How Social Presence Influences Learning Design: A Literature Review

Arnold Thomas Bigger

20 September 2026

EDCI 51300 - Foundations of Learning Design and Technology

Abstract

Social presence is key to learner participation, online collaboration, and a significant predictor of computer-mediated communication (CMC) use. Research on social disconnection, emotional isolation, and other effects of online environments is ongoing including literature about (1) connections between CMC learning environments and social presence, (2) connections between nonverbal communication and social presence, and (3) connections between student engagement and social presence. Much of the literature defines social presence in numerous ways demonstrated by the progression of social presence definitions since 1976. When CMC use began, social presence was one of a range of theories that arose to explain the widely held belief that online communication has fundamentally less social presence than face-to-face communication because online communication has fewer nonverbal cues. Initial studies suggested that social presence in all communications mediums results from two factors, (1) intimacy and (2) immediacy. Presently, social presence is a concept continuing to develop definition and methods to measure predictors, mechanisms, and effects.

Keywords: social presence, nonverbal communication, computer-mediated communication, learning design

How Social Presence Influences Learning Design: A Literature Review

An argument can be made that the COVID-19 pandemic quickened social acceptance of online environments. In fact, the popularity of online learning can be demonstrated by the "5.8 million students [who] were enrolled in at least one online course in 2014" (Richardson et al., 2017). Research on social disconnection, emotional isolation, and other effects of online environments is ongoing; although, studies suggest that "the construct of social presence…can go a long way to overcoming these issues" (Richardson et al., 2017). According to (Oh, Bailenson, & Welch, 2018), a "primary attractions of VR [virtual reality] is purported to be the level of social presence it affords" compared to other online environments. Much of the literature about social presence discusses (1) connections between computer-mediated communication (CMC) learning environments and social presence, (2) connections between nonverbal communication and social presence, and (3) connections between student engagement and social presence. Simultaneously, much of the literature defines social presence in numerous ways demonstrated by the progression of social presence definitions:

1976—The salience of the other in a mediated communication and the consequent salience of their interpersonal interactions.

1992—The feeling that other actors are jointly involved in communicative Interaction.

1997—The degree to which a person is perceived as 'real' in mediated communication.

1997—The degree of tangibility and proximity of other people that one perceives in a communication situation.

1999—The ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as real people.

2001—Mediated social presence is the moment-by-moment awareness of the co-presence of another sentient being accompanied by a sense of engagement with the other (i.e., human, animate, or artificial being).

2002—A student's sense of being in and belonging in a course and the ability to interact with other students and an instructor although physical contact is not available.

2002—Moment-to-moment awareness of co-presence of a mediated body and the

sense of accessibility of the other being's psychological, emotional, and intentional states.

2002—The degree of feeling, perception, and reaction to another intellectual entity in the CMC environment.

2002—Feeling intimacy or togetherness in terms of sharing time and place

2003—The ability of students to project themselves socially and affectively into a community of inquiry.

2007—Perceived depth of relationships with other learners and the community during e-learning.

2008—An individual's ability to demonstrate his/her state of being in a virtual environment and so signal his/her availability for interpersonal transactions.

2009—The degree to which participants in computer-mediated communication feel affectively connected one to another.

2011—Ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities. (Richardson et al. 2017)

For this literature review, I used the (Richardson et al. 2017) definition of social presence: “the ability to perceive others in an online environment.” My literature review explores how computer-mediated communication, nonverbal communication, and social presence influence learning design.

Because social presence is key to learner participation, online collaboration, and a significant predictor of CMC use, a challenge for technology integration Is the fact that “social presence in a CMC learning environment is a complicated human perception” because of the difficulty for people to consider consequences not visualized in their minds (Cobb, 2009; Tu, 2002). Research has shown that students feel that e-mail is “a sociable, warm, personal and sensitive medium… [that creates] positive relationships” through social presence, suggesting that “the development of positive relationships is possibly related to self-rated computer expertise, daily computer use…feeling comfortable with computers…[and] higher levels of CMC” (Tu, 2002).

Initially, Social presence was studied “in face-to-face (FTF), audio and closed-circuit television encounters,” not to understand CMC (Tu, 2002). When CMC use began, social presence was one of a range of theories that arose to explain “inherent differences between communicating online and communicating FTF” as it was widely held that online communication has fundamentally less social presence than FTF communication because online communication has fewer nonverbal cues, and “nonverbal cues are necessary for establishing a social context” (Manusov, 2016).

Social scientists began giving attention to CMC in 1970, when an interdisciplinary research team, the Communications Studies Group (CSG), was established at University College, London to conduct the program of research which formed the basis of “The Social Psychology of Telecommunications” (Albertson, 1980). As Albertson points out,

> The success of their venture can be assessed by examining some of the key concepts emerging from the research. One such concept is social presence, which is described by the authors as critical…which can be used to explain, and even to predict, the occurrence of effects of communication media on the outcomes of tasks. (1980)

Initial studies suggested that social presence in all communications mediums results from two factors, (1) intimacy, a combination of “physical distance, eye contact, and smiling,” and (2) immediacy,“ a measure of the psychological distance that a communicator puts between [themselves] and the object of [their] communication” (Gunawardena, & Zittle, 1997). As a result, social scientists struggled with the fear that when nonverbal cues are missing or minimized, online users would engage in “group stereotypes rather than to see another as an individual, and, as such, to be more likely to act online in aberrant ways” (Manusov, 2016).

Cognitive Information Processing theory, which “regards the environment as playing an important role in learning,” has suggested that “people use verbal cues to make up for nonverbal cues that are not available in the CMC context” because online communication has more nonverbal cues than initially thought, and that CMC and FTF communication are “more similar than they are sometimes thought to be” (Driscoll & Burner, 2025; Manusov, 2016). Studies suggest that online users develop “visual interpretations of others based on their

writing to help create a sense of intimacy and identification" (Cunningham, 2015). More recently, because CMC learning environments have different characteristics than FTF classroom, researchers have begun to ask questions such as, how social presence applies to different CMC systems? and how social presence affects different online learning environments? to guide instructional designers' development of "more interactive and successful distance education courses" (Tu & McIsaac, 2002). Presently, research is not yet able to completely explain study "results that [suggest] social presence appears less impactful in business contexts than in [educational context] or other discipline areas" because social presence is a concept continuing to develop definition and methods to measure predictors, mechanisms, and effects (Weidlich et a., 2023). An argument can be made that social presence continues to influence learning design; however, a critical first step for continued social presence research is a consensus in the LDT field on a clear, concise definition for social presence.

References

Albertson, L. A. (1980). Review essay: Trying to eat an elephant the social psychology of telecommunications, by John Short, Ederyn Williams, and Bruce Christie. London: John Wiley, 1976. Communication Research, 7(3), 387-400. DOI: https://doi.org/10.1177/009365028000700307

Cobb, S. C. (2009). Social presence and online learning: A current view from a research perspective. Journal of Interactive Online Learning, 8(3), 241-254. DOI: www.ncolr.org/jiol

Cunningham, J. M. (2015). Mechanizing people and pedagogy: Establishing social presence in the online classroom. Online Learning, 19 (3), 34-47.

Driscoll, M. P. & Burner, K.J. (2025) Psychological foundations of instructional design. In Reiser, R. A, Carr-Chellman, A. A., & Dempsey, J. V. (Eds.), Trends and issues in instructional design and technology (5th ed.). (pp. 85-98). Routledge. DOI: 10.4324/9781003502302-9

Gunawardena, C. N. & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. The American Journal of Distance Education, 11(3) 8-26. DOI: https://doi.org/10.1080/08923649709526970

Manusov, V. (2016). Nonverbal communication. In The International Encyclopedia of Communication Theory and Philosophy (eds K.B. Jensen, E.W. Rothenbuhler, J.D. Pooley and R.T. Craig). DOI: https://doi.org/10.1002/9781118766804.wbiect096

Oh, C.S., Bailenson, J.N. & Welch, G.F. (2018) A systematic review of social presence: Definition, antecedents and implications. Frontiers in Robotics and AI, 5(114), 1-35. DOI: 10.3389/frobt.2018.00114

Richardson, J. C., Maeda, Y., Lv, J. & Caskurlu, S. (2017). Social presence in relation to students' satisfaction and learning in the online environment: A meta-analysis. Computers in Human Behavior, 71, 402-417.

Tu, C. H. (2002). The measurement of social presence in an online learning environment. International Journal on E-Learning, 1(2), 34-45. DOI: https://doi.org/10.70725/777771lzyjgv

Tu, C. H. & McIsaac, M. (2002) The relationship of social presence and interaction in online classes. American Journal of Distance Education, (16)3, 131-150, DOI: 10.1207/S15389286AJDE1603_2

Weidlich, J., Göksün, D. O., & Kreijns, K. (2023). Extending social presence theory: Social presence divergence and interaction integration in online distance learning. Journal of Computing in Higher Education, 35, 391–412.
DOI: https://doi.org/10.1007/s12528-022-09325-2