Teaching Students Online Social Presence: A Needs Assessment

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Abstract: The concept of social presence in online learning was explored to determine the need for teaching online students to engage in social presence. Participants were asked to fill out a short, nine-question survey concerning their encounters with and perceptions of social presence in online and face-to-face learning environments. Respondents reported that low social presence in online learning was a major disadvantage, and that there was indeed a need for such a learning module. Five typical social skill sets that could be transferred to the online environment were pulled from the data. These skill sets were discussed and possible performance objectives were created. Performance objectives should be tested in accordance with the critical incident technique in order to determine their applicability, the importance of the identified skills, and if any other skills should be included.

Introduction

Our education paradigm is shifting. Students are moving out from behind desks and into digital classrooms. This change forces those who care about the education of the next generation to evaluate how these changes are affecting the students.

In 1976, Short, Williams, and Christie defined social presence (SP) as "the degree of salience between two communicators using a communication medium" (p. 65). This definition spurred decades of research aimed at teasing apart exactly what was happening in technology-assisted communication, and how that differed from face-to-face (F2F) encounters.

Researchers have continually redefined SP as more research studies have been conducted. In 2000, Garrison, Anderson, and Archer defined SP as "the ability…to project their personal characteristics in the community thereby presenting themselves to the other participants as 'real' people" (p. 89). The definition was further adapted when Tu and McIsaac (2002) defined SP as "the degree of feeling, perception, and reaction of being connected…to another intellectual entity" (p. 140). Finally, in 2009 Garrison defined SP as "the ability of participants to identify with the community, communicate purposefully in a trusting environment, and develop interpersonal relationships by way of projecting

individual personalities" (p. 352)

These definitions all vary in some way, including disagreement with regards to whether the person or the technology has SP. The research, however, does not disagree when it comes to the importance of SP in learning environments. Continuously, SP has been confirmed as a strong predictor of student satisfaction and perception of learning in an online learning environment (OLE) (Gunawardena and Zittle, 1997; Lu, Huang, Ma & Luce, 2007; Tu & McIsaac, 2002; Rourke & Kanuka, 2009). Furthermore, SP, teaching presence, and cognitive presence, are key components of a three-factor-model of successful online learning that has been termed a Community Of Inquiry (Garrison et al., 2000). Each of these factors (e.g. SP, teaching presence, and cognitive presence) contributes differently to increase learning and satisfaction.

Current research points to teachers as the key role model of SP (Rourke & Kanuka, 2009). Teachers are often singled out because they are responsible for implementing the technologies that allow for the varying levels of richness in SP, and their actions are often imitated in the OLE. Even when teachers provide the opportunity to use various tools, SP seems to occur in some situations but not in others.

Despite heavy documentation of the advantages of online learning in environments rich in SP, no current modules were found that teach students how to maximize their online SP. This begged the question: Do students need to be taught how to maximize online SP? One wonders if such a model would be needed, knowing that education is shifting to meet the needs of today's students and their preference for online environments.

Perhaps in support of this notion, Mikami, Szwedo, Allen, Evans, and Hare (2010) found that students with behavior problems in primary school were likely to exhibit antisocial behavior on social networking sites years later. This finding supported others' research that "youths display cross-situational continuity in their [anti-] social behaviors" and extended the "conceptualization of continuity… into the online domain" (Mikaaami et. al., 2010, p. 53). If cross-situational continuity occurs in all social behaviors, both pro- and anti- social, it would suggest that the SP utilized by students in F2F classes should transfer to the online environment.

If a need for such an instructional module is found, the educational technologists charged with designing online SP skill instruction for 21st century learners could learn a great deal from reviewing social skills education and terminology used in the special education literature. Social skills are commonly defined as the set of skills people use to interact and communicate with others. In other words, the skills one would use to project his or her humanity into an OLE could be termed social presence skills. These SP skills, like any other skills, must be learned.

The questions remain, though. Do students need to be taught SP? Do SP skills display cross-situational continuity with exposure to new learning environments, such as online? Are students satisfied with the level of SP provided through typical OLEs? Finally, if students need to be taught online SP skills, what are common social interactions

encountered in F2F learning environments that could be transferred to the online environment?

Methods

The purpose of this project was to analyze the need for a learning module that teaches students who are new to online learning the importance of, and use of SP to engage in and create a positive learning environment. In addition, this needs assessment sought to illicit typical encounters found in F2F learning environments, so that these encounters could be translated into OLEs should a module be determined to be needed. A brief exploration of special education literature was also pursued in an attempt to explore related skill training knowledge.

To gather information, a nine-question survey questionnaire was developed in Google forms. A link to the active survey was distributed across three graduate student email list-serves. The instrument probed participants' knowledge of social presence, typical student interactions in F2F environments, pros/cons of online learning, and their preferred learning environment. Also, to provide comparison, respondents were asked to report the number of classes they had taken in the last two years in both F2F and online environments. These nine questions can be found in Appendix A.

The three list-serves consisted of 99 students currently enrolled at the University of Hawaii Educational Technology Graduate Program. Of the 99 total students, 55 students complete courses on campus or F2F, and 44 complete courses online. These students were selected because the researcher believed that they would represent well-informed experts in educational technology, and that they would be familiar with many of the learning technologies that can enhance SP. Many of the possible participants were classmates of the primary researcher in both F2F and online educational environments.

Because many of the survey questions allowed open-ended responding, data was coded to allow for easier review. Respondents' definitions of SP were compared to five definitions of SP found in the literature (see Appendix B). If a reasonable connection could be made between the response and any of the five definitions, participant responses were scored correct. Responses were also chunked according to topics and general ideas for questions five through eight (Appendix A). The author of this paper and another graduate student coded all data. Results of independent coding were compared and discussed until agreement was reached on 100% of coding. Some responses with multiple topics were coded in each category.

Results

Of the 99 students invited to participate in the study, 27 completed the survey. Of the 27 respondents, 17 reported attending less than five F2F classes, while 12 participants reported taking five or more classes online. When asked to rate their preferred learning environment on a five-point scale, participants averaged 2.56, indicating that online classes were somewhat preferred. Twelve of the respondents' definitions of SP aligned with theoretical definitions, and three continued to explain that SP was critical for

effective learning environments. When asked to choose a tool they preferred to use for communicating with classmates, five respondents indicated Social Networking Sites, eight respondents indicated Digital Classrooms, eleven respondents indicated Personal Communication, and three respondents indicated Class Management System.

For questions five through eight, the following category chunks emerged from the data. For these questions, the chunks are listed with the frequency of that response following in parentheses. When asked advantages of online learning, respondents generally responded with answers that would be categorized into one or more of the following categories: Ability to work independently at own pace/time (18), not limited to one physical location/ travel expense (17), ability to learn about or improve ability with emerging technology (6), and low social/peer pressure consequences (3). When asked disadvantages of online learning, respondents generally provided answers that could be categorized in one or more of the following categories: lack of SP (20), technology problems or a technology use learning curve (6), the need to be self-motivated (7), and poor course design (1).

Chunked data also revealed five typical interactions with peers in learning environments. These interactions were group projects (11), non-verbal communication (9), establishing/ maintaining relationships (9), discussing class content (8), and clarifying instructions (5).

In order to test if experience with OLEs had any effect, these responses were sorted into groups based on their reported number of classes (both online and F2F) in the last two years. Those who reported taking more than five classes were placed in the high category, and those with five or less classes were categorized as low. The resulting categorization yielded four groups for comparison. There were eight participants in the low online and low F2F group, seven participants in the low online and high F2F, nine participants in the high online and low F2F, and three participants in the high online and F2F.

Table 1. Responses sorted by number of classes taken.

	Class Type Preference	Correct Definition	Tool Type Preference 1	Tool Type Preference 2
Few Online Few F2F	2.5 (1- 4)	25%	Personal Communication (4)	Digital Classroom (3)
Few Online Many F2F	3.71 (2- 5)	42.86%	Social Networking Site (4)	Digital Classroom (2)
Many Online Few F2F	1.77 (1- 4)	44.44%	Personal Communication (4)	Social Networking Site (2)
Many Online Many F2F	2.33 (2- 3)	100%	Digital Classroom (2)	Personal Communication (1)
All Respondents	2.55	44%	Personal Communication (11)	Digital Classroom (8)

Note. For class type preferences, data is presented as the mean (range) (1= Online and 5= Face to Face), For tool type preference top two tools are reported with the number of respondents who chose that tool is recorded in parentheses.

Using this division of the data, three comparisons were made. The first compared the groups' ratings on preferred class type. A one-way ANOVA for independent samples was performed ($F = 4.48$, $p = .01$). Tukey post hoc tests reveled a significant difference between respondents in the high online, low F2F and low online, high F2F group ($p < .05$) with the groups preferring the type of class they more frequently took (see Table 1). The second comparison made across groups was a Chi Square test for independence examining the probability of knowing what SP was. The likelihood of giving a correct definition for SP increased as respondents took more classes, however there was no difference based on the class environment ($\chi^2 = .33$, $p = .56$). The third comparison utilized a Chi Square test for independence to examine the tool selected to interact with classmates across the groups. Once again, there were no significant differences ($\chi^2 = 5.44$, $p = .14$) between each group's tool preferences.

Discussion

Solicitation for volunteers to take an online survey traditionally returns low response rate. A response rate for the online survey of 27% is a respectable response rate. This relatively high response rate could be explained by the author's rare opportunity to participate in both online and F2F cohorts, meaning the author had been in contact with many of the potential respondents comprising the participant pool

All participants were graduate students in an educational technology program in which the vision is to contribute and advance the understanding of educational technology in the many distinctive fields of education, addressing technology at all levels of lifelong spectrum (ETEC Website). This means that each student, while sharing a common core of instructional design and technology, is free to pursue research in their own areas of interest. Students also freely choose between an online and F2F delivery method for many of their classes. This accounts for the only significant difference found in the comparisons between number of classes taken in each delivery method and preference for the delivery method.

With the understanding that each expert in educational technology surveyed had unique research interests, one of the first steps was to determine how many respondents could correctly define SP. It was noted that 44% of the respondents' definitions closely aligned with the 5 comparison definitions. In essence, nearly half of the surveyed experts in educational technology had enough research experience with SP to align free response definitions with the major theoretical definitions. This, as well as recognizing that the percentage of correct responses increased as the total number of classes taken increased, emphasizes the importance of the concept of SP in Educational Technology.

Additionally, 74% of the responding experts listed low SP as a major disadvantage in their experience in OLE. If theses students, who are at least more familiar with OLE and the various technologies available to online students, still feel the disconnect of the social experience, how much more do students who are new learners in an online environment feel this loss? The evidence advocates a need for SP education for students learning in an online environment.

While the previous evidence supports the need for instruction in online SP, there was an unexpected result relating to SP. More than 10% of the respondents indicated that an advantage to online learning is the low social/peer pressure consequences. Respondents indicated that when online, 'you don't hear the sighs or see someone rolling their eyes' while participating in class. This suggests that the module should also caution students about participating in negative SP skills.

These findings, SP importance in research of experts, loss of SP in OLEs even by experts familiar with the technology, and the need to caution students about negative SP consequences all point toward a need for robust, online SP instruction. To aid the creation of this module, respondents were asked to describe the formation of SP in F2F environments.

Respondents were asked to describe typical encounters with their peers that they remembered from their many years of education. They responded with five typical encounters: establishing and maintaining relationships, non-verbal communication, working on group projects, discussing class content, and clarifying instructions. Each of these skills warrants further exploration and discussion to identify how these encounters play out online.

Implications

In 1986, Gresham and Reschly dichotomized deficits in social skills into "skill deficits" (not having the skill in one's repertoire, or not having exhibited it) that must be directly taught, and "performance deficits" (the skill is in one's repertoire, but it is not performed at acceptable rates). SP in learning environments is a skill that is learned during our first few years of schooling. These skills are reinforced by natural contingencies and embedded within one's repertoire. More experienced students who have already established these skills would, by the definition, have performance deficits of SP skills in OLEs. Students would need instruction aimed at increasing the performance of SP skills in the new learning environment.

Performance deficits occur when there is a lack of opportunity or motivation for the skill to occur. Even if a skill is in an individual's repertoire and they would otherwise be motivated to use the skill, it may also be the case that the skill is not performed because of a failure to discriminate the opportunity to utilize the skill (e.g., the student was not aware of the opportunity to show understanding with emoticons in an OLE). Instruction should alert students to the various stimuli that discriminate opportunities to perform a SP skill. The first step is to identify the skills where more frequent performance is needed. For this, we turn our attention to the reported common F2F SP situations.

The first SP skill involves non-verbal communication. In F2F classes a lot of information is disseminated through nonverbal information. Danesi and Perron (1999), report that there are over 150,000 non-verbal communications. Non-verbal responses include laughing at a joke, body language, tone of voice, and other facial cues; such as one's allowing others to see visually the thoughts and attitudes of the communicator. In online environments, emoticons and paralanguage sometimes replace these non-verbal skills.

These text enhancements, like facial expressions, vary in their creation and are ever evolving. Tu (2001) concluded that students who appreciated uses of paralanguage and emoticons perceived higher levels of social presence; even if they did not personally utilize them. Even the Oxford Dictionary (2011) is beginning to recognize some paralanguage, such as "LOL" (laugh out loud) and "IMHO" (in my humble opinion) as official words.

Within the second category, establishing and maintaining relationships, participants discussed saying hello, and engaging in small talk before class. In F2F environments, these social interactions are normally initiated in the hallways or when one arrives early to class and talks with those sitting nearby. Students often exchange trivial information about day-to-day activities. In OLE, participants do not "sit" next to each other, nor do they pass in the hallway. Kim and Jeong (2010) suggested that these relationships can be formed and maintained in online environments through the use of social networking websites SNW. The authors define SNW as web sites that make it possible for people to form online communities and share user created content (Kim & Jeong 2010). SNW allow users to post comments on topics and media under usernames that usually are linked to a profile.

The key is establishing the relationships early. Johansen, Vallee, and Spangler (1998) found that online learners could cultivate social presence by facilitating introductions in the initial learning sessions. For this, multiple tools can be selected, including social networking, digital classrooms, personal communication, course management sites and other Web 2.0 tools that provide access to various media. While the teacher and the school administration will dictate the main class sites, students are free to supplement these required tools with additional tools of their choosing.

Reportedly, SP is often felt when working on group projects. For F2F classes, students reported meeting outside of school to work on these activities. Respondents reported a short "getting to know each other" period prior to 'role forming' and 'tasks being divided out'. In online classes, physical distance between participants can be nearly unlimited. Because of this distance, online spaces must be created to promote collaboration. Students can start a collaborative blog, wiki or Google doc to serve as the location for their meetings. These tools have been termed Web 2.0 tools because they socially connect the collaborators (Kearns and Frey, 2010).

Respondents also indicated that students in F2F classes use their peers to clarify instructions given by their professors. This can happen both in class and out of class when personal communication mediums, such as cell phone numbers and email addresses, have been shared. This skill is not much different in online environments. Students should find themselves using contact information disclosed within the class to send personal messages to their fellow students. It is normal for students to ask about 'whatever assignment is due that day' or week. Within the research, this out of class communication is termed back channel. Although backchannel 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 felt among students (Tu, 2002).

Finally, respondents indicated that sometimes in F2F learning environments, students discussed class content with other students. This can be done for 'clarification of topics' or 'to share related information'. Students are often seen meeting outside of class for study groups, and students also share their ideas during class. In online environments, learning is focused around theses discussions. The International society for Technology in Education National Educational Standards for Students website "encourage[s] collaboration by encouraging students to use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others" (ISTE NET-S, 2007).

Recommendations

Based on the previous discussions, possible performance objectives were created for a module that aims to instruct students new to online learning with regard to the importance of and ability to engage in social presence. These performance objectives can be found in Appendix C.

While it is important to know how to effectively use the different tools available, the shear number of tools and their constant evolution leaves this needs assessment to only be able to suggest leaving the tool instruction up to the tool developer, or the teacher mandating the tool's use. Early instruction regarding the use of various tool types could reduce the need for further tool-specific instruction.

In addition to the skills previously discussed, student safety should be included in SP instruction. Students should remember that SP expressed through personal communication and on classroom sites might be more private than some other online media. Tu (2002) recommended that one should consider all computer-mediated communication as public. Regardless of the tool, student correspondence creates a permanent copy that can be accessed by malicious individuals. Care should be taken to keep contacts and communications professional, and to refrain from sharing information that could potentially be used to harm the student.

Conclusion

Online learning environments provide a unique opportunity to provide an increased ability for collaboration with an increase in pro-social presence skills and a decrease in negative social skills. The findings from the survey used in this project suggested that SP was an important topic in educational technology, and that even experts felt that a lack of SP in their OLE is a major disadvantage. This suggested the need for SP skill instruction for students transferring to OLE.

This survey returned 5 typical social situations that provided discussion and possible performance objectives for SP instruction. Students who are taught to discriminate opportunities to engage in these skills should increase their SP. Increasing students SP should lead to higher rates of student satisfaction and learning.

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Appendix A. Survey Questions

1. If given the option, would you rather take a class online or in person? Rate 1 for all online 3 for neutral and 5 for all in person.
2. In the last 2 years how many classes have you taken online?
   None   One or Two   Three to Five   More than five
3. In the last 2 years how many classes have you taken face-to-face?
   None   One or Two   Three to Five   More than five
4. What is Social presence?
5. How does social presence relate to online learning?
6. What are the advantages to taking online classes?
7. What are the disadvantages to taking online classes?
8. Describe a typical interaction you may encounter with a classmate in a face-to-face class.
9. What is your preferred way to communicate with your teachers and classmates when in an online class?
   a. Social networking site (Ning, Facebook)
   b. Digital classrooms (Elluminate, Wimba)
   c. Personal Communication (skype, email, AIM, cell phone)
   d. Class management system (laulima, blackboard, web-ct, e-LC)

Appendix B: Theoretical definitions

- Social presence is the degree of salience (i.e., quality or state of being there) between two communicators using a communication medium. (Short, Williams & Christie, 1976).
- Social presence is the degree to which a person is perceived as a 'real person (Gunawardena & Zittle, 1997)
- Social presence is the ability … to project themselves socially and emotionally, as 'real' people (i.e., their full personality), through the medium of communication being use (Garrison et al., 2000)
- Social presence is the degree of feeling, perception, and reaction of being connected by CMC to another intellectual entity through a text-based encounter (Tu & McIsaac, 2002)
- Social presence the ability of participants to identify with the community, communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities (Garrison, 2009)

Appendix C: Probable Performance Objectives

Introduction to Social Presence in the online Environment:

1.1   The student will be able to articulate the correct definition of the term Social Presence.
1.2   The student will be able to distinguish each of these tool types that provide SP.
      a.   Social networking site (Ning, Facebook)
      b.   Digital classrooms (Elluminate, Wimba)
      c.   Personal Communication (skype, email, AIM, cell phone)
      d.   Class management system (laulima, blackboard, web-ct, e-LC)
      e.   Other Web 2.0 Tools

Non-Verbal Communication:

2.1   The student will know of how to construct and decode a variety of emoticons.
2.2   The student will know of how to construct and decode a variety of paralanguage.

Establishing Relationships:

3.1   The student will be able to create a profile page or posting that includes a profile picture, preferred contact information and appropriate icebreaker information.
3.2   The student will read and comment on other students profile postings.
3.3   The student will greet other students in synchronous meetings.

Maintaining Relationships:

4.1 Working on Group Projects:
      4.1   The students will use their group's preferred contact information to establish open lines of communication.
      4.1.2   The students will collaborate to choose the best tool to support the groups business

4.2 Discussing Class Content:
      4.2.1   The student will engage discussions topics posted by their classmates and teachers
      4.2.2   The student will provide constructive and positively stated comments on topics engaged by others
      4.2.3   The student will keep postings appropriate for learning environments
      4.2.4   The student will take time to reflect on his posting before posting

4.3 Clarifying Instructions
      4.3.1   The student will look in course material first when encountering questions in OLE's
      4.3.2   The student will ask classmates in public discussion for assistance in locating the answer.
      4.3.3   The student will thank classmates who help them find the answer they were looking for.

4.4 Backchannel Communication
      4.4.1   The student will engage other students respectfully through backchannel communications as a constant communication and support.

Conclusion:

5.1   The student will understand that the ability to be reached in a timely manor is important in SP
5.2   The student will be discrete when posting personally identifying information.