

Democratic Rationalisation on the Network: Social Presence and Human Agency in Networked Learning

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Abstract

This paper presents the findings of an exploratory study into learners' experiences with social presence and technology-mediated social processes. The presentation addresses three key questions: (a) Do learners in technology-mediated learning situations experience social presence as a property of media or as a feature of human activity and agency? (b) How does social presence operate within the tension between technological determinisms and human agency to promote productive learning activity? (c) What are the implications for the design, development and use of technology-mediated learning situations in networked learning?

The findings from this study highlight the subjective nature of social presence and, in particular, the role of human agency (as a form of subjectivity) in the establishment, development and operation of social presence. Three key features of social presence emerged from the findings: First, it is *demonstrative* insofar as it premised upon an individual's ability to make observable demonstrations of presence and project her/himself into a technology-mediated social situation. Second, it is *dynamic* in the sense that a participant's social presence fluctuates based on the number, frequency and quality of interactions. Third, it is *cumulative* insofar as it is based upon ongoing demonstrations of presence which produce a sense of continuity in others' experience of an individual's social presence. In this view, social presence represents an example of democratic rationalization by users of networked environments to overcome the technological determinism of the environments. This view contrasts historical perspectives which emphasise the role of media and technologies in determining social presence and sociability of technology-mediated spaces. These findings contribute not only to understanding of the operation of social processes in technology-mediated networked learning situations, but also to the broader understandings of the operation of networked learning systems. In particular, they reinforce the notion that social presence can be cultivated and the ability to do so must be learned. This point has important implications for the development and support of networked learning systems and consideration for the cultivation of skills required for successful networked learning. Similarly there are implications for the development of skills related to the wider uses of technology and the role of human agency in the ongoing evolution and use of technologies.

Keywords

Social presence, networked learning, technological determinism, agency

Introduction

Networked Learning, by definition, involves the use of information and communication technologies to create connections (Jones & Steeples, 2002). By utilising those connections, learners have opportunities for interpersonal interaction and more complex social activity. Thus, networked learning is an active, social endeavour in which the mediating technologies provide an infrastructure for social activity.

However, the use of technology in networked learning involves a tension between *technological determinism* and *human agency*. On the one hand, the use of technologies includes elements of structure and control which influence users' behaviour and activity. On the other hand, networked technologies allow a certain "interpretive flexibility" by users that enable them to be applied in ways different from those intended by designers (Bakardijeva & Feenberg, 2002) and the view that human agency is essential to the development and use of

new technological systems. Jones and Steeples (2002) acknowledge this tension between the opposing forces of technological determinism and human agency in the evolution, development and use of technology. They highlight the intention “to develop a perspective on networked learning that tries to articulate the overall relationship between technology and the policies and pedagogies applied in the name of networked learning. That perspective needs to emphasize choice and the ways in which human intervention mobilizes technologies...rather than being the simple outcome of the technology itself” (Jones & Steeples, 2002, p. 5).

Following Jones and Steeples’ rationale, this paper discusses the findings of an exploratory study into learners’ experiences with social presence and technology-mediated social processes. The findings highlight a contemporary view of social presence which emphasises the link between social presence and human agency in technology-mediated learning situations. More particularly, the findings highlight the role and function of social presence as a form of human agency which allows users to work with and beyond the existing technological infrastructure to realise productive social learning activity. The discussion of findings explores the implications of these points for the design, development and use of technology based systems which support networked learning.

Posing the Problem

The concept of social presence lies at the intersection of two key considerations in networked learning: (a) the use of technology as a mediator for learner activity and experience and (b) social aspects of learning including interpersonal connection and interaction, productive collaboration and the development of community. Understanding the effects of mediating technologies, including the way mediation affects both learners’ experiences and their ongoing learning activity, is critical to informing decisions about the design, development and use of networked learning situations. To understand the mediated experience is to understand *presence*. The implied aim of presence is to minimize the effect of mediation to produce a sense of being in an unmediated situation (Biocca, Harms, & Gregg, 2001; Nowak & Biocca, 2001). *Social presence* is a particular type of presence which includes notions of not only *being*, but also being *with another salient social actor* in a situation which creates the potential for social activity. In networked learning, social presence helps mitigate the social and psychological distance introduced by mediating technologies and the fact that participants are not physically co-located. Following the establishment of social presence in technology-mediated situations, more complex social activity including interpersonal interaction, the development of interpersonal relations, collaboration and the development of social structures such as communities is possible.

Social presence is considered an essential element of online (and networked) learning (Gunawardena & Zittle, 1996) because it promotes social connection and interaction in technology-mediated environments. Whilst social presence has historically been associated with the properties of media (Short, Williams, & Christie, 1976), contemporary views of social presence emphasise its role in allowing users of online environments to (a) project or demonstrate ‘being’ in online environments and (b) develop awareness of the presence of others in these environments to promote a sense of ‘being there together’ (Biocca et al., 2001; Caspi & Blau, 2008; Rourke, Anderson, Garrison, & Archer, 2001). Recent definitions of social presence emphasise the ‘tangibility and proximity’ of others within a mediated communicative situation (McLeod, Baron, & Marti, 1997); affective connection (Swan & Shih, 2005); and social and emotional projection into a community (Rourke et al., 2001).

The tension between technological determinism and human agency is evident in social aspects of technology-mediated learning including in the role and function of social presence. A critical view of technological mediation highlights the lack of structure and context in technology-mediated environments, the narrow communicative channels of text-based communications tools (Riva, 2002) and the absence of social norms and behavioural cues in virtual environments (Mersham, 2009). The contrasting view emphasises that participants appropriate existing technological tools for new or novel uses (Bakardjieva & Feenberg, 2002), that the creation of productive social units online is possible (Baym, 1998) and that such units (e.g. ‘communities’) develop infrastructures which help sustain them (Hung & Chen, 2002). Notably, Walther (1992), in his extensive review of literature of computer-mediated communication (CMC), found that users find ways to overcome the limits of text-based communication. He highlighted a clear difference between experimental and field studies of CMC and social presence. The former, which created controlled research situations within limited timeframes, produced results which confirmed deterministic views of technology and its effects on communication while the latter, which included contexts which were more likely to be socially constructed and/or conducted over longer

timescales, produced results which supported views of human agency and the abilities of users to adapt and appropriate technologies for novel uses and overcome barriers to productive activity (see also Walther, 1995).

Taken together, the history and evolution of social presence theory and the indications of human agency in the use of CMC over time foreshadow an opportunity to study (a) social presence and (b) its potential relationship with human agency within the socially constructed contexts of networked learning environments in order to contribute to understandings of social learning in technology-mediated situations such as networked learning. More particularly:

- 1 Do learners in technology-mediated learning situations experience social presence as a property of media or as a feature of human activity and agency?
- 2 How does social presence operate within the tension between technological determinisms and human agency to promote productive learning activity?
- 3 And, following that, what are the implications for the design, development and use of technology-mediated learning situations in networked learning?

Research Context

The study in question was theory generative and sought to develop understandings of the nature, role and function of social presence and technology-mediated social processes by grounding those understandings in the experience-based heuristic knowledge (Padilla, 1991) of online (networked) learners. Therefore, it did not adopt existing definitions or frameworks for understanding social presence. The research was designed within the constructivist research paradigm and sought to develop socially constructed understandings of social presence and technology-mediated social processes. This approach was informed by sociological and anthropological views of networked learning environments as socially constructed contexts.

The aspects of the study which are relevant to this paper are (a) findings related to social presence as a form of human agency as part of activity within the networked learning environment and (b) how learners' experiences of social presence and technology-mediated social processes within the system affect ongoing learner activity and (c) the implications of these points for designers, developers and other networked learning practitioners.

The research design was a collective case study (Stake, 2003) which included four individual online postgraduate courses within online postgraduate programmes at one university. Courses were chosen based on three criteria: first, that they be offered wholly online with no face-to-face component; second, that they be offered within the timescale of the study; and third, that fit the model of contemporary networked learning (see Steeples, Jones, & Goodyear, 2002) and were likely to produce learners with experiences of the phenomena in question. Generally, these courses employed constructivist pedagogical approaches, a learner-centric process orientation, high levels of interaction between participants as part of the course design, extensive use of CMC tools and a significant portion of the course content that was dynamic or emergent over the term of study. The use of technology in the case sites was built around communications and presentation tools commonly found in commercial learning management systems. Asynchronous discussions were the used almost exclusively as the means of communication between participants in the courses. Notably, each of the four cases which comprise the collective case employed a distinct course design and used the communications tools in different ways within the broad framework of 'online discussion'. For example, in two of the courses, learners were asked to work collaborative in small groups (< 5) on individual learning tasks and work as a whole group on other discussion activities. In at least one of the cases, learners worked mostly within groups of 6-12 opposed to within the 'whole class' framework. One result of these various structures was that the respondents in the study were likely to have had a variety of different experiences with online discussion from one-on-one communication to small and medium sized group work to whole class discussions.

Twenty volunteer respondents participated across the four cases, with one group of three to six respondents drawn from each case. Respondents were all adult learners who were practicing educators in a variety of contexts throughout Australasia, Europe and North America. Experienced online learners who had completed several online courses were preferred for this study because of the richness of their personal experience and their accumulated knowledge with the phenomena in question. Using a five step dialogical process consisting of a questionnaire, first interview, focus group discussion, second interview and final focus group discussion, the study sought to ground the understanding of social presence and technology-mediated social processes (i.e.,

interpersonal interaction, collaboration and community development) in the experiences of online learners. All interaction was via text-based CMC tools including and e-mail, instant messenger and asynchronous discussions. All data was collected electronically as text.

Data was from the four cases was collected over three academic terms with one case completed in the first term, two in the second term and the final case in the third term. The timescale of data collection allowed for data analysis within the data collection for each case but also between cases. As a result, the analysis of each successive case benefited from the experience of the previous cases. The data were analysed thematically after each phase of the dialogical process, at the conclusion of each case and at the conclusion of the process. For each step in the dialogical process, analysis involved a reduction of data through coding according to theme, re-organization and representation of the data and the development of tentative conclusions which were verified through respondent validation. Themes emerging within the process were used to inform interview questions and discussion topics in future phases. As preliminary findings emerged for each case, they were reflected back to respondents for confirmation or amendment. Thus, the quality of findings was enhanced by the authenticity of conclusions which were confirmed progressively through respondent validation and multiple forms of triangulation. The dialogical process and iterative analysis produced findings in the form of key themes which represent the socially constructed synthesis of learner experiences.

Findings

As a collective case, the four individual cases provided a wealth of information about respondents' experiences with online social presence, the workings of the social-relational systems within online learning environments, the dynamics of interpersonal interaction and the provision of learner support in these environments. What emerged was the beginning of a holistic view of activity in online learning environments. This view includes social presence, interpersonal interaction and collaboration as key components of successful networked learning and contributes to understanding of the relationships among them. The findings are presented below with reference to the main focus of this paper, namely the extent to which contemporary notions of social presence drawn from learners' experiences represent a form of human agency in the use of technology-mediated environments for networked learning.

The findings of this study reflect these oppositional forces of determinism and human agency in participants' understandings of social presence and its operation. The effects of technological determinism were evident in respondent comments about the structuring of the learning environments, the selection and use of CMC tools as venues for learning activity and in participants' experiences of one another as *real* and *present* social actors. Notably, the effects of technology to structure and control the learning experience were viewed with a mix of acceptance and rejection. Participants acknowledged the importance of structure in facilitating activity and the choices that the course designers and facilitators had made as part of a general intention to support learning. At the same time, participants questioned some of those choices, expressed frustration with the learning management system, described their struggles with text-based communication and highlighted strategies for overcoming the (perceived) limitations of the technology.

With regard to social presence and technology-mediated social processes, respondents' experiences clearly favour a view of social presence which is premised on human agency and users' abilities to overcome perceived limitations of particular technology and media to promote productive social activity. In particular, this is evident in the definition of social presence which emerged from the data. According to the respondents, social presence is *an individual's ability to demonstrate his/her state of being in a virtual environment and so signal his/her availability for interpersonal transactions* (see also Kehrwald, 2008 regarding this definition). Findings from the study indicate that social presence develops in a process involving (a) the establishment of an individual's presence by visible demonstrations of presence (b) the potential for social activity through the development of a mutual relation between social actors and (b) ongoing demonstrations of social presence which create a sense of ongoing relation that has continuity.

Three key features which demonstrate links between social presence and agency emerged.

First, *social presence is demonstrative*. It is premised upon an individual's ability to make observable demonstrations of presence and thus project her/himself into the social environment or situation.

Some participants have posted very “minimalist” messages on the Discussion Boards, and many participants have not directly addressed what anyone else has written. In this CMC medium, you can only get to know people to the extent that they are willing to communicate openly in online discussions.
-Julie, Case 2

Participants should be literally ‘seen’ to be ‘present’. Such demonstrations include contributing messages in online discussions, manipulating course wikis and other visible operations within the online environment. While it is possible for an individual to be active without being observed (sometimes called 'lurking'), this does not fit the definition of social presence posited here. For example, it is possible for an online learner to visit an online learning environment, read the information posted there, but leave without making any contribution to the online activities. In this example, the subject is present to her/himself alone while she/he is in the environment. It is not a *social* presence because others are not aware of her/him. While this example might be viewed as a form of technological determinism due to the limitations of the learning management system and the lack of information about users’ online presence, respondents in this study viewed this as a missed opportunity for other learners to exercise their agency in overcoming this problem. Furthermore, experienced respondents commented on their growing awareness of the need to actively cultivate a social presence in this way.

Second, *social presence is dynamic* in the sense that a participant’s social presence fluctuates based on the number, frequency and quality of interactions.

The depth and manner of my social presence depends largely on the tone, quality and the extent to which I am responded to by others and the manner, depth and tone of representation of the respondent’s social presence in turn.
-Kevin, Case 3

Interacting with an individual with greater frequency and intensity promotes a sense of that person’s social presence. The quality of these interactions is also relevant. Communicative exchanges contain not only topical information, but also relational cues which indicate the state of the relationship between the sender and receiver. This information includes indications of affect, group cohesion, and the nature of the communication (see also Rourke et al., 2001). The receiver interprets this information to get a sense of the relationship between the two parties. Notably, this can be positive or negative. Terse or abrupt messages can be off-putting and convey a sense of presence which is negative. Moreover, ‘absence’ through the presentation of limited information or an absence of messages can diminish a sense of social presence. Therefore, over time, dependent on the quantity, frequency and quality of interactions, the sense of another’s social presence is in constant flux. As with social presence as demonstration, the cultivation of social presence which was continuous and reflected a current state of availability for interaction was seen by experienced respondents as an important part of participation in social structures (e.g. ‘communities’) within networked courses.

Third, *social presence is cumulative* insofar as it is based upon ongoing demonstrations of presence and a sense of continuity.

Interviewer: What does [the facilitator] do to convey a sense of presence?
Marco: Her messages, almost daily, her feedback on what she has learnt from our submissions, the chat forums she organized. She is almost as present as an f2f teacher!
Interviewer: That response would indicated that presence is generated “by volume” ...is that correct? More input, more presence?
Marco: Not quite the “volume” but rather the “thread of communication” that is there every day. It’s like she’s accompanying us all the time.
Marco, Case 1

Following the dynamic nature of social presence indicated above, social presence is a product of interactions over time. Through ongoing interaction, a sense of social presence develops based on past experiences with an individual. Participants who have encountered one another in previous courses have an existing sense of the relationships between them based on the social presence of one another that they have experienced. They are more or less 'known' to one another. In contrast, those who have not encountered one another begin without a frame of reference for interacting with one another and so must work to establish social presence and relations

between themselves. Respondents viewed the ‘getting to know one another’ phase as an important, but sometimes onerous part of engaging with technology-mediated social activity within a course.

In summary, the findings from this study highlight the subjective nature of social presence and, in particular, the role of human agency (as a form of subjectivity) in the establishment, development and operation of social presence. From the establishment of social presence through the cultivation of a personal social presence and onward through social interaction, the development of interpersonal relations and more advanced social activity (e.g. productive collaboration), individuals make choices and act intentionally based on those choices to demonstrate social presence (or not), to participate in communicative exchanges in particular ways, to interact with particular individuals and groups frequently (or not) and to relate to others in particular ways. In other words, social presence and the conduct of social activity in networked learning environments is an intentional activity which is consistent with particular motives.

Discussion

Remarkably, despite any conflicts learners experience between the deterministic forces of technology in networked learning and their desire to exercise agency in their own learning, networked learners, including those participating in this study, continue to realize success with networked approaches which utilize community structures and embrace learning as an active social process. A key feature of this success is learners’ ability to adapt and change in order to overcome the limits inherent in the systems they work within. In particular, social presence is an example of learners’ ability to adapt and change to realize benefit in the face of adverse or limiting conditions. Contemporary views of social presence identified by participants in this study represent a new way of *thinking about* and *using* the concept of online social presence. Rather than being considered a feature of media, social presence is a manifestation of human agency. It is a quality of human actors in technology-mediated environments.

Bakardijieva and Feenberg (2002) point out that empirical studies of online community show that online environments neither support nor prevent the formation of online communities. “Rather, certain groups under certain specific circumstances manage to add a new sociotechnical ‘layer’ to the computer network in order to build community there” (Bakardijieva & Feenberg, 2002, p. 187). This involves ‘reappropriating’ the network in new or novel ways in order to take advantage of unforeseen or dormant affordances of the networked tools.

Contemporary notions of online social presence are an example of what Feenberg (1999) refers to as a *democratic rationalisation* by online learners. This term describes user interventions which defy barriers to productive activity. These are *rationalisations* in the sense that they realise economic benefits for users and they are *democratic* in the sense that they are premised on user agency (Bakardijieva & Feenberg, 2002). In response to the challenges of technological and other forms of determinism and the limits of technology and media, online practitioners (facilitators and learners) have learned to overcome the limits of existing systems to create more productive structures. Social presence and the related development of interpersonal relations which promote collaboration and the development of community represent online participants’ efforts to humanise their learning experiences and realise some of the potentials of online learning as an active, social process which leverages the technological connectivity, but which overcomes the limits of the mediating technologies to create productive social connectivity amongst the online cohort. This represents an important shift away from technological determinism toward human agency in the use of networked learning environments.

Implications

There are several important implications of the points above.

First, at the ‘micro’ level within individual courses, the case for social presence as a form of human agency emphasizes that the establishment, cultivation and operation of is dependent on the participants in the environment. This is consistent with arguments by Gunawardena (Gunawardena, 1995; Gunawardena & Zittle, 1996) that suggest that social presence can be cultivated. Moreover, the ability to convey social presence online can be learned. Indeed, it *must* be learned. Specifically, experience in the online environment is important. Novice online participants do not come to learning environments with the skills necessary to establish and cultivate their online presence, let alone engage in text-based dialogue and collaboration. Online participants learn to read and convey a sense of presence by watching others in the environment. Other participants serve as

both positive and negative role models in the cultivation of social presence. Positive experiences provide exemplars for good practice in the cultivation of positive social presence. Negative relational experiences with other participants demonstrate unsuccessful strategies for conveying presence. Course developers and facilitators must be mindful of these points when planning and structuring course processes in order to include sufficient time and support for the development of both learner skills with technology-mediated social activity and the development of productive social structures within the course.

However, due to the limited timescales of most individual courses, these points raise questions about the need for learners' investments in (a) learning to read and convey online social presence (b) 'getting to know' one another and (c) developing stable, productive social structures which operate for a for a very limited time. Practitioners must be mindful of the need to balance the effort required to establish and develop productive social systems with the perceived benefit of doing so. They should reconsider approaches to the problems of establishing and sustaining social systems such as 'learning communities' in order to maximize the return on learners' up-front investment in productive social activity.

Second, at a broader level relevant to institutions, findings indicate that technological determinism in the forms of structured learning management systems and highly controlled online learning environments is being challenged, in Bakardijieva and Feenberg's (2002) terms, by "new demands" in the form of online learning communities. These communities challenge the status quo of online learning programs which are a legacy of highly structured, systematic approaches to distance education. These online learning communities, the socially situated learning approaches employed in them and the related values of learning as an active, participative, social, human endeavour challenge notions of scalable production for distance programs, one-size-fits all learning materials and anonymous, automated provider--client relationships. They challenge teaching practices which are rooted in transmissive views of education and learning. Moreover, these communities challenge the ways in which education providers' support and facilitate learning as an active, social endeavour. As argued by Bakardijieva and Feenberg (2002) it seems reasonable to question the place of human agency and democratic rationalisation in a system which is driven by the commercial interests of formal education. What is the place of networked learning communities within this system? Can the interests of both learning and education (as a commercial endeavour) be served?

If we are to accept networked learning as a viable model for not only learning, but education, we must also accept that participants in these networked learning communities demand a more flexible technological infrastructure which accommodates activity within the social structure of a community approach to learning. Such an infrastructure must be responsive to the demands of user control and the emergence of new or novel uses of existing tools. For example, Chen and Hung (2002) have made a case for flexible asynchronous discussion forums which allow for personalised knowledge representations though the creation of customised structures which include the content of online discussions and other material.

While institutions have begun to respond to these points through the adoption of more flexible and customisable open-source tools to support networked learning, education providers must be attentive to ongoing efforts to remodel administrative processes and conceptions of teaching activity in order to meet the growing demands for flexibility that may arise from dynamic, sustained learning communities. Institutions must be prepared to engage with the challenging questions of how to cultivate and support community-based learning in the context of a 'school', 'institute' or 'university' and what 'teaching' and 'learning' mean in these contexts.

Third, at the much broader level of society, there are questions about the implications of human agency in technology-mediated social processes in the context of generic competencies and the knowledge and skills required to participate in contemporary societies. As networked technologies become ubiquitous and technological evolution continuously brings new tools to users, what skills are required of users to exercise agency in the evolution of their *use*? There is a discussion to be had about not only what skills learners bring to technology-mediated learning situations, but about meta-learning in these situations: What skills do networked learners require to 'learn to learn' in technology-mediated situations? And, where and how are they learned? How are these skills transferrable for continued use in other technology-mediated activity?

Summary conclusion

This paper reports on the findings of an exploratory study into learners' experiences with social presence and technology-mediated social processes. It sought to ground emerging understandings of social presence and the upon learners' experiences. The findings from this study highlight the subjective nature of social presence and, in particular, the role of human agency (as a form of subjectivity) in the establishment, development and operation of social presence. This view contrasts historical perspectives which emphasise the role of media and technologies in determining social presence and sociability of technology-mediated spaces. These findings contribute not only to understanding of the operation of social processes in technology-mediated networked learning situations, but also to the broader understandings of the operation of networked learning systems.

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