Social Presence and Online Communication: A Response to Mersham

Benjamin Kehrwald
Senior Lecturer, Online and Distance Education
School of Curriculum and Pedagogy
Massey University College of Education
Palmerston North, New Zealand
B.A.Kehrwald@massey.ac.nz

Introduction

In the preceding issue of this publication, Gary Mersham (2009) asserted views drawn from communication theory to offer alternative perspectives on understanding, describing, and scrutinising online communication. In doing so, he challenged educators to consider the effects of technology on the processes of online communication and interaction, which are key components of certain types of technology-enhanced learning (TEL). His case presented a number of confronting issues with the design, implementation and conduct of TEL. Clearly, there is merit in examining the use of technology in order to raise awareness of these points as TEL moves increasingly into the mainstream. Moreover, including a communication theory perspective inevitably enriches our understandings of communication in the context of distance education.

Nevertheless, aspects of Mersham's (2009) case undermine its effectiveness and may promote misunderstanding. In particular, Mersham focuses on the challenges of computer-mediated communication (CMC) and various problems with the conduct of online learning, citing (a) the need to develop particular communication skills and the relative ignorance of these needs on the part of learning designers and managers; (b) the difficulties caused by an "absence of presence" and absence of physical proximity; (c) missing codes of communication in CMC; (d) questions of integrity, reality, and authenticity in online communication; (e) problems arising from a lack of communicative context, including the particular "autobiographical and

sociocultural circumstances" (p. 59) of the communicators; and (f) potentially dehumanising effects of mediating technologies. However, while the context for the discussion is clearly distance education in general and technology-enhanced distance education in particular, Mersham excludes important work from the field of distance education, including research on communication theory in the context of distance education. The result is an incomplete or limited view of the issues in question and little, if any, acknowledgment of potential solutions to the problems highlighted in the article.

Thus, there is an opportunity to respond to Mersham (2009) with reference to literature from distance education and related fields to answer Mersham's critical assertions about online communication and to clarify the relationships between communicative problems in TEL and good practice by e-educators. The case below identifies an approach to these issues via participant experiences with technology-mediated communication and interaction. It responds to Mersham's assertions regarding direct versus mediated experience, relational communication in CMC, online learners' experiences of the reality and authenticity of online communication, the creation of communicative context, the operation of social presence, support for 'the human moment' in interactive processes, and the development of learners' communications skills for use in CMC. The article concludes with implications for practice in TEL situations involving CMC.

Approach

Central to this discussion is the mediating role of technology. After canvassing a number of issues related to the effects of mediation, Mersham concludes with the question: "How does the process of mediation shape our lived teaching and learning experiences?" (2009, p.70). This question provides a focal point for my response. This article seeks to move conversations about online communication beyond identifying potential communication difficulties to a point that includes contemporary understandings of CMC that address communicative problems and inform good practice with CMC in education.

Specifically, this article refers to users' experiences with presence, social presence, and the social dynamics of technology-mediated environments to respond to issues raised by Mersham (2009), including (a) the alleged primacy of face-to-face communication; (b) "real" and "authentic" communication in the context of TEL; (c) the establishment of communicative context in CMC, and (d) the development of participants' communication skills, including ways of interpreting online communication.

In addressing these issues, the case draws extensively from research that is situated in participant experiences of CMC in authentic contexts. The rationale for this approach is two-fold: First, the focus on participant experience and activity foregrounds a view of human agency over technology and mitigates views that technology determines human behaviour. Given the focus on learner activity, learner-centeredness, and agency in contemporary TEL, this point is especially significant. Second, as outlined by Walther (1992; 1995), there is a clear difference between experimental studies of mediated communication and those drawn from fieldwork. The implications of this point are that communication in authentic (open, real world) situations is different from communication in laboratory (controlled, closed) situations and that there is an important role for subjectivity and human agency in communicative processes. If we consider only theoretical perspectives and those drawn from controlled research situations, then we ignore the role of human agency and the richness of "the human moment" (Mersham, 2009, p. 57) that results from the meeting of two human subjects. The combined focus on human agency, human experience, and authentic activity supports conclusions that are highly relevant to the practice of TEL.

Terminology

Like Mersham (2009), I am critical of the term *e-learning*, which is too often a catch-all. In this article, I prefer to use the term *technology-enhanced learning* (TEL), which implies a favourable view of technology. In doing so, I risk springing the trap of casually exchanging *education* for *learning*, as highlighted by Mersham. This is a calculated risk, based on a view of TEL that emphasises learning activity as central to the questions of meditated experience highlighted by Mersham and echoed in this response. Also, in using the term TEL, I acknowledge the existence of a wide variety of TEL contexts, including those that do not involve dynamic human–human communication, as in the use of CD- and DVD-based materials. Therefore, my discussion of issues of communication in TEL refers particularly to a subset of TEL that includes online communication and interaction. This subset has historically been referred to as 'online learning', but has expanded to include variants such as networked learning, combinations of online and offline learning, and a myriad of forms under the banner of *blended learning*. The key feature in question is the use of CMC to support and facilitate learning.

This article refers to a growing body of evidence that identifies benefits of the 'technology-enhanced' view of education. Aided by hard-won experience, continuing research, and the increasing ubiquity of CMC, educators have

laboured to realise the potentials of TEL by continually improving their practice. The focus on the future of TEL has clearly shifted from defending the viability of technology in education to acknowledging the potential afforded by the technology. Research illustrates continued efforts to identify good practice in the *design* (e.g. Bruckman, 2004; Ganesan, Edmonds, & Spector, 2002; Gunawardena, 1998; Jona, 2000; Jones & Asensio, 2002; Ravenscroft & McAlister, 2006; Sims, 2006), *development* (Barab, MaKinster, & Scheckler, 2004; de Laat & Lally, 2004; Schlager & Fusco, 2004; Steeples, Jones, & Goodyear, 2002; Wiley & Gurrell, 2009) and *implementation* of online learning (e.g., overviews by Coomey & Stephenson, 2001; Garrison & Anderson, 2003; Mayes & de Freitas, 2004). As TEL has matured, it has become clear that using technology has not changed the nature of learning. Rather, what has changed is how educators facilitate and support learning with technology as an *enhancement* (Spector, 2002). So, although the choice of the term TEL is value-laden, it provides an entree to discussions that include both theoretical and practical considerations in the use of technology in support of education.

A paradox

Critics suggest that technology-mediated education is difficult, impersonal, and even dehumanising. As highlighted by Mersham (2009), participants are physically removed from one another. They experience other participants only indirectly, as mediated by the available technologies. Channels of communication are restricted, and communicative cues present in face-to-face communication are filtered out by the mediating technology. Mersham alludes to these problems in identifying missing aspects of online communication, difficulties with communicative codes in CMC, and questions of real and authentic communication online. These claims are neither new nor original. Media richness theory (Daft & Lengel, 1986; Daft, Lengel, & Trevino, 1987) and early social presence theory (Short, Williams, & Christie, 1976) both premised assumptions about interpersonal communication on a 'cues filtered out' view of media.

Despite this view, which emphasises the limiting qualities of various media, a significant portion of users of text-based communication, including early online user communities (Rheingold, 1993), interest groups (Baym, 1998), and online learners (Kehrwald, 2008; in press) report overwhelmingly positive experiences with online communication. They refer to interpersonal connection, richness of interactions, and productive qualities of their online relationships as indications of the power of networked media and their ability to connect people.

This paradox suggests that CMC and interaction can be a rich, rewarding experience that is highly engaging and even 'addictive'. *How is this possible given the apparent limitations of the medium*?

A growing body of literature on TEL suggests that a response to this paradox lies in understanding the role of human agency in the use of technology. More specifically, social presence operates as a form of human agency in which users of CMC use existing communication skills, adapt to new or unfamiliar conditions, expand their communicative repertoire to overcome the perceived limitations of CMC, and achieve successful communication (Kehrwald, 2010).

A response to Mersham

Mersham (2009) posits a key question regarding CMC in his examination of the potential of online interaction: "Is interpersonal communication, for so long held up as the ideal type of dialogic, synchronous communication, really the philosophical benchmark we have made it out to be?" (p. 56). He goes on to construct a case against technologies that filter out social and contextual cues. While the points about differences between face-to-face and technology-mediated communication are well taken, they ignore current understandings of the nature, role and function of social presence and the important role of human agency and adaptation in mediated communication. In particular, contemporary understandings of the nature, role, and function of social presence address a number of Mersham's criticisms of online communication.

The illusion of direct experience

Presence refers to the extent to which mediated experiences seem unmediated (Kumar & Benbasat, 2002; Selverian & Hwang, 2003). Presence theory is concerned with the effects of mediation on experience "especially as our awareness of the mediation oscillates, flickers and sometimes fades" (Biocca, Burgoon, Harms, & Stoner, 2001, p. 1). In other words, presence creates the illusion of direct experience (sometimes called 'reality') in mediated situations. There are three particular types of presence: *telepresence,* which refers to the experience of a technology-mediated place or situation as though the experience were not mediated; *co-presence,* which refers to the notion of *being there together*; and *social presence,* which extends co-presence to specify the presence of another salient social actor–thus creating an opportunity for meaningful interaction and related social activity (Nowak & Biocca, 2001).

Identifying and relating to communicative partners in CMC

Short, Williams, and Christie (1976) defined social presence as "the degree of salience of the other person in a mediated interaction and the consequent salience of the interpersonal interaction" (p. 65). Notably, this definition predates widespread use of CMC. Over the last 30 years, definitions of social presence have increasingly emphasised relational aspects of communication, including a sense of individuals' abilities to (a) perceive others (Collins & Murphy, 1997); (b) gauge the tangibility and proximity of others (McLeod, Baron, & Marti, 1997) and (c) project themselves into an online social unit (Caspi & Blau, 2008; Rourke, Anderson, Garrison, & Archer, 2001) by signalling their willingness and availability for communicative exchanges (Kehrwald, 2008). More recently, research into online learners' experiences has identified two key aspects of social presence: first, that there is an 'other' party present in the environment as evidenced by their contributions; second, that the 'other' exists and is identifiable as a real person—a human being, with all the characteristics thereof, including personality, emotion, personal history, and context (Kehrwald, 2008).

Real and authentic communication

Questions of the reality and authenticity of CMC that are premised on a cues-filtered-out view, including those raised by Mersham (2009), are at odds with the relational view of social presence described above. Research shows that while various media affect the way communication is experienced, individuals are adept at overcoming the perceived limitations of a particular communicative situation and making themselves understood (Slagter van Tyron & Bishop, 2009; Walther, 1992, 1995). Despite assertions of a cues-filtered-out view of online communication, users of CMC not only experience one another through online communication, but they perceive one another as real, human actors and viable partners for interaction (Caspi & Blau, 2008; Kehrwald, 2008; Swan & Shih, 2005). Notably, this determination of other participants as *real* was seen to be a foregone conclusion by experienced online learners (Kehrwald, 2008). Furthermore, online learners are seen to experience one another in ways that lead to rich, engaging, and productive interaction (Thorpe & Godwin, 2006; Tu & McIsaac, 2002; Wallace, 2003).

Questions of authenticity of online communication appear to be based on the likelihood that participants represent themselves accurately as genuine communicative partners. In TEL, this point is addressed though appreciation of TEL as a *purposeful* endeavour. It is important to note that in many (though not all) TEL situations, learners have made conscious

decisions to study in a technology-enhanced mode or have chosen to do so because of perceived advantages of such systems. Such conscious choices define TEL situations as a particular type of goal-directed activity. Because participants in these situations have a shared goal of learning, the instances of negative behaviours, including assertions of false identities or "playful and performative assertions" (Mersham, 2009, p. 55) are greatly diminished. Rather, participants in TEL situations are more likely to be united by shared purposes that are related to learning in particular courses, or to performing specific tasks (Kehrwald, 2008).

Creating communicative context

The relational view of social presence is supported by communication theory, which suggests that there are two dimensions of communicative messages: first, the topical content, which includes the subject under discussion and, second, the relational content, which defines the nature of the relationship between the sender and receiver of the message (Walther, 1992). In face-to-face encounters, relational information is conveyed by a variety of verbal and non-verbal cues including voice, facial expressions, gestures, and other body language. By indicating the nature of the relationship between parties, the relational aspects of communication provide contextual information that allows messages to be situated and inevitably influences the interpretation of messages (Burgoon & La Poire, 1999). Relational information includes communicators' "autobiographical and sociocultural circumstances", identified by Mersham (2009, p. 59) as critical to the development of communicative context, as well as skills, abilities, beliefs, levels of experience, indications of willingness for ongoing interaction, signs of personality and demeanour, and regular demonstrations of attendance in the online environment. Messages without relational information are more likely to be misinterpreted due to a limited amount of communicative context.

These effects are particularly significant in text-based CMC because of the limits of text-only communication. Owing to a lack of non-verbal cues, textual messages must convey both topical and relational aspects of messages via text (Riva, 2002). Social presence cues provide the mechanism for CMC participants to enhance the meaning of their messages and improve the likelihood of successful communication. Such cues include instances of *personal disclosure*, which provide contextual information about the communicator; *affective statements*, which establish the humanity of the communicator, support his or her salience as a potential partner for interaction, and provide information about his or her willingness to communicate; *interactive statements* which invite further communication;

cohesive statements which indicate the state of the relations between communicators; and other contextual information that may be specific to the communicative situation (see Kehrwald, 2008; Rourke et al., 2001; Swan & Shih, 2005).

The operation of social presence

Social presence cues are part of a complex system of social information processing that allows individuals to receive and interpret information related to social situations and to respond accordingly (Slagter van Tyron & Bishop, 2009). This processing is achieved through a combination of the projection of social presence by communicators and the interpretation of messages by recipients. This interpretation involves not only reading available social presence cues but also adapting existing communication skills to overcome difficult or unfamiliar communicative conditions.

First, social presence is projected by communicators through a variety of communicative cues. Although the channels of communication are diminished and non-verbal cues, for example, may not be present in CMC, other cues such as emoticons (i.e., 'smileys'), forms of address, acronyms, and other specific written conventions are available to signal participants' intentions, dispositions, and understanding.

Second, recipients of messages identify and interpret the cues present in online communication to evaluate social situations, and respond accordingly. If the information provided is incomplete or insufficient to provide communicative context, the recipients exercise subjective agency in interpreting the messages. One way they may do this is by adapting existing communication skills from other contexts. In this situation, "participants… attempt to adapt to the new social environment and proceed in processing any social information available even if that information is in the absence of many of the social cues participants are accustomed to" (Slagter van Tyron & Bishop, 2009, p. 292). They do this through both 'projecting' particular characteristics into the unknown situation, and fixing the meaning of messages by relating them to previously experienced communicative situations (Kehrwald, 2010). Recipients also learn to make sense of incomplete messages by studying the communication modelled by more experienced peers to extend their communicative repertoire. In most online learning environments there is a space for discussions amongst the group of learners. This space provides an important venue for modelling effective online communication and norming communicative behaviour.

While certain cues may be filtered out in CMC, the negative effects of this filtering are mitigated by the combination of (a) textual cues that replace the missing cues and (b) communicators' ability to effectively 'read between the lines' through subjective interpretation to fill communicative gaps. A higher incidence of social presence cues and greater communicator skill in both projecting and reading social presence both result in richer communication.

From absence to presence and the "the human moment"

Social presence is not an either/or proposition involving the 'presence' or 'absence' of other communicators. There is a continuum of presence, which includes various states of presence—from 'absence' to the establishment of presence and mutual relations and on to more involved levels of psychological and behavioural involvement (see Figure 1) (see also Biocca, Burgoon et al., 2001; Biocca, Harms, & Gregg, 2001; Kehrwald, 2010).

Figure 1 Continuum of social presence (adapted from Kehrwald, 2010)

At the left side of the continuum is 'absence', an extreme lack of social presence. At the right is 'interdependence', a complex relational state involving strong interpersonal connections that affect individuals' behaviours as part of collaborative activity. In between (left to right) are states of increasing connection and involvement related to the operation of social presence.

The continuum of presence foreshadows a myriad of possibilities for the development of authentic online communication that includes not only basic communication, but also interpersonal interaction, social connection, networks of interpersonal relations, and the development of complex social structures. Participants' social presence, including indications of their willingness and availability for interpersonal transactions, is an important consideration in CMC. The issues of others' attendance in the online environment, attention to online communication, and awareness of other individuals as potential communicative partners, all promote a sense of immediacy that supports successful online communication.

Mersham (2009) argues that "the human moment", based on authentic psychological encounter involving "engagement through emotional and intellectual attention" (p. 56) is a feature of high-quality learning experiences. I agree. The point of difference between Mersham's view and my own relates to the assertion that "physical presence is a necessary condition for teaching and learning" (p. 56).

At the heart of the human moment is the ability for two (or more) individuals to realise interpersonal connections that are sufficiently rich to (at the very least) include psychological involvement and affect changes in one another's attitudes, beliefs, skills, or knowledge. Some have suggested that this the very definition of learning (see Spector, 2002).

Notably, Mersham allows that the detrimental effects of a cues-filtered-out view can be addressed if "communicators are able to compensate for such losses" (p. 57). I assert that social presence provides such compensation and humanises TEL by promoting interpersonal interaction, the development of relations between individuals, and the social and psychological involvement that underpins 'the human moment'. Social presence and the related development of interpersonal relations that promote collaboration represent online participants' efforts to humanise their learning experiences and realise the potential of online learning as an active, social process that leverages the technological connectivity, but overcomes the limits of the mediating technologies, to create productive *social* connectivity (Kehrwald, in press).

The development of e-learners' communication skills

Given a relational view of social presence and the continuum of presence described above, there are key questions about the development of e-learners' abilities to establish, cultivate, and use social presence in CMC.

The participant–dependent nature of social presence means that it can be learned by individuals or cultivated amongst a group of users. Recent research has shown that although novice online learners do not come to TEL with the skills of experienced online learners, they can apply the social skills they have derived from face-to-face communication, adapt those skills to fit new communicative situations (Slagter van Tyron & Bishop, 2009), and develop new communication skills based on the extent and quality of their experience with online communication (Kehrwald, 2008).

These communication skills can be grouped into two broad types. The first type includes those skills that involve conveying social presence. Online

learners must learn to project themselves as viable communicative partners with identities that include relevant personal characteristics. Considerations in the cultivation of an online social presence include the contexts in which the communications occur and the type of communicative task (Conrad, 2002; Rourke et al., 2001; Yoo & Alavi, 2001), as well as the particular traits of the individuals involved including communication skills (Kehrwald, 2008; Tu & McIsaac, 2002), cultural dispositions toward particular types of communication (Gunawardena, 1998; Tu, 2001), or particular skills such as literacy or keyboarding skills (Tu, 2002; Tu & McIsaac, 2002).

The second type of skill includes the abilities to read and interpret social presence cues–recognising familiar social cues, learning about new types of cues, reading available information in a nuanced way, and filling in information gaps through various forms of subjective interpretation including projection and 'seeing as', in which readers of social presence interpret available information and fix the meaning of ambiguous or unclear messages (Kehrwald, 2010).

Cultivating these skills should be viewed as a developmental process. Novice online learners bring existing communication skills to CMC situations and learn through ongoing interaction and experience. Good communication is modelled by online teachers and more experienced learners. Novice online communicators expand their communicative repertoires with the benefit of guidelines in study materials, the modelling of online facilitators and more experienced learners, and the benefit of increasing experience of online communication.

Implications for practice

The case above is significant insofar as it extends the conversation begun by Mersham (2009) to inform online teaching and learning practice. At the outset, I referred to Mersham's key question: *How does the process of mediation shape our lived teaching and learning experiences?* While the pursuit of best practice in TEL is ongoing, the ideas above provide guidance for a range of TEL practitioners including online learners, online teachers, course designers, and staff who support both teaching and learning in technology-mediated situations.

First, we consider learners. Learners who are new to CMC need help to develop online communication skills. These skills relate not only to establishing and maintaining a social presence, but also to reading and making sense of

the social presence of others. Given the dynamic nature of online learning environments and the nature of the interactive processes that constitute learning activity in these environments, the ability to skilfully read and send social presence cues is likely to have a considerable effect on learners' experiences of TEL, when online communication and interaction are integral to the learning process. As I have argued elsewhere, online learners must have the *ability*, *opportunity* and *motivation* to communicate and interact online (Kehrwald, 2008). Regrettably, most novice adult online learners do not come to online learning environments with the skills to establish and cultivate an online social presence. Therefore, TEL programmes that use CMC and online interaction should include a developmental approach to 'learning to learn online'. Activities should be structured to (a) provide models of good practice in online communication, including the cultivation of social presence; (b) motivate learners to establish and cultivate a positive social presence; (c) create explicit opportunities for all participants to establish an online social presence; (d) generate interpersonal interaction that supports ongoing demonstrations of presence and the development of relations between individuals; and (e) structure relatively low-risk experiences from which learners can learn to both convey an ongoing social presence and read the presence of others.

While it is common practice amongst skilled online facilitators to create an introductory 'getting-to-know-you' task, the particulars of such a task are important. Introductory activities should be structured so that they *require* learners to provide information that is relevant to establishing a social presence, including identifiers (preferred name), personal context (educational history, professional background), instances of personal disclosure (personal circumstances, interests, motivations for study), and opportunities for personalisation (images and other media such as an audio introduction, a personal profile). The particular parameters of each introductory task should be tailored to elicit the information that is necessary to promote the establishment and cultivation of social presence. The rationale for such establishment tasks should be explicit so that learners can see value in completing them. Whenever possible, existing relationships should be identified and promoted alongside the establishment of new ones (Kehrwald, in press).

Interaction should be initiated as soon as possible. Introductory tasks should include a clear reason to respond to others. This may be tied to the introductions, as in the case of welcoming new peers, or may be a separate task, as in a discussion activity on group norms or the particulars of the course environment. Notably, the *opportunity* to interact is not sufficient. Learners need to see a clear benefit from the time and effort they invest

in interaction. For example, foreshadowing the opportunity to self-select collaborative partners may motivate learners to invest in early interaction.

Next, there are important roles for online teachers and designers of TEL. Both should be aware of the pitfalls of online communication and interaction as well as the role of social presence to support more complex social activity. Although learning tasks frequently include collaboration, the social dynamics of the course are often overlooked. There is potential for a mismatch between the intentions of the learning task and the existence of a supportive social infrastructure within the course. Designers and teachers must avoid assumptions about participants' abilities and willingness to establish and maintain an online social presence, read and understand the social presence of others, participate in ongoing interaction, or reach a state of productive collaboration. If participants do not have an established social presence or there is no form of ongoing interaction within which interpersonal relations can develop, the likelihood of productive collaboration is greatly diminished.

In particular, online teachers must develop a repertoire of online communication skills, including the ability to project themselves into online environments and to read the nuances of textual communication from novice online learners. In terms of helping learners read social presence cues, teachers should model the establishment and maintenance of an appropriate social presence through their own communications and ongoing interaction. Moreover, they should draw on experienced online learners to lead and model appropriate social activity. For experienced teachers who have carefully honed face-to-face presentation skills and the ability to skilfully project themselves into physical spaces, developing an equal mastery of online communication can be a challenge. Institutions need to be mindful of the time and energy required to develop and maintain online teaching skills.

Conclusion

Online communication is at the very core of much TEL, which draws upon the connectivity of networked technologies to create opportunities for interpersonal interaction at a distance. Social presence is a critical element of such TEL systems for its role in supporting online communication and related processes of interpersonal interaction, collaboration, and the development of social structures such as communities. While technology and media have potentially detrimental effects on human communication, social presence is an important form of human agency that humanises participants' experiences of technology-mediated social activity.

In closing, I want to emphasise my support for Mersham's efforts to initiate discussions of online communication in this publication. The issues he raises are relevant to both scholars and practitioners of distance education. The case above extends the conversation. It is my hope that readers of this journal will continue it further as they apply these ideas in their work, and that they will report back as the relationships between social presence, online communication, technology-mediated social activity, and users' experiences of TEL are more clearly understood.

References

Barab, S. A., MaKinster, J. G., & Scheckler, R. (2004). Designing system dualities: Characterizing an online professional development community. In S. A. Barab, R. Kling, & J. H. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 53–90). Cambridge, UK: Cambridge University Press.

Baym, N. (1998). The emergence of online community. In S. G. Jones (Ed.), *Cybersociety 2.0* (pp. 35–68). Thousand Oaks, CA: Sage.

Biocca, F., Burgoon, J., Harms, C., & Stoner, M. (2001). *Criteria and scope conditions for a theory and measure of social presence.* Paper presented at Presence 2001: 4th International Workshop. Retrieved April 23, 2009, from http://www.temple.edu/ispr/prev_conferences/proceedings/2001/Biocca1. pdf.

Biocca, F., Harms, C., & Gregg, J. (2001). *The networked minds measure of social presence: Pilot test of the factor structure and concurrent validity.* Paper presented at Presence 2001: 4th International Workshop. Retrieved April 23, 2009, from http://www.temple.edu/ispr/prev_conferences/ proceedings/2001/Biocca2.pdf.

Bruckman, A. (2004). Co-evolution of technological design and pedagogy in an online learning community. In S. A. Barab, R. Kling, & J. H. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 239–255). Cambridge, UK: Cambridge University Press.

Burgoon, J. K., & La Poire, B. (1999). Nonverbal cues and interpersonal judgements: Participant and observer perceptions of intimacy, dominance, composure and formality. *Communication Monographs, 66,* 105–124.

Caspi, A., & Blau, I. (2008). Social presence in online discussion groups: Testing three conceptions and their relations to perceived learning. *Social Psychological Education, 11*(3), 323–346.

Collins, M., & Murphy, K. L. (1997). Development of communications conventions in instructional electronic chats. *Journal of Distance Education, 12*(1–2), 177–200.

Conrad, D. (2002). Inhibition, integrity and etiquette among online learners: The art of niceness. *Distance Education, 23*(2), 197–212.

Coomey, M., & Stephenson, J. (2001). Online learning: It is all about dialogue, involvement, support and control—according to the research. In J. Stephenson (Ed.), *Teaching and learning online: Pedagogies for new technologies* (pp. 37–52). London: Kogan Page.

Daft, R. L., & Lengel, R. H. (1986). A proposed integration among organizational information requirements, media richness and structural design. *Management Science, 32*, 554–571.

Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly, 11*(3), 354.

de Laat, M., & Lally, V. (2004). It's not so easy: Researching the complexity of emergent participant roles and awareness in asynchronous networked learning discussions. *Journal of Computer Assisted Learning, 20*(3), 165–171.

Ganesan, R., Edmonds, G. S., & Spector, J. M. (2002). The changing nature of instructional design for networked learning. In C. Steeples & C. Jones (Eds.), *Networked learning: Perspectives and issues* (pp. 93–110). London: Springer.

Garrison, D. R., & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice.* London: RoutledgeFalmer.

Gunawardena, C. N. (1998). Designing collaborative learning environments mediated by computer conferencing: Issues and challenges in the Asian socio-cultural context. *Indian Journal of Open Learning, 7*(1), 101–119.

Jona, K. (2000). *Rethinking the design of online courses.* Paper presented at ASCILITE, Coffs Harbour. Retrieved March 5, 2010, from http://www.ascilite.org.au/conferences/coffs00/.

Jones, C., & Asensio, M. (2002). Designs for networked learning in higher education: A phenomenographic investigation of practitioners' accounts of design. In C. Steeples & C. Jones (Eds.), *Networked learning: Perspectives and issues* (pp. 253–278). London: Springer.

Kehrwald, B. A. (2008). Understanding social presence in text-based online learning environments. *Distance Education, 29*(1), 89–106.

Kehrwald, B. A. (2010). Being online: Social presence and subjectivity in online learning. *London Review of Education, 8*(1), 39–50.

Kehrwald, B. A. (in press). Towards more productive online discussions: Social presence and the development of interpersonal relations. In L. Shedletsky & J. E. Aitken (Eds.), *Cases on online discussion and interaction: Experiences and outcomes.*

Kumar, N., & Benbasat, I. (2002). Para-social presence and communication capabilities of a web site. *eService Journal, 1*(3), 5–24.

Mayes, J. T., & de Freitas, S. (2004). Review of e-learning theories, frameworks and models. *JISC e-Learning Models Desk Study*. Retrieved June 1, 2008, from http://www.jisc.ac.uk/uploaded_documents/Stage%20 2%20Learning%20Models%20(Version%201).pdf

McLeod, P. L., Baron, R. S., & Marti, M. W. (1997). The eyes have it: Minority influence in face-to-face and computer-mediated group discussion. *Journal of Applied Psychology, 82*(5), 706–718.

Mersham, G. (2009). Reflections on e-learning from a communication perspective. *Journal of Distance Learning, 13*(1), 51–70.

Nowak, K., & Biocca, F. (2001). Understanding the influence of agency and anthropomorphism on copresence, social presence and physical presence with virtual humans. *Presence: Teleoperators and Virtual Environments, 12*(5), 481–494.

Ravenscroft, A., & McAlister, S. (2006). Designing interaction as a dialogue game: Linking social and conceptual dimensions of the learning process. In C. Juwah (Ed.), *Interactions in online education: Implications for theory and practice* (pp. 75–90). London: Routledge.

Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier.* Reading, MA: Addison-Wesley.

Riva, G. (2002). The sociocognitive psychology of computer-mediated communication: The present and future of technology-based interactions. *CyberPsychology & Behavior, 5*(6), 581–598.

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Assessing social presence in asynchronous text-based computer conferencing. *Journal of Distance Education, 14*(2), 50–71.

Schlager, M., & Fusco, J. (2004). Teacher professional development, technology and communities of practice: Are we putting the cart before the horse? In S. A. Barab, R. Kling, & J. H. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 120–154). Cambridge: Cambridge University Press.

Selverian, M. M., & Hwang, H. S. (2003). In search of presence: A systematic evaluation of evolving VLEs. *Presence: Teleoperators and Virtual Environments, 12*(5), 512–522.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of communication.* New York: John Wiley & Sons.

Sims, R. (2006). Beyond instructional design: Making learning design a reality. *Journal of Learning Design, 1*(2), 1–7.

Slagter van Tyron, P. J., & Bishop, M. J. (2009). Theoretical foundations for enhancing social connectedness in online learning environments. *Distance Education, 30*(3), 291–315.

Spector, J. M. (2002). Foreword. In C. Steeples & C. Jones (Eds.), *Networked learning: Perspectives and issues* (pp. xii–xvii). London: Springer.

Steeples, C., Jones, C., & Goodyear, P. (2002). Beyond e-learning: A future for networked learning. In C. Steeples & C. Jones (Eds.), *Networked learning: Perspectives and issues* (pp. 323–342). London: Springer.

Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks, 9*(3), 115–136.

Thorpe, M., & Godwin, S. (2006). Interaction and e-learning: The student experience. *Studies in Continuing Education, 28*(3), 203–221.

Tu, C-H. (2001). How Chinese perceive social presence: An examination of interaction in online learning environment. *Education Media International, 38*(1), 45–60.

Tu, C-H. (2002). The impacts of text-based CMC on online social presence. *Journal of Interactive Online Learning, 1*(2), 1–24.

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.

Wallace, R. M. (2003). Online learning in higher education: A review of research on interactions among teaching and students. *Education, Communication and Information, 3*(2), 241–280.

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research, 19*(1), 52–90.

Walther, J. B. (1995). Relational aspects of computer-mediated communication: Experimental observations over time. *Organization Science, 6*(2), 186–203.

Wiley, D., & Gurrell, S. (2009). Context and catalyst: A decade of development. *Open Learning: Journal of Open and Distance Learning, 24*(1), 11–21.

Yoo, Y., & Alavi, M. (2001). Media and group cohesion: Relative influences on social presence, task participation and group consensus. *MIS Quarterly, 25*(3), 371–390.

Biographical note

Benjamin Kehrwald

Benjamin Kehrwald is Senior Lecturer, Distance and Online Education in the Massey University College of Education where he coordinates postgraduate programmes in e-learning. He has been working with learning technologies since 1992 in the USA, Japan, Australia, and New Zealand. He specialises in the design, development, implementation, and research of online learning with a particular emphasis on technology-mediated social processes.