

The Emergence of Social Presence as an Overlooked Factor in Asynchronous Online Learning

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Limited studies on social presence in online learning do not lend themselves to understanding its effects on adult learning. Research indicates a heightened need for examining the relationship between social presence and perceived learning and satisfaction as well as retention in online courses. Incorporating social presence into online courses might promote better learning. Further research on learning in an online environment is necessary to guide educators in delivering the best educational environment.

Keywords: Social Presence, Online Learning, Persistence

Social presence, defined as the degree of awareness of another person that occurs in a mediated environment, has emerged as an important factor in the field of distance education and learning (Gunawardena & Zittle, 1997; Rourke, Anderson, Garrison, & Archer, 2001). Of the empirical evidence that does exist, very little of it examines the social aspects and/or benefits of social presence in online learning, particularly in courses or programs of study that are totally online.

As learning is a social and human activity (Knowles, 1996) and not purely a technological process (Charp, 1998), changes in instructional method and medium are altering the roles of instructor and learner in online learning. Gunawardena and Zittle (1997) indicated the need to assess perception of social presence in computer-mediated communication by explaining that such environments tend to be more group-oriented instead of instructor-led. Because the unique perceptions of the instructor and learner are the basis of their individual role definition and may not always be congruent with one another, it is important to investigate what is valued in the online learning experience particularly from the perspective of the learner. Individual perceptions are an important consideration for designers and instructors when making decisions about the selection of technologies and pedagogies employed in course design, and there have been relatively few studies that support the claims of the perceived importance of social presence with empirical evidence (Jiang & Ting, 2000).

Two-way communication is crucial for a successful educational transaction to occur (Garrison, 1996). The ability to express and share ideas among learners and with the instructor promotes collaboration and deepens the learning experience. Ostensibly, deep and meaningful learning is the central goal of teaching and it is important to understand how the function of social presence can make the nature of online learning more interactive, appealing, engaging, and intrinsically rewarding leading to an increase in academic and social integration that results in increased persistence and course completion (Tinto, 1987).

These issues are some of the critical concerns that online providers and educators will need to tackle in order to address the requirements of effective online educational environments that best meet the needs of the learner. As technology in and of itself does not promote or ensure a successful learning experience for the learner, it is important for educators to know how to develop and plan learning opportunities and strategies in an online course that would be most effective in meeting the learners' needs and preferences regarding not only cognitive development, but also social presence and collaborative learning at a distance. The purpose of this paper will be to explore the possible links between social presence and adult online learning.

Review of the Literature

In our review of the distance learning, adult education, human resource, communication, and psychological theoretical and empirical literatures related to the facilitation of optimal online learning, it was clear that evidence related to the efficacy of Internet-based instructional delivery is mixed at best. Online learning has been promoted as being more cost effective and convenient than traditional education environments as well as providing opportunities for more learners to continue their education in various settings (Oliver, 1999). Because of these features, the use of synchronous-- communication that occurs between two or more people in real-time-- and asynchronous online learning-- a time-delayed interaction that does not require participants be online simultaneously-- and the Internet has significantly changed the way learning is delivered and facilitated by allowing for the conversion of traditional courses into Web-based courses (Jiang & Ting, 2000).

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The communication, cognitive/social psychology, and the adult and distance education literature identifies interaction among learners as critical in learning and cognitive development (Gorham, 1988; Kelly & Gorham, 1988; Knowles, 1996; Sharan, 1980; Slavin, 1983; Vygotsky, 1978). There is a belief that high levels of interaction, particularly those which promote social engagement, can have positive effects on the learning experience. It is known from research on learning processes in a traditional face-to-face learning environment that development of social climate is important in order to make learners feel like they are a part of the learning community, thus contributing to learners' motivation, involvement, learning outcomes, and contentment (Wegerif, 1998). The literature strongly indicates both learners' and instructors' desire for contact (Rezabeck, Meyers, & Edwin, 1992).

Social interaction is a natural human need and is acknowledged as an important factor in the development of learning processes (Vygotsky, 1986). Vygotsky's emphasis on the social dimension in construction of knowledge has led many instructors to pay as much attention to how students learn as to what they are learning. A common element for learning in a traditional classroom is the social interaction between learner-instructor and learner-learner (Picciano, 2002). It is claimed to be important in technology-mediated learning situations (Harasim, 1995) because of an absence of non-verbal cues and text-on-screen that provides a limited means of rich dialogue. Active approaches to effective learning emphasize learning as a social process that takes place through communication and interaction with others (Hiltz, Coppola, Rotter, Turoff, & Benbunan-Fich, 2000). Indeed, several studies suggest a positive correlation between socially supportive online environments and cognitive learning (Gunawardena, 1995; Kanuka & Anderson, 1998; Rovai, 2002; Swan, Shea, Frederickson, Pickett, Pelz, & Maher, 2000; Wegerif, 1998). For example, Swan et al. examined factors that contributed to perceived learning and student satisfaction in an online asynchronous graduate cohort course through a satisfaction survey and determined that students who reported the highest levels of interaction with the instructor and other learners also reported the highest levels of social engagement, participation and perceived learning in their Web-based course. In addition, Kanuka and Anderson (1998) found through observations and surveys that social-cognitive processes among participants in an online forum included significant time engaged in social interchange. Nevertheless, most studies that examined Web-based learning reported no difference in learning achievement between learners taking Web-based courses and learners enrolled in traditional learning environments; moreover, some students indicated dissatisfaction with the online environment (Carswell, 2000; Collins, 2000; Kearsley, 2000). Although the same results could be said to be true for face-to-face classrooms, the educational technology literature abounds with arguments for and against the learning achievement and satisfaction gained among learners in distance education compared to learners in conventional settings (Lim, 2001).

As the research findings about learning and learner satisfaction in an online environment are mixed, it is important to assess the learner's perceptions of a Web-based learning environment as to the value they place on the importance of interaction and socialization among participants in the learning process. Many researchers have stressed the need for, and value of, Web-based learning environments that provide active and engaging activities for learners as they argue that learners should have opportunities to construct knowledge rather than just being exposed to the transmission of knowledge (Hong, Lai, & Holton, 2003). Such an emphasis on and perceived benefits associated with interpersonal social dynamics is consistent with the constructivist framework that argues that promoting learner interactions is integral to effective online learning. For example, Harasim (1989) in her examination of online courses drew a similar conclusion about the value of student interaction and knowledge construction by stating, "knowledge building occurs as students explore issues, examine one another's arguments, agree, disagree, and question positions" (p.53). As a result, new ways of understanding the material emerge as a result of learner contact with new or different perspectives based upon collaboration among their peers and the building of a community of learners. In other words, learning is not only active, but interactive as well.

Many educators in corporate training contexts are more cognizant of the need to shift their thinking about a traditional teacher-centered model to a more active learner-centered approach in both the face-to-face learning environment and the distance education learning environment (Harasim, 1990; Kaye, 1992; Lim, 2001; Malikowski, 1997). The rationale behind this shift in theoretical perspectives of learning is based on socio-cultural theory and constructivist theory that focuses on the issues of how best to design and conduct courses that fosters social interactions among learners and encourages construction of knowledge with others in a learning community (Barr & Tagg, 1995; Slavin, 1990, Vygotsky, 1986). The instructor no longer assumes the authoritative position and, instead, becomes a facilitator and mentor in the learning process (Vygotsky, 1986). Learning becomes a collaborative act among the participants, rather than the simple reception of information.

A few studies have emphasized the importance of examining social factors that impact communication, interaction and learning in telecommunications and computer-mediated based systems (Hackman & Walker, 1990; Lea, 1992; McIsaac & Gunawardena, 1996; Sanders & Wiseman, 1990; Walther, 1992) as distance learners face a far different learning environment than those in a traditional classroom. The concept of the classroom where learners meet to interact with other learners and the instructor no longer exists in the virtual technology-mediated model.

Participants in Web-based learning environments do not have an instructor physically present, but instructor-learner interaction perhaps should still take place. Whereas learners in traditional settings can more readily interact with their instructors and peers, these same types of interactions must be carefully planned and structured by instructors of distance education (Parker, 1999). According to Northrup (2001), interaction must be intentionally designed into a Web-based course, as the interaction does not simply happen because the materials and tasks are presented to students for their consumption.

Even though distance education may be considered to be an independent learning environment, it is not the same as an isolated learning environment. Failure to consider the relational dynamics in the online setting may produce greater feelings of isolation, reduced levels of satisfaction, less participation, poor academic performance, and increased attrition among distance learners (Lim, 2001; Woods & Baker, 2004). Collaboration with instructors and other students can be a strong motivating force for learning (Johnson & Johnson, 1999), and it is important to provide a strong social dynamic in conjunction with the delivery of content (Palloff & Pratt, 1999). Some researchers claim that online learning may not be as effective as traditional classroom learning because of its lack of face-to-face and non-verbal cues (Bullen, 1998; Ward, 1998). In general, learners' interactions are restricted to text only messages on screen. This may reduce the depth and extent of the communication and interaction that occurs thereby decreasing the breadth and scope of knowledge gained. For example, learners may not formulate questions that extend beyond the course content or initiate discussion for further clarification as usually occurs in the traditional face-to-face environment. The online environment is sometimes considered as a medium for social isolation.

In a traditional classroom, sensory cues such as voice inflection, facial expressions, and other body language indicate presence and facilitate communication. The lack of nonverbal cues might impact interpersonal relations (Short, Williams, & Christie, 1976) and can contribute to a sense of disconnectedness. For example, Bullen (1998) conducted a case study examining participation and critical thinking in a college level undergraduate course utilizing computer-mediated conferencing. The case study showed that some students felt disconnected from others in this type of learning environment, citing lack of facial expressions and other features common to a traditional classroom environment. Without the interaction of face-to-face teaching, it appears to be easy for learners working in an online learning environment to accept material passively and become observers of the course rather than engaging with the instructor and other students in the learning process. Such learning is particularly counter-productive when it comes to developing cognitive skills such as problem-solving, analyzing and critical thinking. Because of the lack of traditional communication cues and sense of isolation in the online learning environment, researchers have been interested in examining ways to improve this environment through enhancing the social context and interaction of online learners and instructors (Tu & McIsaac, 2002; Witmer & Singer, 1998).

Interaction alone, however, is insufficient to create a positive social dynamic in the online learning environment. It is possible for a learner to post a message online while not necessarily feeling that she or he is part of a group. The ability to work effectively in groups is at the heart of social presence theory and of interest to those involved in creating a more social online learning environment and communities of learners (Stein & Wanstreet, 2003). Research has shown that social presence--the degree of awareness of another person that occurs in a mediated environment-- is the most important perception that occurs in social context and is an important key to understanding communication and interaction in the field of distance learning (Gunawardena & Zittle, 1997; Rourke, Anderson, Garrison, & Archer, 2001). Gunawardena (1995) argues that social presence is necessary to enhance and improve effective instruction in both traditional and technology-based learning environments. A lack of social presence may lead to higher levels of frustration, a more critical attitude toward the instructor's effectiveness, and a lower level of perceived effective learning (Rifkind, 1992).

The construct which has come to be known as social presence is rooted in the work of Mehrabian (1969) on what he has termed "immediacy," which he defined as "those communication behaviors that enhance closeness to the nonverbal interaction with another" (p. 203). His work was followed up by a number of communication theorists including Short, Williams, and Christie (1976), who postulated that the inability of some communication media to project non-verbal communication would negatively affect interpersonal communication carried via such media.

As online learning is conducted with individuals independent of place and time, this altered learning environment does not preclude the need to establish learning relationships with online learners and instructors. Social, interactive, and affective dimensions of the learning experience remain powerful determinants of successful learning because they can enhance communication, improve teaching, increase learner curiosity and interest in content matter, and serve as a way to construct knowledge and negotiate meaning (Rodriguez, 1995; Wulf, Hanor, & Bulik, 2000).

Social presence in an online course has been the subject of a number of articles redefining and categorizing this concept (Gunawardena, 1995; Rourke, Anderson, Garrison, & Archer, 2001; Short, Williams, & Christie, 1976; Tu, 2002; Wulf, Hanor, & Bulik, 2000). For example, many researchers (Kanuka & Anderson, 1998; McIsaac, Blocher, Mahes, Vrasidas, 1999) have investigated learner and or instructor perceptions of online courses, only focusing on the

interaction dimension. It has recently been found that to increase the level of online interaction, the degree of social presence also must be increased (Tu, 2000). Tu (2000), for example, conducted a study on the dimensions of social presence in the online learning environment through surveys and observations to understand social presence in an online learning environment from a learner's point of view. Based on the author's findings, a high level of social presence was necessary to enhance, foster and increase interaction. Interaction can be fostered by communication styles that may impact social presence (relaxed, friendly, attentive, encouraging), by the learners' perceptions of the online environment, and by the activities or tasks (written assignments, group projects, online presentations) in which the learners engage.

Interaction is a key factor in distance education and learning and is an important component of a successful instructional program. Whether learners are interacting face-to-face or at a distance, their success may be a result of well-designed instructional strategies that take into consideration the factors that will promote interaction and enhance users' perceptions of learning and their satisfaction of their learning environment. Both Hillman (1999) and Moore (1989) recommend designing activities that allow learners an opportunity to interact productively that could contribute to frequency of interaction and formation of a learning community. For example, Wagner (1997) suggests considering the course goals and objectives to effectively design an interactive learning community. Wagner proposed several strategies for design consideration that include such course activities as group work, discussion forums, and problem-solving. Aside from applying these strategies, Wagner (1997) suggests maintaining the learners' involvement, encouraging student collaboration, providing timely feedback, and implementing various instructional strategies in consideration of different learner styles. If the degree of social presence affects the level of interaction and participation (Tu, 2000), then it is important to examine the strategies that promote interaction among learners and those that enhance perceptions of a user's social presence.

Past studies on human interpersonal communication identified "intimacy" and "immediacy" as attributes that enhance social presence (Argyle & Dean, 1965; Wiener & Mehrabian, 1968). More recent research in the field of distance education and learning and communication (Christophel, 1990; Gunawardena & Zittle, 1997; McIsaac & Gunawardena, 1996) has begun now to focus on the use of asynchronous communication, contending that these two attributes along with "interactivity" play an important role in forming interpersonal relationships in the communication process. This relationship addresses successful learning experiences in terms of intimacy-- sense of close connection one feels in a relationship (Argyle & Dean, 1965), immediacy-- psychological distance between a communicator and the recipient of the communication (Wiener & Mehrabian, 1968), and interactivity-- the activities in which users engage and the communication styles they use in computer-mediated communication (Gunawardena, 1995; Norton, 1986; Tu, 2000). Together these form the construct of social presence, defined as "the salience of the other in a mediated communication and the consequent salience of their interpersonal interaction" (Short, Williams, & Christie, 1976, p. 65). This is interpreted as the degree to which a person is perceived as "real" in mediated communication (Gunawardena, 1995; Lombard & Ditton, 1997). Examination of the Short et al. (1976) definition indicates that although social presence may be a property of the medium, this characteristic is derived from the affect of the medium on the perceptions of the participants, and on their interpersonal interactions. Therefore, it must also be related to a property of that perception or interaction. For example, Biocca et al. (2001) defines social presence as pertaining to the user, but also relates it to the interaction and the medium in that it is a temporary judgment of interaction that is limited or augmented by the medium.

The overall goal for creating social presence in any learning environment, whether it is online or face-to-face, is to create a level of comfort in which people feel at ease around the instructor and the other participants. Without this goal being achieved, "the learning environment can turn to one that is not fulfilling or successful for the instructors and the learners" (Aragon, 2003, p. 60). Research suggests that there is a lack of dialogue among distance learning students, which impact "the quality and integrity of the educational process" (Sherry, 1996, p. 5). When the environment is lacking social presence, the participants may see it as impersonal and, in turn, the amount of information shared with others decreases (Leh, 2001). As a result, the lack of social presence could lead to more frustration, dissatisfaction and less participation in learning.

Closely associated with learner satisfaction is retention with distance delivered courses (Lim, 2001). The geographic and physical separation of students in programs offered at a distance may also contribute to higher dropout rates than in traditional face-to-face programs. Carr (2000) noted that dropout rates are often 10 to 20 percentage points higher in distance education courses than in traditional courses. Moore and Kearsley (1996) have reported attrition rates as high as 50 percent in some distance learning programs. Physical separation has a tendency to reduce the sense of community, giving rise to feelings of disconnection (Kerka, 1996), isolation, distraction, and lack of personal attention (Besser & Donahue, 1996; Hardy & Boaz, 1997; Twigg, 1997). Tinto (1993) emphasized the importance of community in reducing the dropout rate when he theorized that learners will increase their levels of

satisfaction and the likelihood of persisting in a college course or program if they feel involved and develop relationships with other members of the learning community.

Raising social presence in online environments may help to create perceptions of quality related to the experience on the part of the learner (Newberry, 2001). High levels of social presence create a learning environment that can support cognitive (critical thinking, problem-solving, scaffolding, reflection) and affective (collaboration, feedback/reinforcement, exchanging resources and information) learning objectives by making group interactions that are perceived as warm, collegial, engaging, and intrinsically rewarding (Rourke, Anderson, Garrison, & Archer, 2001). The literature on quality issues in distance learning (Phipps, Wellman & Merisotis, 1998; Swan, Shea, Frederickson, Pickett, Pelz, & Maher, 2000) suggests that data on measures of interaction and presence should be used in studying learner performance. Performance data can be in the form of tests, course grades, written assignments, projects and satisfaction surveys. Northrup (2001) suggests that learner perceptions of the efficacy of interaction and social presence can have significant effects on learning outcomes as it may affect learner performance, such as increased interest, participation, collaboration, and active learning.

Because social presence is a perception, it can and does vary from individual to individual. It can also be situational and vary across time for the same individual, making it a very complex construct for study. Researchers and educators need to examine its nature for the purpose of understanding interaction and social presence in an online environment. According to White (2000), Web-based instruction is as effective as face-to-face instruction in regards to academic achievement (as measured by final course grades), but not necessarily the same in regard to the quality of instruction due to an absence of learner interaction, interest, and participation.

Likewise, Bullen (1998) stresses the need for more studies that examine online learning from the learners' perspective. The experience of individual learners, as they negotiate this new way of learning, communicating, and sharing information, has not been a large part of educational technology research (Saye, 1997), but learner experiences may affect the efficacy and viability of online courses. Understanding learner experiences and perspectives is important because learners most likely make individual decisions about the value and sustainability of online learning for themselves based upon their experiences and impressions of those experiences. For example, learner perceptions of social presence and its value in relation to mediated interaction and participation could provide insight as to whether asynchronous online courses have the capability to convey social presence and whether or not its existence is necessary for learner satisfaction, achievement, and the decision to enroll in future Web-based courses.

Studies conducted on social presence, for the most part, have been in traditional classrooms. Results from these studies indicated that social presence is a significant factor in instructional effectiveness and quality, positively affecting learning, learner satisfaction, achievement, and motivation (Blocher, 1997; Christophel, 1990, Gunawardena & Zittle, 1997; Hackman & Walker, 1990; Rourke, Anderson, Garrison, & Archer, 2001). However, very few studies have examined social presence with empirical evidence in computer-mediated communications (Jiang & Ting, 2000).

Overall, the most salient issues to emerge from the literature on asynchronous learning are the need to increase and support active participation that will involve cognitive processes, such as active learning, collaborative construction of meaning, idea-generating knowledge, and a sense of learning community through social presence (Gunawardena & Zittle, 1997; Harasim, 1990; Kearsley & Schneiderman, 1998). Williams, Paprock and Covington (1999) state, "As studies exploring concepts for establishing meaningful learning in distance education grow in number, so will our need in [the] understanding of distance education" (p. 11).

The Need for Additional Research

The limited amount of empirical research in the area of social presence, particularly as it relates to online learning, and the quality of perceived learning and satisfaction supports the need for scholarly inquiry. Moreover, the lack of empirical research on whether the absence of social presence in online learning contributes to course attrition supports the need for further investigation in the area of social presence. Thus, the results of this research suggest that more empirical information about the effects of social presence on a Web-based computer-mediated communication might increase our understanding of how learners' needs, experiences, and perspectives influence optimal educational environments and opportunities for online distance learners in adult learning contexts.

Research Questions

Research into the principle of social presence in online courses is a relatively new research area. Although social presence has been characterized as an important construct in distance learning because it may exert significant influence on improving instructional effectiveness (Gunawardena & Zittle, 1997; McIsaac & Gunawardena, 1996; Tu & Corry, 2001), little existing research describes its value to learners and whether it influences their perception of

learning and retention within a computer-mediated environment. The pertinent research questions that arise from the literature are as follows: (1) What is the relationship between learners' perceptions of social presence and their perceived learning in online courses? (2) What is the relationship between learners' perception of social presence, satisfaction with learning experiences and quality of learning in online course activities, e.g., class discussions, group projects? (3) What is the relationship between the perceptions of social presence, learning, and the likelihood of future enrollment in online courses?

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