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Social Presence in the Web-based Synchronous Secondary Classroom

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Abstract

Abstract: The purpose of the study reported on in this paper was to explore how teachers and students manifest social presence in the web-based synchronous secondary classroom (WBSSC). Data were collected using structured and unstructured observations of twelve online recordings of web-based synchronous classes in the province of Newfoundland and Labrador, Canada. Structured observations were guided by an instrument developed by Rourke, Anderson, Garrison and Archer (2001) for identifying and measuring social presence in an online context. Findings revealed that teachers and students relied on different tools when providing affective, interactive and cohesive responses related to social presence. Manifestations of social presence by the teachers occurred through use of two-way audio whereas students relied on text-based Direct Messaging. Expressions of social presence by the students and teachers occurred most often in a context of digressions that drew attention away from the delivery of content. In addition, students demonstrated social presence using discourse conventions transferred from informal social contexts of instant messaging such as ICQ and MSN.

Résumé : L'objet de la présente étude consistait à examiner de quelle façon les enseignants et les étudiants font preuve de présence sociale dans les salles de classe synchrones en ligne du secondaire. Des données ont été recueillies au moyen d'observations structurées et non structurées provenant de douze enregistrements en ligne de classes synchrones accessibles par Internet dans la province de Terre-Neuve et Labrador, Canada. Les observations structurées ont été dirigées au moyen d'un instrument développé par Rourke, Anderson, Garrison, et Archer (2001) afin d'identifier et de mesurer la présence sociale en ligne. Les résultats démontrent que les enseignants et les élèves utilisent des outils différents pour offrir des réponses affectives, interactives et homogènes liées à leur présence sociale. Les manifestations de présence sociale par les enseignants se sont produites au moyen de l'utilisation d'un système de transmission audio bilatéral où les étudiants comptaient sur la messagerie texte directe. Les expressions de présence sociale des étudiants et des enseignants se produisent la plupart du temps dans un contexte de digressions qui fait en sorte qu'on s'éloigne du contenu. De plus, les étudiants ont fait preuve de présence sociale au moyen de conventions sur le discours provenant de contextes sociaux informels de messagerie instantanée comme ICQ et MSN.

Introduction

Social presence is defined as "the degree to which participants are able to project themselves affectively within [a] medium" (Garrison, 1997, p. 6). Rourke, Anderson, Garrison, and Archer (2001) observed that "social presence supports affective objectives by making the group interactions appealing, engaging, and thus intrinsically rewarding" (The Community of Inquiry Model section). Studies of social presence in web-based learning at the post-secondary level indicate that it affects student perceived learning (Richardson & Swan, 2003) and that it may increase the satisfaction of students' online experience (Newberry, 2001). It may also lead to greater emotional satisfaction through a sense of well-being in the classroom environment (Rourke et al., 2001).

Students must be able to sense the bond between themselves and the teacher because, as Munroe (1998) noted, education involves the development of a relationship and consists of more than the sharing of information and knowledge building. Because social presence arises through being able to project one's self affectively within a medium (Garrison, 1997, p. 6), the conditions for establishing a social bond, or

emotional tie must be present. Tu and McIsaac (2002) stressed the relationship between interactivity and social presence, noting that increased interaction improves the level of social presence.

The concept of social presence in the web-based classroom may be an important one, but it is not easily understood. Picciano (2002) found that the idea of presence could vary from person to person, and essentially it is a perceived notion. Because of that, it is "a complex subject for research" (p. 24). Furthermore, although the literature dealing with social presence is extensive, the bulk of research appears to focus on online learning at the post-secondary level. Yet, as Sadik (2003) noted, "research is required to investigate approaches for designing and implementation of online learning for younger learners" (p. 8). Downs and Moller (1999) also indicated the "need for additional investigation of ... student socialization for secondary school students" (Future Research Section f), where secondary refers specifically to students at the high school level.

The study reported on in this paper took as its focus social presence in the web-based synchronous secondary classroom. The purpose of the study was to explore how teachers and students manifest social presence in this context. The purpose was achieved through a case study of social presence in a context of web-based learning in synchronous secondary (high school) classrooms in the province of Newfoundland and Labrador, Canada. Data were collected using six structured and six unstructured observations of online recordings of the virtual synchronous classes of six high-school teachers in the province of Newfoundland and Labrador, Canada. Structured observations were guided by Rourke et al.'s (2001) instrument for identifying and measuring social presence in an online context (see Appendix A). Unstructured observations were recorded as field notes.

Conceptual Framework

Rourke et al. (2001) speculated that the term "social presence" extended from Mehrabian's (1969) concept of immediacy that was defined by "those communication behaviors that enhance closeness to and nonverbal interaction with another" (p. 203). Immediacy occurred when face-to-face communication took place and was evidenced by body language, eye contact, and other nonverbal cues, and was a way of extending oneself into the social fabric. The lack of face-to-face interaction in the web-based classroom, the reliance on textual hints for cues, and "the inability of [text-based] media to transmit nonverbal cues" would lead to the adoption of the term "social presence" when referring to immediacy in mediated communication (Short, Williams, & Christie, in Rourke et al., 2001, Social Presence Section). Social presence is the analog of Mehrabian's (1969) concept of immediacy which is the non-verbal interactions and visual cues that promote closeness in a face-to-face setting. Rourke et al. (2001) noted that immediacy was a significant factor, that there was a positive correlation between immediacy and affective, behavioral, and cognitive learning: "the amount that students thought they had learned in a course" (Teacher Immediacy section).

Garrison, Anderson and Archer (2000) describe social presence as an integral part of The Community of Inquiry Model which describes the complete educational experience of those who participate in the didactic process, and is the intersection of three types of presence. They defined social presence as " the ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as 'real people'" (p. 4). Teaching presence includes the design and facilitation of the learning activities. This overlaps with social presence to set the climate of the online experience. Cognitive presence refers to the participant's ability to " construct meaning through sustained communication" (p.4). Cognitive presence and social presence overlap to support discourse, and teaching and cognitive presence overlap in the selection of content that supports meaningful learning. The authors argue that cognitive presence "is more easily sustained when a significant degree of social presence has been established" (p. 13).

Shin (2002) described presence as "a distance student's perceptions of psychological presence on the part of teachers, peers, and institutions" (p. 121), a construct labelled "transactional presence". Shin noted that transactional presence can be defined in terms of two factors: that of tele-presence which refers simply to the awareness of the geographic location of the student, and social presence which refers to the "connectedness [and] refers to the belief that a reciprocal relationship exists between two or more parties" (p. 123). Lombard and Ditton (1997) also defined social presence as a construct, providing six conceptualizations that included: "presence as social richness, presence as realism, presence as immersion, presence as social actor, presence as medium as social actor" (Concept Explication section). In Lombard and Ditton's definition, the user becomes oblivious to the medium being used and is immersed or connected with the other users as if they are in a 'real' situation.

Interaction is frequently used interchangeably with the term social presence but a distinction needs to be made because they are not the same (Picciano, 2002). Rovai (2002) indicated that interaction might be task driven or socio-emotional in nature, the former being "the completion of assigned tasks while [the latter] is directed toward relationships among learners" (p. 5). O'Reilly and Newton (2002) noted that interaction might well include interaction with content as well as with others. Interaction can indicate a level of social presence but doesn't necessarily mean that presence has been established. As Picciano concluded, "it is possible for a student to interact by posting a message on an electronic bulletin board while not necessarily feeling that she or he is a part of a group or a class" (p. 22).

Literature Review

Rourke et al. (2001) focused on the use and evaluation of an instrument (see Appendix A) for assessing social presence in a context of post-secondary, text-based computer conferencing that measured three categories of responses: interactive, cohesive, and affective. The first category of "affective responses" or

"affective interaction" includes elements such as emotion, feelings, mood, closeness, warmth, affiliation, attraction and openness. They refer to this as "socio-emotional communication" (Affective Responses section). The authors note that, in a context of text-based computer conferencing, affective responses may be reflected in the use of emoticons, humour and self-disclosure.

Their second category is defined as "Interactive Responses". The authors note that "Using the "reply" feature to post messages, quoting directly from the conference transcript, and referring explicitly to the content of others' messages are all types of interactive response in CMC" (Interactive Responses section). Other examples which they cite include complimenting, expressing appreciation or agreement and asking questions. The third and final category in their instrument is that of "Cohesive Responses" which involves building and sustaining a sense of group commitment. This category includes the indicators of phatics and salutations that serve a purely social function, vocatives or addressing participants by name, and use of inclusive personal pronouns to address the group.

The authors used the instrument to generate an aggregate social presence density rating of instances of social presence in transcripts by quantifying the occurrences of each categorical indicator of social presence. The authors concluded that the instrument "is able to expose and quantify important differences in social presence" in text-based, asynchronous communications (Discussion section). They also concluded that "further study is needed, especially using instruments that triangulate participant perception of social presence and its value, and the relationship between social presence and objective measures of learning outcomes" (Conclusion section).

A study by Saenz (2002) of an asynchronous, web-based master's instructional program reported on students' perceptions of the value of social presence in the virtual classroom. Samples of students who had graduated from the Instructional Technology Master of Arts program, and students who were currently participating in the program were surveyed for their perceptions of the level of interaction in the program. Saenz relied on Short, Williams and Christie's (1976) definition of social presence which was the "degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationship" (p. 65). Using a Likert scale, the survey measured students' perception of the presence or absence of intimacy, immediacy, or interaction. The author concluded that social presence was a strong factor in influencing student satisfaction with a course, and that student-student and student-instructor interaction as a means of establishing social presence was important.

Richardson and Swan (2003) examined the effect that the perception of social presence had on student satisfaction with a course delivered asynchronously at the post-secondary level. The purpose of the study was to explore the role social presence played in online environments. A three section survey was administered to gather data on demographics, students' overall perception of the course, (instructor, overall

learning, and perception of social presence) as well as the value of learning activities to learning and overall satisfaction (Richardson & Swan, p. 72). Findings showed that students who perceived a high degree of social presence also felt that they learned more than those students who perceived a low level of social presence. Students who scored high in social presence indicators expressed high satisfaction with their instructor. The social presence of the instructor and other students was perceived as "an integral aspect of their educational experience" (p. 76).

Stacey (2002) examined social presence as an element in facilitating effective online learning and studied the teacher's role in helping students to project their online social presence, as well as the teacher's role in establishing an environment for learning. She used electronic data to analyze the online interaction of students in an online Masters of Business Administration Program in Australia. The group was composed of 21 males and 10 females. The analysis framework for the study was based on the same set of social presence categories developed by Rourke et al. (2001). Findings indicated that the teacher played an important role in helping students establish social presence by modeling acceptable social presence factors in the first week of classes. Establishing small group collaborative environments was conducive to establishing social presence because the students could develop relationships in a more informal setting.

Context of the Study

The study reported on in this paper was conducted in the context of distance education at the secondary level in the province of Newfoundland and Labrador, Canada. The Centre for Distance Learning and Innovation (CDLI) is a government organization charged with overseeing primary to high school (secondary) distance education in the province of Newfoundland and Labrador, Canada. In 2005, there were approximately 1,000 student enrolments in 29 secondary-level courses. The majority of students enrolled live in rural communities. Students are simultaneously enrolled in a physical school setting but take some of their courses online. This means that, in one online course, the enrolled students may all be from different communities spread across a geographic area of 405,720KM 2 or the equivalent of one and three quarter times the size of Great Britain.

Courses are delivered using a combination of asynchronous and synchronous means with an average of 60% to 40% respectively. The WebCT™ learning management system supports asynchronous delivery while Elluminate *Live*™ (E-Live or EL) supports the delivery of the synchronous component. The E-Live environment includes a whiteboard with writing and drawing tools. A direct messaging (DM) area supports student-to-student, teacher-to-student, and student-to-teacher real time text messaging. A half duplex audio tool supports communication and interaction by voice. This tool operates like a two-way radio with a keyed virtual button providing control of the transmission. The E-Live environment also includes a hand-raise tool, polling feature, real-time application sharing and break-out rooms.

Method

The study relied on a descriptive, single case design approach as described by Yin (2003). Yin noted the criteria of uniqueness and appropriateness as rationale for undertaking a case study design where the "objective is to capture the circumstances and conditions of an everyday or commonplace situation" (p. 41). Data collection techniques relied on observations of recorded class sessions in six courses including social sciences, science, art, music, technology and mathematics. Six recordings were selected from early in the school year; September–October, 2004, and six were selected from April of 2005 for a total of twelve sets. The twelve recordings represented a cross section of classes from the three levels of schooling (level I, II, and III) in the high school system in Newfoundland and Labrador, Canada.

he first set of observations was unstructured, which is the planned watching and recording of behaviours as they occur within a controlled environment, but with sufficient flexibility to be able to watch for and record other issues as they arise (Spradley, 1980). Field notes were created during the viewing of the twelve recorded sessions in order to "record details, strive for accuracy ... [and] to visualize the moment, the person, the setting, the day" (Glesne, 1999, p. 50). Subsequent observations were structured and relied on Rourke et al.'s (2001) instrument (see Appendix A) to identify occurrences of social presence. Specific occurrences of each indicator were noted and supporting evidence recorded in the form of detailed descriptions of the event and quotations from the actors where applicable.

The notes from the 12 unstructured and structured observations were combined into a total of 38 pages. Data were then organized into one of three categories based on the Rourke et al. instrument using keywords and statements as the unit of analysis. Data were compared within and across the six cases on each of the two observation dates for repeating patterns. If the student or teacher manifested an affective example of social presence, the context in which it occurred and the tool being used to interact was noted. Miles and Huberman (1994) noted this process as one which "puts flesh on the bones of general constructs and their relationships" (p. 27). Repeating patterns were noted and themes subsequently identified.

Findings

Analysis of the twelve recordings revealed that teachers and students manifested social presence through choice of specific tools, choice of communication conventions and in a context of digressions from the curriculum. Each of these themes is discussed in detail below.

Choice of tool

There were several tools available to both groups in the E *Live*™ environment, all of which potentially supported expression of affective, interactive and cohesive responses related to social presence. However,

teachers and students chose to communicate through the selective use of a single tool: students relied on DM, whereas the teachers relied almost exclusively on use of the two-way audio component. In order for the students to use the microphone, whiteboard or even DM, the teacher had to assign rights for that tool to the students.

In the 12 classes observed, teachers would typically begin their sessions by activating the two-way audio. One teacher did encourage students to take control of the two-way audio as follows: "I would love for you to take the mike and give us your comments". However, students rarely took advantage and instead chose DM as their preferred means of communicating. While use of audio required a more formalized approach such as turn-taking or prompting by the teacher, the use of DM allowed for more immediate responses conducive to immediate and spontaneous expressions of emotion.

Examples of manifestations of social presence by students using DM included: complimenting peers "Ha Ha ha great job [student name] lol;" expressing dissatisfaction: "nooooooo test!!!!!!!!!! *whines*" or "I hate music ace." Students used self-deprecation to make light of mistakes or performance issues: "I did a bad job at it though. I rock." A student commented about making a silly statement: [Student 1]: "hahahahahaha... I'm so immature... lol." Other students supported her laughter by joining in: [Student 2]: "haha no i found it funny too lol ... so ur [*sic*] not alone." Student 3 responded: "lol we are all immature ... lol...yes, yes we are ..."

Examples of teachers' manifestations of social presence using audio included showing affection through the use of vernacular: "Sorry my love." In reference to a task involving use of glue, a teacher expressed humour: "Don't go chewing on the glue sticks. That's not good either." When giving instructions for locating materials for the same project a teacher joked: "Please don't go to the school library or take yer [*sic*] friends' books and chop them up." Teachers used the mike for self-disclosure as follows: "I am very picky"; "I love it when people question things alright?" Cohesive responses were manifested in examples of greeting individual students by name when they entered the classroom: "Glad to have you aboard Julia!" and "Welcome Nola" or when voicing praise and giving individual positive reinforcement: "Way to go Eric," "Good question Nancy," "You've got it Maria. For 50 extra marks in the course!", and "Way to go John!" Teachers also communicated these types of responses to the group as a whole: "You guys are above average," and "Bingo, excellent yeah!"

Choice of communication conventions

Teachers generally used standard communication conventions when they communicated using audio. When they wanted to convey emotion more obviously and deliberately, they varied the tone or volume of their voice. As an example, one teacher reassured students by lowering his voice and using an encouraging tone

while whispering into the microphone: “I told you this test was going to be easy.” Another teacher expressed humour by making his voice sound like a stereotypical surfer: “Whoa man, look at this dude, look!” A teacher expressed anger and frustration by raising his voice: “Oh boys, oh boys, oh BOYS, OH BOYS! This is not ... not good enough!” There were no observations of students changing tone or pitch to communicate emotion.

The choice of tool in the case of DM affected the length of responses and resulted in abbreviated communication segments. Students also relied on letter combinations that represented a specific word, emoticons, and graphical symbols to communicate using DM. They used acronyms and shortened words to express emotion as follows: “LOL” and “lol” (laugh out loud). Other acronyms indicated riotous laughter “rofl” or “ROFL” (roll on floor laughing), “Lmao” (laugh my ass off), or “j/k” (just kidding). Surprise or sarcasm could be expressed using: “omg” or “OMG” (Oh my god). Disgust, rejection, or negating a comment was communicated through “nvm,” (never mind). Students expressed a range of emotion by abbreviating words, stretching text or using upper case characters such as: “cool,” “omg” or “OMG” (oh my god), “oooooh” and “Reeally pretty.” Students relied on emoticons such as “:), :-), ;-)” to convey emotion. Students did not pay specific attention to grammatical rules or rules of spelling when composing responses in DM. There were numerous cases of incorrectly spelled contractions such as “your” [used for you’re], “thats” [that’s], and “Im” [I’m]. Students incorporated colloquialisms into their responses: “ya” [you], “yer” [your], “ ur” [you’re].

Digressions from the curriculum

Digression allowed students, and to a lesser degree, teachers, to depart from the structure of the content. It played a role in fostering the level of social presence in the WBSSC because students exhibited much of their affective and interactive responses in this context. Both teachers and students showed a willingness to diverge from the content of a discussion. For example, teachers and students gave insight into personal interests: “I would love to take art classes.” Or “I’m a blue man. Maple Leafs fan right?” indicating a preference for a hockey team and providing an avenue for digression. Lessons most often began with the teacher initiating informal and non-curricular related attempts at social interaction: “Hi everyone, what are ya [*sic*] at?” or “hello everybody! What are you guys doing today?” to which students would express their feelings, discuss the local sports scene, events at school, or other non-curriculum related issues.

Some digression did occur in the context of teacher delivery of course material. A teacher began dividing the class into working groups to be placed in a breakout room. The rooms are given names when created and are normally labelled “Room 1”, Room 2”, etc. In one case, the teacher expressed humour by referring to the rooms as “The Cage” and “The Other Cage”. In reaction, students relied on DM to comment on the choice of names: “the cage and the ‘other’ cage he he he that’s funny.” To which a second student replied,

"yes. It is. I laugh at it." Teachers gave their responses as humorous remarks, angry reactions to students' lack of performance, self-disclosure or comments that revealed their personal side.

After discussing a genre of music, a teacher diverged from the topic and described his experiences of playing with a reggae band in Jamaica. Students listened intently, and sent DM messages directed at the teacher, especially when he indicated that he had met a famous reggae star. Students tended to deviate from the lesson topic, as in this opportunity, and would stay off track until the teacher directed the conversation back to the content.

Discussion

Findings from the analysis of the observations of the 12 WBSS classes suggest that certain contexts and conditions are more conducive than others to promoting teachers' and students' manifestations of social presence. Students' use of DM revealed that this tool could play an essential role in communicating affective, cohesive and interactive responses related to social presence. It offered students a comfortable, natural and convenient means to immediately and spontaneously express a range of emotions and interact with individuals or the whole group.

In contrast, the microphone did not support manifestations of social presence by students. Its use typically required prompting as well as curriculum-related interventions or responses as opposed to social ones. Students' preference for DM in this context was supported in most cases by teachers' assignment of students' privileges to use this tool. Without assignment of this privilege, students' manifestations of social presence would have been limited to the small number of times that they made use of the audio.

In their study of the role of online communication tools in higher education, Funaro and Montell (1999) noted that "it is not so much the tool that improves teaching and learning but how the instructor integrates the tool into the curriculum and into the educational setting" (Introduction section). The authors argued that "the single most influential variable that affected the impact the online communication tool had on learning was the varying degrees of planning for integration of the tool" (Conclusions section). Although the authors were referring to a context of online asynchronous course offerings, this claim still has significance to the WBSSC.

In terms of the communication conventions adopted by students in their use of DM to manifest indicators of social presence, they appeared to be largely transferring communication behaviours that might be witnessed in another context, i.e., that of communicating in internet-based, synchronous chat communities such as MSN (Microsoft Network), IRC (Internet Relay Chat), and ICQ (I Seek You). These communities allow individuals to meet, exchange ideas, socialize, date, participate in a myriad of other activities and are largely

used for social interaction. Reid (1991) describes the language of chat communities as "systems of symbolism and textual significance to ensure that they [participants] achieve understanding" (Constructing Communities section). This type of text phrases and key words used in the text-based conversations were described by Murphy and Collins (1997) as behaviour codes which allow users to interact and understand one another. The "behaviors [are] expressed in text [and] are designed to present a recognizable self, set a context for the interactions, share affect and meaning, and minimize misunderstanding" (Communications Conventions section).

Information was text-based, which meant students needed to have good typing skills to communicate using DM. For those who do not have those skills, but wish to communicate, this mode of communication reduced the time needed to communicate. Reid (1991) posited that brevity in synchronous chat is the verbalization of physical cues: asterisks and characters used to highlight what would otherwise be a physical cue, i.e., **grins** for grinning. She noted that the main function of the graphical and textual tools was to "represent ... virtual actions and responses" (Shared Significances section), and that "users who can succinctly and graphically portray themselves ... will be most able to create a community within that virtual system" (Shared Significances section).

In relation to the role of digression in manifestations of social presence, this finding relates to Rovai's (2002) distinction between task-driven versus socio-emotional interactions directed toward relationships among learners. It is to be expected that social presence would more likely or easily be manifested in a context of digressions. In a study of discussions in distance education, Romiszowski (1995) noted that asynchronous discussion is particularly susceptible to digression and warned that teachers should control the direction that discussions took. However, in this context of the WBSSC, digression appeared to foster the communication of affective, cohesive and interactive responses. In the context of the present study, the digression appeared to happen more spontaneously and did not appear to be planned by the teachers. The exception to this pattern was the tendency at the beginning of class for teachers to focus less on curriculum–related communication and more on informal, spontaneous, student-centered interactions.

Conclusions and Implications

This study was limited to observations in a context of teaching and learning in one organization within one province only, with specific age groups and subject areas and one type of learning environment (i.e., Elluminate Live). Others studies in other contexts might serve as an opportunity to confirm or question the findings of this study or to gain insight into the role that context plays in how teachers and students manifest social presence. The study was also limited to observations of social presence using a predefined instrument or model. Grounded theory or, inductive approaches that do not rely on pre-existing models might yield different insights than those gained by the study reported here.

More specifically, certain questions can be highlighted in relation to the findings of this study in order to serve as a basis for future inquiries into social presence in web-based synchronous contexts either at the secondary or the post-secondary level. What role does or can text-based, direct (instant) messaging play in promoting social presence in contexts of web-based synchronous learning? Design experiments or action research projects might be well-suited to testing strategies and techniques and identifying best practices related to use of this tool for promoting social presence. Similar questions might be posed and investigated in relation to the relaxation of discourse conventions in a context of use of DM for promoting social presence in the WBSSC. What procedures, policies and practices surrounding use of DM and discourse conventions best support social presence while at the same time supporting the goals of the curriculum?

The ways that teachers and students manifested social presence in the WBSSCs have implications for practice. Students' preference for and comfort with DM suggest that this tool might play an important role in promoting social presence in a WBSSC. Teachers interested in promoting and supporting social presence in a WBSSC may wish to explore what types of specific and explicit uses might legitimize and encourage its role. This exploration should lead to identifying techniques and strategies that exploit the potential of DM for manifesting social presence. At the same time, explicit and intentional use of this tool will need to be accompanied by an understanding and delineation of its role in relation to other tools.

Teachers may find that use of this tool requires the establishment of procedures and policies or rules in order to promote best practices by students. These procedures might be communicated through teacher modeling the types of affective, interactive and cohesive responses that could be communicated using DM. In other cases, explicitly articulated procedures may need to be put in place to more clearly define the behaviours that should be engaged in. This may be particularly necessary in relation to discourse conventions. If DM is encouraged and if students' preference is to use a more relaxed form of the language, the activities designed to promote use of DM may well need to be tolerant of a more diverse mode of communication than is typically common in educational settings. Likewise, teachers interested in promoting social presence might need to be more tolerant of digression and be willing to assign a role to it.

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Appendix A:
Rourke et al. (2001) Instrument for assessing social presence.

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