

Developing and Evaluating Social Presence in the Online Learning Environment

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Abstract. This paper presents the findings of an exploratory study conducted at University of New England, Australia during 2010 that measured the perceptions of management students regarding their online learning experiences, particularly the development of social presence by lecturers in this environment. An online survey was emailed to postgraduate, off-campus students and undergraduate, on- and off- campus students who are enrolled in a coursework degree in management. Results suggested that social presence is a niche area that needs lecturers attention, specifically discussion boards and chat rooms receiving relatively low evaluations. Then the paper moves to discuss strategies that have been developed in four Marketing units during 2011-12 by embracing social presence related activities in order to enhance the effectiveness of the learning experience in the online environment.

Keywords: Social Presence, Online Learning, Learning Experience.

1. Introduction

Most of the literature relating to social presence credits [1] with the development of the initial theory of social presence in order to ‘explain the effects a communication medium can have on the way people communicate’ [2]. Social presence was conceptualised as an aspect of communication that impacts on interactions [2]. Reference [3]’s social development theory states that ‘social interaction is vital to cognitive development; all higher-order functions originate as the relationships among individuals’. Reference [4] proposed learner-learner, learner-content and learner-instructor interactions as vital in education, while each of the seven principles for good practice in undergraduate education suggested by [5] relates to interaction. ‘Learning is a very human activity. The more people feel they are being treated as human beings—that their human needs are being taken into account—the more they are likely to learn and learn to learn’ [6].

Considering the importance of developing social presence in the online environment, this investigation aimed at answering two important questions:

- What is the usage of online learning tools such as emails, discussion boards, chat rooms, podcasts, videos, audio files and how do students evaluate these tools?
- How do students perceive the social presence of lecturers in the online environment?

Then the study moves on to discuss some strategies that were implemented in a marketing unit in order to develop social presence and to increase teaching effectiveness in the online learning environment.

2. Social Presence Literature

Reference [7] describes social presence as ‘the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities’. Reference [8] discusses socialisation in online environments in terms of establishing connections, sharing information and ‘being able to mingle’. They propose a definition of online presence as ‘the value of interaction in online learning lies in its contribution to the participants’ (teacher and learner) ability to establish a sense of being in the virtual environment’ [8], and propose that social presence is about relationships and connections with others.

Reference [9] suggests that deliberate strategies by course designers, instructors and students are required for the creation of social presence in an online collaborative environment. These include welcome

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messages, incorporation of audio, structured activities, prompt responses, frequent feedback, use of humour to reduce social distance and personalisation. Aragon also suggests that personal story-telling creates credibility for instructors. He notes that 'creating social presence is not the sole responsibility of the instructor' [9].

In relation to management programs, [10] reviewed the research related to online and blended learning in business and management disciplines. The authors selected 75 of these studies, which related specifically to the discipline of management. Based on this review, [10] concluded that 'online learning certainly can be an effective medium for the delivery of management education'. The authors identified research by [11], [12] and [13] which suggested that teaching presence is more likely to produce an effective online environment than social or cognitive presence particularly in management education. They also found evidence which indicated that learner-instructor interactions are more influential than student-student interactions in terms of learning outcomes [10], [14], [15], [16].

In 2000, [17] conducted a study in a blended course to investigate the effects of 'technological, pedagogical, and student characteristics on student learning in Internet-based MBA courses' concluding that pedagogical factors (i.e. those reflecting instructor input) were significantly associated with student learning. 'These findings suggest that graduate business teachers and programs should give attention to cultivating their skill in facilitating and generating student interaction' [17]. In a similar study, [18] examined the factors necessary for effective internet-based MBA courses. One of these factors was that perceived instructor emphasis on interaction was positively associated with student satisfaction. While there were limitations to this study including the small sample size and the concurrent enrolment of the participants in face-to-face courses, [18] suggested that 'pedagogical approaches may be more important than the technology in determining the effectiveness of these courses'.

3. Methods

An online survey-based questionnaire that contained open-ended and closed-ended questions was developed. Approval for this questionnaire developed was sought from UNE's Human Research Ethics Committee (HE10/115). Open-ended questions included asked students opinions regarding:

- Aspects of online learning that have made it easier for them to achieve their learning outcomes/goals, and/or participate in class discussions compared to face-to-face teaching (e.g., lecturers, tutorials, workshops, intensive schools, etc.).
- Any aspects that made online learning more difficult.

Closed-ended questions were used to determine the usage of different e-learning tools, such as chat rooms, discussion boards, and emails, among others. Additionally, students' perceptions regarding the management of online learning tools by lecturers were gathered. Finally, closed-ended questions were also used to identify respondents' demographic variables such as level of competency in the online environment, type of access to internet, number of subjects completed, gender and first language, among others.

The online survey was sent out to students who are undertaking either postgraduate or undergraduate coursework study in management/marketing discipline at University of New England (UNE), Australia using Qualtrix survey design software. Invitations were sent to 474 off-campus postgraduate students and to 699 on and off-campus undergraduate students. 62 responses from postgraduate students, denoting a response rate of 13%, and 41 responses from undergraduate students, depicting a response rate of 5.9% have been received. As shown in Table 1, 80% of these postgraduate students were enrolled in an MBA and 69% of the undergraduate students were enrolled in the Bachelor of Business (BBUS) programs; they had passed more than 5 units (subjects); over 92% of students have broadband internet access; more than 95% have a high or medium level of competency in the online environment; almost all have English as their first language; and 53% of postgraduate students are male and 60% of undergraduate students are female.

Table 1: Sample Characteristics

Variable	P	U
Course/Program:		
MBA	80%	
BBUS		69%
Mode of Study:		
On-campus		43.0%
Off-campus	100%	21.4%
Mixed mode		35.7%
Average Num. of Subjects Completed:	5.4	8.2
Broadband for Accessing Internet:	92%	93%
Level of Competency in the online environment:		
High	57%	73%
Medium	40%	22%
Gender:		
Male	53%	40%
Female	47%	60%
English as First Language:	93%	90%

Two different types of data analyses were performed: qualitative and quantitative. Open-ended questions were analysed using the freeware software WeftQDA. Matrixes were developed that contained the main concepts that arose from the opinions of students regarding online learning. Closed-ended questions were analysed using the software SPSS statistics 17.0. Frequencies, percentages, means, standard deviation, ANOVA and Chi-Square tests were performed in order to answer some of the objectives of the investigation.

4. Results

The qualitative findings revealed that postgraduate students ranked the learning management system (LMS) used by UNE as the second most valued aspect of their learning experience (18%), while undergraduate students ranked it third (16%). Students made several comments related to the LMS system itself, and also posted messages about discussion boards and chat rooms. The fact that lecturers and students may post messages on the discussion board and check the answers to those comments asynchronously seems to be very valuable to students. However, regarding the negative issues of online learning, students mentioned that by far the most negative aspect is the lack of interaction between lecturers and students. This issue was identified by 32% of postgraduate students and 27% of undergraduate students. Students mentioned a “lack of facilitator involvement”, which “makes it very difficult for students to engage in the topic when the coordinator/lecturer does not encourage or lead interaction on the discussion page”. As identified in the literature review, social presence is related to building communities in the online environment and the role of the facilitator is key in the development of social presence. Students’ comments indicate that in a significant proportion of their units, lecturers did not focus on developing online communities.

With respect to the usage of online learning tools, quantitative results indicated that over 94% of the postgraduate and undergraduate students who participated in the investigation had experience with discussion boards and emails (see Table 2). However results showed much lower usage of other online learning tools and significant differences existed between postgraduate and undergraduate students. Only 50.8% of postgraduate students indicated that they had experience with chat rooms, which can be considered low for programs offered almost 100% online. Undergraduate usage of chat rooms is significantly lower (38%). Perceptions towards tools such as podcasts of lectures, special podcasts and special vodcasts (i.e., podcasts and vodcasts that have been recorded by lecturers to discuss specific issues or concepts) revealed that postgraduate students demonstrated lower levels of experience (27.9%, 26.2% and 11.5%, respectively) compared to undergraduate students (67%, 52% and 21%, respectively).

Table 2: Usage and Evaluation of the Online Learning Tools

Tools	Postgraduate		Undergraduate	
	Usage	Evaluation	Usage	Evaluation
Discussion Board	96.7%	3.55	95.0%	3.62
Emails	93.7%	3.09	95.0%	3.05
Chat Room	50.8%	3.47	38.0%*	3.2*
Podcast	27.9%	3.96	67.0%*	4.10
Special Podcast	26.2%	3.77	52.0%*	3.70
Special Vodcast	11.5%	3.73	21.0%*	3.78

*difference significant at a 0.05 level

In order to determine how other variables may be affecting the usage of online learning tools, a deeper comparison was undertaken between participants' gender, level of competency in usage of online learning environments and types of online learning tools used. Chi-Square tests determined that the variable level of competency affected students' usage of online learning tools. The study also exhibited significant difference in the usage of chat rooms: students with high level of competency with online learning tools use significantly more chat rooms (55%) compared to students with medium and low levels of competencies (30%). Furthermore, levels of competency in usage of online learning environments showed no statistical difference among the other online learning tools (i.e., discussion boards, emails, podcasts, special podcasts and special vodcasts). Gender also did not show a statistical difference in accessing any of the online learning tools.

With regard to the evaluation of these tools, Table 1 shows the average response for each tool under study. All of the means scored are above 3 (score range: 1 to 5). However, one of the tools most used by students – emails – scored the lowest mean (3.09 for postgraduate and 3.05 for undergraduate students), which may be explained by the number of hours (28 and 29 hours, respectively) taken by lecturers to answer emails

(students expect emails to be answered quickly). The tools that were rated the highest were not frequently used by lecturers, suggesting an opportunity to enhance online learning by increased usage of these tools.

It is relevant to highlight that the tools that received the highest evaluation (podcasts and vodcasts) were not interactive unless reflection and discussion was encouraged and led by lecturers in another online forum. From comments received, this does not seem to have been the case. These tools, although popular with students, neither contributed greatly to building community nor to the lecturer's presence. The use of these tools without an opportunity for students to engage with the content suggests that lecturers were viewing them simply as a way to transmit information rather than creating an opportunity to encourage responses and interaction. Discussion boards, which were the most frequently used, were not evaluated highly suggesting that social presence was not successfully developed and the benefits of using these forums was therefore not obvious to students. As the literature suggests, the input of lecturers is key to modelling behaviour and encouraging participation and interaction. Likewise chat rooms, although a significant number of students had experience with these, their evaluation was relatively low again suggesting that this forum did not successfully facilitate collaborative learning.

In order to determine if there is any difference in the above evaluations attributable to demographic variables such as level of experience with the online environment, number of subjects completed, internet access and gender, a set of ANOVAs were performed. Results showed no statistical difference in the evaluation of the different online learning tools by any of these variables.

5. Developing Social Presence in a Marketing Unit

This study, which is part of a larger research project, provides some important insights into the efficacy of online learning and teaching practices based on students' perceptions of their learning in this environment. The results clearly demonstrate that both postgraduate and undergraduate students

recognise the value of the full range of online tools, however, their level of experience with podcasts and vodcasts, in particular, suggests that some lecturers have been slow to adopt these tools. This finding suggests that the effectiveness of online learning could be enhanced by the use of 'advanced' tools. The findings also show low evaluations of certain tools that have the potential to be developed into learning communities, such as discussion boards and chat rooms. This suggests that most of the students who participated in the study have not experienced the benefits of an online community in which social presence (understood as the ability of participants to identify and interact with the community) has been effectively developed.

Considering the findings of this research several strategies were implemented in four Marketing units (i.e., Undergraduate units: MM110 - Introduction to Marketing, MM314 - Services Marketing; Postgraduate units: GSB731 Marketing Management and GSB737 – Services Marketing) in order to develop lecturer's social presence and to increase the effectiveness of the student's online learning experience. Some of these activities were:

- Managing students' expectations. During the first week of the academic semester a message was posted on the learning system (e.g., Blackboard) informing students about all the activities that would be performed during that specific academic semester;
- Asking for Feedback. Students were encouraged to give constructive feedback regarding the activities that were scheduled for the academic semester. The core idea in doing so was to transform the students' as co-creators and enhance their learning experience. The lecturer duly acknowledged students' recommendations by posting back a message "thank you for the feedback". After implementing student's recommendations lecturer posted another message indicating to students the outcome of their suggestions. The latter aimed at making sure that students knew that their contribution was valued;
- Understanding students' pattern of behaviour within the learning system: At the beginning of the academic semester, students were asked for information related to their pattern of behaviour in relation to the learning system (e.g., days and time they log on to the LMS). The aim here was to get the information from the students at the beginning of the semester in order to understand the most suitable days and times for their engagement in online learning activities. For example, based on the available information about students' convenient timing, it was decided that Chat Rooms would be held by the lecturer every Tuesday at 9pm (as most of the students had work and/or family commitments before 9pm);
- Enhanced PowerPoint Slides (PPT): PPTs included links to several media, such as, YouTube videos, articles, newspaper, etc. Lecturer's emphasis was to provide students with more online resources that could be accessed by them at any day and time. The PPTs also included informal and formal photos of lectures in order to develop social presence. The latter is particularly important for off-campus students because in many cases they never have the chance to meet their lectures face-to-face, so the usage of photos allow students to put a face to lectures' details, thus fostering realistic student relationship management;
- Answering emails/messages very quickly: Students' messages were responded within 24 hours during working days and 48 hours during weekends and public holidays. Due to unforeseen circumstances if it was impossible to respond to a particular student's request within this timeframe, students were sent a message informing them how long it would take for them to receive an outcome to their request. The latter aimed at managing students expectations and perceptions of time;
- Being friendly and empathic: A simple and friendly language was used in all sort of communication with students (e.g., emails, chat rooms, discussion boards, etc.). The emphasis was to create meaningful rapport with students and to encourage them to engage in the interactive discussions;

- Usage of learning analytics: learning analytics were used to follow and to understand students' behaviour in the online environment. Based on the findings, some interventions were implemented for those students who seem to need additional support (e.g., if a student did not log on to the learning system for two weeks a personalised message was sent to him/her with an update of the topics covered during that period of time. Students were also encouraged frequently to get in contact with lecturers via email, phone or learning system if they need additional support).

Students' perceptions about these strategies were very positive. These perceptions were reflected in the form of open-ended comments in the end-of-semester unit and teaching evaluations. Some students sent private and unsolicited emails to the lecturer about the invaluable learning experience that they had during the semester. Specifically, the level of interaction that they had with lecturer and peers was highly commended.

6. Final Conclusions

The findings of the study clearly show a need for teaching staff to be encouraged to develop their skills in building online communities. Student responses indicated that successful teachers in face-to-face contexts seemed to be able to transfer their skills to the online environment creating interactive learning opportunities, such as the ones developed and implemented for the marketing units discussed in the previous section of this paper. Technology should be recognised as a way to create presence in the online community that facilitates the same depth of rich learning experiences that face-to-face delivery can achieve. Based on these findings it is imperative that more resources need to be allocated to workshops or other training programs that showcase the potential of online technologies and the role lecturers can play in these forums to create successful learning communities. These workshops need to be directed for students as well, as the results obtained indicated that students with lower levels of competency in the usage of online learning environments tend to use significantly fewer online learning tools.

This research study highlights at least two possible areas that could be further explored to better understand the concept of social presence. So far, this study focused only on investigating students' perceptions regarding social presence, so future research could aim at determining lecturers' perceptions regarding the student's social presence. Moreover this study has taken into consideration only Management/Marketing discipline-based units from only one Business school in Australia as the unit of analysis. Further research need to focus on exploring the applicability and replication of this study in other disciplines, schools, and universities in Australian and international contexts in order to validate the findings.

7. References

- [1] Short JA, Williams E and Christie B (1976) *The social psychology of telecommunications*, Wiley, London.
- [2] Lowenthal PR (in Press) Social presence, in Rogers P, Berg G, Boettcher J, Howard C, Justice L and Schenk K (Eds), *Encyclopedia of distance and online learning* (2nd edn), Information Science Reference.
- [3] Misanchuk M & Anderson T (2001) *Building community in an online learning environment: Communication, cooperation and collaboration*. Retrieved from <http://www.mtsu.edu/~itconf/proceed01/19.html>
- [4] Moore MG (1989) Three types of interaction (Editorial). *The American Journal of Distance Education* 3(2). Retrieved from http://www.ajde.com/Contents/vol3_2.htm#editorial .
- [5] Chickering A and Gamson ZF (1987) Seven principles for good practice in undergraduate education, *The American Association for Higher Education Bulletin*. Retrieved from <http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/7princip.htm>
- [6] Knowles MS (1990) *The adult learners: A neglected species* (4th edn), Gulf Publishing Co., Houston, TX.

- [7] Garrison DR, Anderson T and Archer W (2000) Critical inquiry in a text-based environment: Computer conferencing in higher education, *The Internet and Higher Education* 2(2-3): 87-105.
- [8] Irwin C and Berge Z (2006) Socialization in the online classroom, *e-Journal of Instructional Science and Technology* 9(1): 1-7.
- [9] Aragon SR (2003) Creating presence in online environments, *New Directions for Adult and Continuing Education* (100): 57-68.
- [10] Arbaugh JB Desai A Rau B and Sridhar BS (2010). A review of the research on online and blended learning in the management disciplines: 1994-2009, *Organizational Management Journal* 7: 39-55.
- [11] Arbaugh JB and Hwang A (2006) Does “teaching presence” exist in online MBA courses? *The Internet and Higher Education* 9: 9–21.
- [12] Garrison R and Cleveland-Innes M (2005) Facilitating cognitive presence in online learning: Interaction is not enough *The American Journal of Distance Education* 19(3): 133-148.
- [13] Shea P and Bidjerano T (2009) Community of inquiry as a theoretical framework to foster “epistemic engagement” and “cognitive presence” in online education, *Computers & Education* 52: 543–553.
- [14] Arbaugh JB and Benbunan-Fich R (2007) Examining the influence of participant interaction modes in web-based learning environments, *Decision Support Systems* 43: 853–865.
- [15] Marks RB, Sibley S and Arbaugh JB (2005) A structural equation model of predictors for effective online learning, *Journal of Management Education* 29: 531–563.
- [16] Williams EA, Duray R and Reddy V (2006). Teamwork orientation, group cohesiveness, and student learning: A study of the use of teams in online distance education, *Journal of Management Education* 30: 592–616.
- [17] Arbaugh JB (2000a) How classroom environment and student engagement affect learning in internet-based MBA courses, *Business Communication Quarterly* 63(4): 9-26.
- [18] Arbaugh JB (2000b) Virtual classroom characteristics and student satisfaction with internet-based MBA courses, *Journal of Management Education* 24: 32-54.