their meaning. We have found that through sharing things like the digital stories we have created and digital music we listen to can help instructors and students get a better sense of everyone’s personality and in turn social presence (see Dunlap & Lowenthal, 2010b).

Free-flowing, organic interactions

Prior research has shown that social presence can be established in asynchronous discussion boards (Gunawardena, 1995; Rourke et al., 1999; Swan, 2003). And while we regularly use asynchronous discussions to establish social presence, we have found some limitations with restricting discussions within the LMS. In 2008, we began using Twitter in an effort to connect with our students throughout the day and specifically outside of the LMS (see Dunlap & Lowenthal, 2009a, 2009b). While we found that Twitter can improve social presence

for some students (as mentioned earlier), we found that Twitter can be polarizing (i.e., some students love it while others hate it) and extremely time consuming.

While we believed that each of these techniques (as well as many others we use) can improve social presence in online courses, we were not sure if we were focusing too much on social presence or if certain techniques might be better than others.

Method

The purpose of this exploratory mixed methods study was to investigate students' perceptions of social presence strategies in the online courses we teach. More specifically, our inquiry, grounded in the Community of Inquiry framework, focused on answering the following questions:

- What are students' perceptions of specific techniques (strategies and technologies) used to establish social presence?
- Which techniques are most effective for establishing instructor-to-student social presence, and which are most effective for establishing student-to-student social presence?

We used a sequential explanatory mixed methods design (Ivankova, Creswell, & Stick, 2006) to answer these questions. The sample of our study consisted of graduate students completing a graduate certificate or masters in elearning or masters in information and learning technologies fully online. Our inquiry took place over an academic year and involved three phases (see Table 1). During Phase One of this study, we solicited open-ended anonymous feedback at the end of the semester from our students about the social presence techniques we used. We then used the students' open-ended feedback to inform the construction of a survey in Phase Two. We decided to create our own survey because of the exploratory nature of our study as well as the absence of an established instrument focused on the social presence techniques used in our courses. In fact, we are not aware of any social presence instrument that focuses on multiple techniques (i.e., strategies and technologies). The survey consisted of questions to measure general perceptions of social presence—specifically, the social presence questions from the Community of Inquiry Questionnaire (Arbaugh et al., 2008)—as well specific Likert style questions (on a five-point scale) and open-ended questions focused on students' perceptions of the specific social presence techniques we used in our courses.

Table 1
Three Phases of Our Study

Phase One: Open-ended Feedback	We asked students for feedback on different instructional strategies that we used in our courses.
Phase Two: Survey	We then used the data collected in Phase One and our experience teaching online to construct a survey to investigate students' perceptions of the techniques used to establish and maintain social presence in our courses.
Phase Three: Follow-up Interviews	The final phase of our investigation consisted of follow up semi-structured interviews with a subset of the students from Phase 2.

During Phase Two, after each course had ended and grades were submitted, we administered the online survey. The survey was administered to students in two sections of two different fully online courses (i.e., a total of 4 sections in all). There were a total of 101 students in the two different courses. Of the 101 students enrolled in the four sections, 37 students, or 36.6%, completed the survey; researchers have determined that this is an acceptable response rate for social science research using online surveys (see Nulty, 2008; Sheehan, 2001). After students completed the survey, the data was downloaded and analyzed.

Then in Phase Three, based in part on the analysis of survey data in Phase Two and specifically the varying perceptions of social presence across our participants, we decided to purposefully sample students with strong perceptions of social presence as well as those with weak perceptions of social presence in an effort to get a more balanced understanding of how different students think about and perceive social presence. In other words, we did not want to simply interview students who are very social and who might have positive things to say about all of our social presence techniques. Given this, we identified five students with the highest social presence scores and five students with the lowest social presence scores as possible participants to interview; participants' social presence scores were calculated by adding up their responses on the 9 Likert style social presence questions (which came from the Community of Inquiry Questionnaire). We then randomly invited three out of the five previously identified students from each group (i.e., the high social presence group and the low social presence group) to take part in follow-up interviews. All six students agreed to be interviewed. The follow-up semi-structured interviews were used to dig deeper into the students' perceptions of the various techniques (i.e., strategies and technologies) we used to improve social presence. Both researchers took part in the interviews. The interviews were recorded and lasted about 45 minutes. The interviews were coded using an open-coding constant comparative technique.

Results

In the following section, we will briefly describe the results from the three phases of our inquiry.

Phase One: Open-ended Student Feedback

We collected open-ended feedback from students about the techniques we used to establish, maintain, and ultimately improve social presence in the online courses we teach. While we did not receive feedback from every student, the feedback we did receive was consistently positive. Students commented on how the online discussions and specifically peer review activities helped them connect to their peers as illustrated in the following quotes:

- *The discussions helped me feel connected to my course colleagues. The discussions also helped me feel connected to you [the instructor].*
- *The structured discussions that we had always help me [feel connected] ...I also like the peer review on the projects, I think that helped me feel connected. I think you did a great job with interacting with the discussions and any email I sent you answered quickly, so I felt connected.*
- *The part of the course that made me feel connected to the other students was the peer reviews.*
- *I really liked being an integral part of reviewing. I felt (especially in certain assignment) that I really got some insight into how the other students interpreted the assignments and put their own life (either work or other parts of their life) into the assignment.*

Students also pointed out how the feedback they received on their assignments helped them feel connected to their instructor as a real person. The following quotes capture this perception:

- *The aspect of the course that helped me feel connected to the instructor was the feedback I received from the instructor and the follow-up email exchanges.*
- *The feedback I received on my projects helped quite a bit as well.*

Finally, students also commented on the power of social networking as well as the digital music activity, as evident in the following quotes:

- *I really LOVE twittering with everyone. It really made me feel like we knew each other more and were actually in class together.*
- *The introductory music activity was awesome to help in getting to know people. Many of us have worked together the past few semesters, but this helped shed a lot of light of a more personal nature about their lives.*

The fact that different students highlighted different techniques (e.g., some mentioned Twitter, while others mentioned the detailed feedback they received), suggested that some students liked certain things about certain strategies more than others. These results left us wanting to know more about what students liked and disliked about our social presence efforts. Therefore, we used these results to help create the survey administered in Phase Two in an effort to learn more about students' perceptions of the social presence techniques we used.

Phase Two: Survey Results

On a five-point scale, with 0 being strongly disagree and 4 being strongly agree, students reported a mean social presence score of 2.85. While there is no consensus on what an ideal level

of social presence is for an online course (Kilgore & Lowenthal, 2015; Rourke et al., 1999), this mean social presence score is less than the mean score of 3.18 reported by Swan et al. (2008) but closer to the mean score of 2.98 reported by Kilgore and Lowenthal (2015). At the same time though, students reported that they were very satisfied ($M=3.51$ on a 0-4 scale) and reported high levels of perceived learning ($M=3.65$ on a 0-4 scale) (see Table 2).

Table 2
Social Presence, Satisfaction, and Perceived Learning Results

Student Perceptions	Total
Social Presence Score	$M=2.85$
Affective Expression	$M=2.75$
Open Communication	$M=3.20$
Group Cohesion	$M=2.60$
Satisfaction	$M=3.51$
Perceived Learning	$M=3.65$

The relationship between an instructor and a student is different than the relationship between students and other students (Richardson & Lowenthal, in press; Swan & Shih, 2005). Therefore, we first asked students to rate the degree to which each technique (strategy + technology) helped them connect with their instructor. Detailed written feedback ($M=3.62$), one-on-one emails ($M=3.57$), and general “How-to” Screencasts ($M=3.54$) were the three highest rated activities (see Table 3). On the other hand, Twitter ($M=1.97$), Top 100 Design Guidelines ($M=2.24$), and Just Ask Zoltar ($M=2.47$) were the lowest rated strategies.¹ Interestingly, the results were positive for all of the strategies except Twitter; we see scores above 2.0, on a 4-point scale, as positive in terms of students’ perception of their role in enhancing social presence.

¹ The Top 100 Design Guidelines was a collaborative activity done in Google Docs and Just Ask Zoltar was an activity in which students could ask any course-related question they wanted and receive a response plus a fortune.

Table 3
Perceptions of Techniques Used to Establish Social Presence of Instructors

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Average
Detailed written feedback on projects	0	0	2	4	15	3.62
One-on-one emails	0	0	3	9	23	3.57
General “How-to” Screencasts	0	0	2	8	16	3.54
Specific trouble shooting “How-to” Screencasts	0	0	3	7	15	3.48
Audio/Video Feedback on Assignments	0	0	4	7	15	3.42
Instructor Bios	0	0	2	17	17	3.42
Five minute phone conversation	0	1	3	2	12	3.39
Previous relationship with the instructor	0	0	2	10	9	3.33
Digital Storytelling	0	0	3	12	10	3.28
Adobe Connect Synchronous sessions	0	0	4	16	13	3.27
Virtual Paper Bag: Soundtrack	0	0	6	5	10	3.19
Video Announcements	0	2	2	11	10	3.16
Personalized instructor announcements with photos	0	0	5	6	8	3.16
Virtual Paper Bag: 350-word story for Flickr photos	0	0	4	9	7	3.15
Virtual Paper Bag: Five photos in Flickr	0	0	4	9	6	3.11
Virtual Paper Bag: Wordle	0	1	5	6	9	3.10
Threaded discussions	1	4	7	13	12	2.84
Course overview videos	1	1	3	8	5	2.83
Music-related Activities	1	2	9	10	6	2.64
Superhero Powers	1	3	4	7	5	2.60
Musical interludes on weekly agendas	1	1	9	5	5	2.57
Just Ask Zoltar	1	2	6	7	3	2.47
Top 100 List of Design Guidelines	2	4	6	5	4	2.24
Twitter	2	4	18	5	1	1.97

We then specifically asked students to pick the activity they thought was the most effective at helping them feel connected to their instructor—that is, that their instructor is “real” and “there” to support them. Phone calls and audio/video feedback were selected the most by students. On the other hand, when asked which activity they thought was the least effective at helping them feel connected to their instructor, Twitter and the “Top 100 List of Design Guidelines” were listed as being the least effective in comparison to the other strategies.

After focusing on the techniques that help students feel connected to their instructor, we then asked students to rate the degree to which each technique helped students connect with their peers. Digital storytelling ($M=3.33$), previous relationships with peers ($M= 3.32$), and open access to review peers projects ($M=3.26$) were rated the highest. Twitter was once again rated the lowest ($M= 1.73$), followed next by Just Ask Zoltar ($M=2.10$) and Top 100 list of design guidelines ($M=2.19$). Again, however, it is interesting to note that all of the strategies except Twitter received a mean score above neutral (2.0 on a 4-point scale), however when looking at the frequency of responses, some students appear to clearly prefer some techniques more than others (see Table 4).

Table 4
Perceptions of Techniques Used to Establish Social Presence of Peers

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Rating Avg
Digital Storytelling	0	0	3	12	12	3.33
Previous relationship with peers	0	0	4	15	15	3.32
Open access to view peers' projects	0	0	4	18	13	3.26
Fellow students peer reviews of your assignments	0	2	5	13	16	3.19
One-on-one emails	0	1	6	14	12	3.12
Virtual Paper Bag: 350-word story for Flickr photos	0	0	3	12	5	3.10
Virtual Paper Bag: Five photos in Flickr	0	0	5	10	6	3.05
Virtual Paper Bag: Soundtrack	0	2	3	9	7	3.00
Virtual Paper Bag: Wordle	0	2	5	9	5	2.81
Threaded discussions	1	4	9	12	11	2.76
Adobe Connect Synchronous sessions	0	1	14	12	6	2.70
Superhero Powers	1	2	6	9	3	2.52
Musical Activities	1	3	10	6	6	2.50

Audio/Video Feedback on other students' assignments	1	1	13	6	3	2.38
Top 100 List of Design Guidelines	1	5	8	3	4	2.19
Just Ask Zoltar	1	4	9	6	1	2.10
Twitter	3	4	17	1	1	1.73

Phase Three: Semi-structured Interviews

The results of Phases 1 and 2 of the study left us wondering why certain strategies ranked higher than others. For Phase 3, we conducted interviews with six students: three who had scored the highest on the social-presence scale (two females and one male) and three who had scored the lowest on the scale (two males and one female). The following themes emerged from the interviews. According to the students, there are three primary things instructors *should* do to enhance social presence:

- **Provide personal, individualized feedback.** Students reported that individualized feedback was key to them feeling connected to their instructors. The strategies that students talked about during the interviews as having a positive effect on their feelings of connection and their relationship with instructors were: email; phone/Skype calls; written, audio, video feedback; and one-on-one synchronous sessions.
- **Provide opportunities for students to build relationships through collaborative work and sharing.** Students reported that collaborative work played a major part in feeling connected to their peers. The strategies that students talked about during the interviews as having a positive effect on their feelings of connection with their peers were: group projects, peer reviews, virtual paper bag-like activities, open posting of projects, threaded discussions, and synchronous sessions.
- **Be accessible.** Students reported accessibility as being key to them feeling connected to their instructors. The strategies that students talked about during the interviews as having a positive effect on their feelings of connection and their relationship with their instructors were: email; phone/Skype calls; synchronous sessions; and bios and digital stories.

The students interviewed indicated that it was not that the other strategies were not of value, but these specific strategies were the best in terms of improving a sense that others are “real” and “there” and in turn improving a sense of connection and relationship building.

Another interesting theme that emerged from the interview data is the importance of emphasizing the purpose of the technique used to enhance social presence. The strategies and corresponding technologies that worked well for students were those that were clearly defined, intentionally sequenced, and relevant to the course’s learning objectives. As the students pointed out, it is not a specific strategy (e.g., threaded discussions) or tool (e.g., Twitter) that leads to

enhanced social presence, but how and why the strategy or tool is used for social-presence goals within the framework of achieving specific learning objectives.

The last theme that emerged from the interviews was how influential students saw social presence (both instructors and peers) to their learning. Even the three students who scored the lowest, on the social presence items in our survey, shared that they believed social presence was a critical aspect of the online course experience, contributing to their achievement of course-specific learning objectives and their overall professional preparation.

Discussion

The results from Phase One were positive. The students who responded had good things to say about a number of the techniques we used. For instance, we received some positive feedback about our use of Twitter, which supported our previous work using Twitter to establish social presence (see Dunlap & Lowenthal, 2009a, 2009b). However, we were not getting feedback from enough students to make any informed decisions about the strategies we were using. We were also not gaining any insight into which techniques were better than others. For instance, while some students reported liking Twitter, we questioned whether they liked it better than other strategies.

The results from Phase Two, though, while still not representing the perceptions of *every* student in our courses (due to the 36.6% response rate), began to help us compare which techniques were better—from a student perspective—at establishing, maintaining, and improving social presence with their instructors and peers. We used a number of strategies that utilized technology to help establish social presence. Thus, we were surprised that two “low tech” strategies—specifically, detailed written feedback and one-on-one emails—were rated among the best strategies to help students feel connected to their instructors. Interestingly though, when later asked which specific strategy was the most effective at establishing social presence, phone calls and audio/video feedback were identified the most as the single best strategy to establish social presence. From our perspective, this suggests that basic teaching strategies (i.e., giving detailed written feedback and/or using screencasts to give audio/video feedback) and communication strategies (one-on-one email and phone calls), and specifically those focused on interacting one-on-one with the student, are perceived as the most effective strategies for helping students connect with their instructors. The importance of one-on-one communication for building instructor social presence is supported by recent research conducted by Lowenthal (2015).

At the same time, students rated Twitter as being one of the least effective strategies when compared to the other strategies we used in our courses. This was both alarming and comforting. Using Twitter for instructional purposes, and specifically to establish social presence, involves a serious time commitment if one is not already a regular Twitter user. We have been using Twitter for a few years in our courses but when it comes to which strategy is the best use of our time, Twitter does not appear to work as well as the others. However, this does not suggest that Twitter or social networking tools do not have a place in online courses. Rather,

when compared to other strategies, students did not perceive Twitter to be as effective at improving the social presence of their instructors and peers. Some students suggested during the follow up interviews that students' neutral perceptions of Twitter could be due to how we used Twitter in our courses (i.e., participating in Twitter was not a required activity in the course). In fact, one student stated she might have had a different perspective about Twitter if she was required to use it. Neutral perceptions of Twitter could also be due to how we changed the way we used Twitter over time. During the first year or two that we used Twitter (as described in Dunlap & Lowenthal, 2009a, 2009b), our tweets contained a lot of personal information; but by the time of this study, our use of Twitter had become more professional in nature (e.g., involving more sharing and commenting on resources than sharing personal information about our days).

Other results from Phase Two suggest that students perceive some strategies as being more effective at improving instructor-student social presence and other strategies as being more effective at improving student-student social presence. For instance, as mentioned earlier, students found that digital storytelling, previous relationships with peers, and open access to peers' projects were the most helpful at establishing a connection with their peers. This was reassuring in that we have experienced and written about the power of digital storytelling to establish social presence (Lowenthal & Dunlap, 2010) as well as the importance of having open access to peers' projects (Lowenthal & Thomas, 2010). However, we did not expect previous relationships with peers to be rated so highly. During the interviews, students clarified that previous relationships were established primarily through group projects; the importance of previous relationships is discussed more below.

The results from the interviews support, and therefore further validate, a number of the findings from Phase Two. For instance, students pointed out that their relationship with their instructors (including their sense that their instructors were real and accessible) was very important to them and an aspect of their online-course experience that positively influenced their overall perceived learning. These students consistently brought up how one-on-one communication (in which email was used the most) helped them get a sense that their instructor was "real" and "there." So while we continue to hear claims like "email is dead and something only old folks do," or something to avoid because it happens outside of the LMS, our results suggest that email—or more generally personal, individualized one-on-one communication—is key to improving social presence and the connection students have with their instructors.

Another theme that emerged in the interviews that expanded upon the survey results was the importance of previous relationships and group work. Based on the survey results alone, it would be easy to conclude that previous relationships are highly important and establishing a cohort model could help establish social presence by having students complete all of their coursework together. However, the interviews revealed that simply having a previous course together does not mean a student had a previous relationship with other students. Students pointed out that having a successful group-project experience with their peers in a course helped them get to know their peers better and establish and maintain the social presence between specific peers in future courses.

Finally, perhaps one of the most interesting things emerging from the interviews was that students who were identified as having low social presence scores talked about many of the same things as students who were selected with high social presence scores. This suggests perhaps there is not an ideal level of social presence needed for all students but rather that each student needs different things and has his or her own optimal social presence level, which in turn can be influenced by one's age, culture, gender, or even personality.

Thus, our results—while only based on the techniques we used in our own online courses—suggest that rather than using only one technique to improve social presence, instructors should select a few techniques to improve social presence in the courses they design and teach. The results also suggest instructors should use different strategies for instructor-student social presence and student-student social presence. Finally, while these techniques might vary depending on one's specific context (e.g., education level of the course, subject matter, course size), instructors should strive to explain how specific techniques are tied to the course learning objectives.

Conclusion

Attention to social presence in online courses recognizes there many advantages to learning in a social context (Dunlap, Furtak, & Tucker, 2009; Dunlap & Grabinger, 2003), such as:

- Social interaction provides opportunities for students to explore insights, approaches, and solutions they might not examine on their own.
- Through social interaction, students experience and develop an appreciation for multiple perspectives.
- When interacting with others, students have opportunities to expose, confront, and modify misconceptions and ineffective strategies.
- Social learning experiences allow students to observe and subsequently emulate other students' models of successful learning.

As cognitive processes originate and are stimulated by social interactions (Vygotsky, 1978), theory, research, and practice have all highlighted the importance of social presence for instructors and students, with instructors and designers continuing to experiment with ways to establish, maintain, and ultimately improve the amount social presence in online courses. There are many different techniques (i.e., strategies and technologies) that can be used to improve social presence in online courses. Above, we briefly described some of the social presence techniques we use in our courses. Research to date, however, has not identified which techniques, or types of techniques, are generally better than others for improving social presence. We set forth to investigate student perceptions of various techniques we use in our online courses. Our results suggest a few key things. First, students are more interested in connecting with their instructor than their peers. Second, students prefer different strategies for connecting with their instructors than their peers. Third, different students like different social presence strategies. And fourth, students have different social presence needs. Additional research,

though, is needed to see if similar results are found in different courses with different students. While we do not recommend generalizing our results to describe the perceptions of all students, our results do serve as an important first step in researching the types of strategies students prefer; we believe and have experienced how attending to students' preferences serves to enhance their social presence and overall learning experience in online courses.

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