

# Motivating Learners to Participate in Online Discussions: Lessons from Research for Teacher Preparation

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**Abstract:** Online education is used widely across educational sectors for reasons including increased flexibility and improved learning opportunities. Significant investments have been made in provision of systems and software, and much has been written about instructional design and pedagogy in the new environments. Nevertheless, research suggests that the pedagogical potential of online education is not being fully realised and that preparation of instructors for working in the new environment should be a priority. Questions about what should be the content of such preparation arise. This paper responds to some of those questions by reporting on research about the motivation of learners for participating in online discussion and suggesting steps that online instructors may take to enhance motivation and participation for learning.

## Background

Whether identified as *online education*, *e-learning*, *virtual classroom*, or by some related title, there is no doubt that the use of the Internet, and more particularly the World Wide Web, is being widely adopted for teaching and learning in a variety of contexts including schools, universities and the workplace.

A report about online education in the USA (Allen & Seaman, 2004) revealed that in 2004 over 2 million higher education students took at least one online course, that around 90% of public institutions offered online courses, and that essentially all institutions with online offerings expected online enrolments to continue growing. Uptake in vocational and workplace training has also been strong and has been supported by substantial funding for the development of online learning materials (Oliver, 2001). Similar, though less pronounced, trends are evident in school education where, in North America, about 100 virtual schools have delivered courses to tens of thousands of students (Cavanaugh, 2004).

Reasons for the adoption of e-learning vary. In the tertiary sector they may include providing more flexible access to courses, raising the quality of pedagogy, developing faculty and student IT literacy, reducing distribution costs, and keeping up with the competition (OECD, 2005). In the school sector, the establishment of virtual schools or classes is most often directed towards enhancing the educational opportunities available to students isolated by distance or other factors (Cavanaugh, 2004). Some virtual schools, such as the Florida Virtual School, are specialized institutions in which all teaching is online and teachers are specifically prepared for that mode (Johnston, 2004). Others, such as the Queensland Virtual Schooling Service (VSS), may be staffed by teachers who also teach face-to-face in regular schools and who need to switch between modes daily or more often (Kapitzke & Pendergast, 2005; Pendergast & Kapitzke, 2004). In other cases, online learning environments are established to support and extend the work of regular schools (Clark et al., 2005).

The reasons for adopting e-learning almost inevitably influence the strategies and resources mobilized by and institution for its design and delivery. In many institutions change has been driven centrally as part of an overall IT strategy (OECD, 2005) and its direction may owe more to the influence of technology than of pedagogy. That is, technology is acquired and decisions are made later about how it is used for teaching and learning rather than asking

first how teaching and learning should be designed and then about the technologies that might support pedagogy. The frequent focus on technology rather than pedagogy for e-learning and the unfamiliarity of many instructors with new technologies is reflected in professional development and training being frequently directed towards the detail of working with the technology rather than its application to pedagogy.

A strong case can be made that, because communication in e-learning is mediated by computers, e-learning represents a new paradigm for education, distinct from face-to-face education and previous forms of distance education (Downes, 2005b). If this proposition is accepted, then it follows that new approaches to instructional design (Downes, 2005a) and to pedagogy (Kehrwald et al., 2005) are required. Research conducted in the content of the Queensland Virtual Schooling Service found that the VSS had unrealized pedagogical potential, in part because of the problematic nature of the technology provision, but also because of the nature of the VSS as “a transitional learning space, a hybrid of two models: industrial and ‘information age’ education” (Kapitzke & Pendergast, 2005, p. 1648). The transition from one educational paradigm to another will require teachers to be adequately prepared to work in the new environments.

In tertiary education, “the general concept of ‘staff development’ is widely cited as key to mainstreamed and sustainable e-learning” (OECD, 2005, p. 189). There is no reason to assume that it is less true of other sectors. If the Queensland Virtual Schooling Service (Kapitzke & Pendergast, 2005) arrangement of mixing regular classroom teaching and online teaching is indicative of the future of schooling, then it may be advisable that all teacher preparation programs include at least some preparation for teaching online. Many programs already include some exposure to online education through the offering of courses or parts of courses online. Direct experience of the online environment as a learner is valuable in developing a sense of what it means to participate in online education but it is no more a complete solution to preparing students to teach online than 12 years of schooling is an adequate preparation for face-to-face teaching. What is needed is explicit preparation for teaching online.

This need not require separate preparation programs or courses for teaching online. “Good teaching is good teaching” (Ragan, 1999) and principles that apply in face-to-face teaching will apply, with adaptation where necessary, in online teaching and vice-versa. What will be required is to make explicit how the principles of good teaching may be applied using the different affordances of the online learning environment and to determine what principles should be addressed.

McCombs and Vakili (2005) have described a *learner-centered framework for e-learning* and suggested the adoption of the learner-centered psychological principles developed by the APA. These comprise 14 principles arranged in four domains: cognitive and metacognitive factors, motivational and affective factors, developmental and social factors, and individual-differences factors. This paper addresses the preparation of online teachers for dealing with the motivational and affective domain by describing research on the motivation of learners for participation in online discussion and considering its implications for the activity of teachers in online environments.

## **Interaction, Motivation and Social Presence**

### **Interaction**

Interaction is thought to be critical to the learning process (Ertmer & Newby, 1993) and “the learning community is the vehicle through which learning occurs online ... without the support and participation of a learning community, there is no online course” (Palloff & Pratt, 1999, p. 29). In distance education courses, interaction can occur with one or more of content, instructors, and peers (Moore, 1989). Online education incorporates all three types of interaction, but, compared with previous forms of distance education, provides more flexibility in the interactions among participants. “Building ways to meet learner needs for interpersonal relationships and connections” is a key issue in using technology to “support learner-centered principles and practices” (McCombs & Vakili, 2005, p. 1595).

If interaction is critical to learning and the forms of interaction in online education differ appreciably from those in previous forms of distance education, then it is important to understand what might motivate learners to engage most fruitfully in those interactions. The most common form of interaction in online education is the asynchronous discussion group, but engaging students in discussion and maintaining their engagement to enhance learning is a challenge to online course facilitators. This research described in this paper investigated the relationship between

social presence and learners' motivation to participate in online discussion groups with a view to better understanding how to initiate and maintain discussion that promotes learning.

## **Motivation**

Motivation is a multi-faceted construct. Some elements appear to be characteristics of persons but the environment in which a person is operating at a given time apparently affects others. Trait motivation is an enduring predisposition towards learning (Christophel, 1990) which is relatively stable and resistant to situational influences. State motivation can vary or change at any time and describes a student's motivation for a specific class, activity or task (Christophel, 1990). Dornyei (2000) describes it as a "constant (re)appraisal and balancing of the various internal and external influences that the individual is exposed to ... even within the duration of a single course, most learners experience a fluctuation of their enthusiasm/commitment, sometimes on a day-to-day basis" (p. 523). State motivation is most likely to be significant in influencing the level of student participation in online discussion, which has been found to vary throughout the duration of courses (Postle et al., 2003).

Christophel (1990) investigated the relationship between teacher immediacy and student state motivation in college classes. Teacher immediacy was defined as the amount of "perceived physical and/or psychological closeness between people" (Christophel, 1990, p. 325). Examples of immediacy behaviors include smiling, having a relaxed body posture and position, speaking to the students rather than to the chalkboard, using humor, and modulating the voice. The study found significant relationships between learning and both immediacy and motivation. Immediacy was found to modify motivation, which, in turn, led to increased learning. Non-verbal immediacy and state motivation were more highly predictive of learning than either verbal immediacy or trait motivation.

A subsequent study used a test-retest design in which data were collected at two times during a course to determine if state motivation and teacher immediacy changed over the course of a semester (Christophel & Gorman, 1995). The study also collected data about student perceived sources of motivation and demotivation. They found that, although there were no significant differences in the distributions of types of motivator and demotivator across the semester, student motivation was typically perceived as a student owned state but demotivation was perceived as a teacher owned problem. That is, negative behaviors by teachers appeared to have more impact on student demotivation than positive teacher behaviors had on motivation. Christophel and Gorman also found that state motivation levels were modifiable by teacher behavior.

## **Social Presence**

Social presence has been defined as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (Short et al., 1976). Its conceptual similarity to immediacy as defined above is evident and "the genealogy of the construct of social presence can be traced back to Mehrabian's (1969) concept of *immediacy*" (Rourke et al., 1999, para. 4). Rourke et al. note that a point of difference between social presence and teacher immediacy is that social presence is a function of both learners and teachers.

Social presence has been found to be a predictor of learner satisfaction with online learning environments (Gunawardena & Zittle, 1997). Moreover, it is not merely an attribute of the medium. Different users may experience social presence differently and its perception can be modified by participant behaviors. Indicators of social presence include use of personal forms of address, acknowledgement of others, expressions of feeling, paralanguage, humor, social sharing and self disclosure (Polhemus et al., 2001). The similarities, allowing for differences in communication media, to the immediacy behaviors listed previously is apparent.

## **Research Focus**

Compared to previous forms of distance education, online education appears to have inherent advantages in its capacity to support forms of interaction that promote learning. Those advantages can be realized only if learners participate in activities such as online discussions. That participation is, in turn, dependent upon learners being appropriately motivated. Immediacy behaviors have been shown to affect learner motivation in face-to-face classes.

Thus this study was designed to investigate the relationship between social presence, as an online equivalent of immediacy, and motivation for participation in course discussions. Several specific research questions were framed within this broad focus for research. This paper reports selected data and related conclusions from a more extensive study.

## Method

The study adopted a mixed method approach, Sequential Exploratory Strategy (Cresswell, 2003), in which an initial collection of quantitative data is analyzed and qualitative methods are then applied to elaborate on the quantitative results. Quantitative data were collected using self-report measures of social presence and motivation administered using online questionnaires in the third and fourth weeks (T1) and eleventh and twelfth weeks (T2) of the semester. Qualitative data were collected using open questions included in the online questionnaires and by semi-structured interviews conducted by telephone with self-selected volunteers following the second questionnaire administration.

Two instruments were used to assess learner perceptions of social presence. A Social Presence Behaviors Scale was constructed by the second author, based on the 12 social presence indicators identified by Polhemus et al. (2001) with seven additional items derived from the findings of Rourke et al. (1999) and Tu (2000). The second instrument was based on that of Gunawardena and Zittle (1997) with references to the specific system of that study substituted by generic terms such as “online discussions”.

State motivation was measured using a set of 12 bi-polar adjective pairs as developed by Christophel (1990) with the introduction to the scale referring to online discussions rather than to the specific class as in the previous studies (Christophel, 1990; Christophel & Gorman, 1995). Open questions were added to collect data about learner perceptions of motivators and demotivators.

Core questions for the semi-structured interviews were constructed following analysis of the data collected using the questionnaires. They focused on reasons for selecting online study, preferences for interaction with course facilitators and responses to the content of the messages in the discussions. The interviews were recorded and transcribed for analysis.

Analysis of quantitative data was conducted in SPSS. Qualitative analysis was conducted manually by coding and organizing data into emergent themes.

## Results

1218 students enrolled in 12 online courses at a regional Australian university were invited to participate through messages posted in the course discussion areas. Several of the courses were being offered by traditional distance education with the discussions as an optional activity. Hence a high response rate was not anticipated. 95 students completed the first questionnaire and 60 completed the second. Data analysis was confined to the 60 students who responded to both questionnaires. From those, 14 students volunteered to participate in the subsequent interviews.

Comparing perceptions of social presence on the online community measure (Gunawardena & Zittle, 1997) revealed increases for 31% of students and decreases for 50%. A paired-samples *t* test revealed that the change in mean from T1 ( $M=41.0$ ,  $SD=5.9$ ) to T2 ( $M=39.5$ ,  $SD=7.1$ ) was significant with  $t(59)=2.06$ ,  $p=0.04$ . Comparing measures of state motivation at T1 and T2 revealed increases for 48% of students and decreases for 43% but a paired-samples *t* test indicated that the mean value at T1 ( $M=31.9$ ,  $SD=6.7$ ) was not significantly different from the mean at T2 ( $M=30.5$ ,  $SD=6.6$ ),  $t(59)=1.73$ ,  $p=0.09$ . Significant correlations between perceptions of social presence and state motivation were found at both T1 ( $r(58)=0.344$ ,  $p<0.001$ ) and T2 ( $r(58)=0.598$ ,  $p<0.001$ ).

Participants' ratings of the importance of selected social presence behaviors for maintaining desire to participate were relatively stable from T1 to T2. Of 19 behaviors, only 2 showed significant differences on a paired-samples *t* test. “Use of personal experiences and examples” was rated less highly at T2 ( $M=3.65$ ) than at T1 ( $M=3.83$ ). “Disagreement with another's comment” also rated less highly at T2 ( $M=2.67$ ) than at T1 ( $M=3.15$ ). At both T1 and T2, the highest rated behaviors were “use of personal experience and examples”, “feedback from others” and “offers of help from others”. Least important at both T1 and T2 were “casual conversation”, “use of smilies” and “sharing

of personal information". The top six behaviors were consistent at T1 and T2 with the top two reversing in ranked importance. The ranking of these six at T2 was:

1. Feedback from other participants
2. Use of personal experiences and examples
3. Offers of help from other participants
4. Acknowledgements of comments by other participants
5. A sense of community within the course
6. Being personally invited by another participants to respond to a query.

Responses to questions about motivators and demotivators for participation in online discussions were classified and grouped under categories as follows: context (related to factors antecedent to the discussions), structure/format (related to design and implementation of discussions), and social (related to social presence and social learning). At T1 students reported 122 motivators (34% context, 16% structure/format and 50% social) and 109 demotivators (38% context, 28% structure/format and 35% social). At T2, there were 93 motivators (34% context, 15% structure/format and 51% social) and 93 demotivators (41% context, 18% structure/format and 41% social). Chi-squared tests found no significant differences between the patterns of motivators and demotivators at T1 and T2. The most frequently listed motivator was from the social learning category including the following descriptors "learning from others; sharing ideas/information; other points of view; learning from different reactions; learning new ideas cross-culturally; see what others think of your ideas." The most frequently mentioned demotivator referred to "time pressures (course & non-academic); stress."

## **Discussion**

This study confirmed the existence of a relationship between learners' perceptions of social presence and their motivation for participation in online discussions. Significant positive correlations between perceptions of social presence and state motivation were found at both T1 and T2, with a notably stronger correlation at T2. At the same time, the average levels of perceived social presence declined significantly. The use of discussion groups was incidental rather than central to the instructional design in some of the courses from which data were collected and the decline in social presence may be explained by a lack of sustained effort from instructor and students to promote it. Some students commented in interview that it was not until later in the semester that they had recognized the value of the discussions and that their advice to online students would be to participate actively and work to build mutual support.

The highest rated social presence factors were related to course work and the lowest rated were incidental social interactions. This was consistent with the most frequently mentioned motivator which tapped concepts related to social learning, providing further confirmation of the link between social presence and motivation for participation in the discussions.

The non-significant changes in proportions of structure/format motivators and demotivators are probably attributable to students being more familiar with the systems at T2. Although the increased proportion of social demotivators at T2 was not statistically significant, it did parallel a decrease in perceived social presence. Moreover, responses to open questions and interview data indicated that students looked forward to receiving responses to their postings and were more inclined to post again if they received responses.

One persistent theme in the qualitative data was that participation encouraged participation in a form of virtuous circle. Once a minimum level of participation in course discussions is initiated, the momentum is relatively easier to maintain. Perhaps more critically, once students perceive that activity in the discussion forum is low, they are unlikely to visit and post frequently leading to a further decline in activity.

Another persistent theme in the qualitative data was the importance that students placed upon the role of the course facilitator as initiator and maintainer of momentum in discussions. This was most evident in the comments of students who experienced infrequent participation by the course facilitator. Providing the initial impetus and modeling the forms of social presence that maintain momentum is a key to successful facilitation of online courses. This was consistent with the findings of previous research that effort by the instructor to establish immediacy early in the course had lasting benefits (Christophel & Gorman, 1995).

## Implications for Practice in Teacher Education

This study has confirmed that motivation for discussions in online learning environments is affected by perceptions of social presence and that the surest way to promote active participation is to ensure that there is activity in which to participate. The role of the facilitator in initiating and sustaining productive participation is crucial. How then can a teacher initiate and sustain effective online discussions? Based on the data collected in this study, the following suggestions emerge. Facilitators should

- initiate and show enthusiasm for the discussion through their own contributions
- promote the value of discussions by drawing attention to contributions that promote learning
- generate questions to initiate discussion and debate
- moderate discussions or assign student moderators to structure discussion
- provide feedback, encouragement, guidance and support
- maintain direction – keeping discussions on track by periodic summaries and refocusing.

Many online courses include both neophyte and experienced online students. An “orientation program” in the first few days of the online course or immediately before it commences may benefit those who are new to the medium by introducing them to essential skills and making explicit important behavioral norms. Such a package might include information about the importance of discussions for learning and advice on how to participate effectively together with opportunities to practise basic skills in an environment where there are few or no adverse consequences such as risks to grades. A common package for this purpose might be used across multiple courses.

The results from this study suggest that students are typically focused on learning outcomes and are not usually interested in social activity for its own sake in the context of an online course. Course facilitators commonly establish a social discussion area that provides separation between work and “play” and, depending upon the students, may see variable use. Early efforts by facilitators to model preferred social presence behaviours, such as constructive feedback and use of personal experience, will pay dividends in the development of a supportive climate within a course. In larger courses, the formation of smaller groups may ease the strain of dealing with busy discussions and provide natural opportunities for students to contribute by summarizing discussion for the larger group. Strategies such as these can build sufficient activity to provide students with reason to engage.

Above all, facilitators should work to establish their own social presence in the course from the beginning. A focused effort early in the course can “prime the pump” by encouraging students to engage in discussion which, once it reaches a critical mass of activity, may become self-sustaining. If it is necessary to budget facilitator time, then its use early rather than late is likely to return greater benefits to all.

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