Using online discussion in teaching undergraduate psychology

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Introduction

Enthusiastic support for the use of online communication in teaching has led to one of the fastest growing uses of technology in education, particularly in open learning and distance education (Bates, 1995). Many of the applications discussed in the literature rely on asynchronous, text-based computer conferencing, hereafter referred to as *online discussion groups*. This emphasis probably reflects the uptake of a technology with which many are already familiar (based on email), that affords flexibility for people separated by time and place, and is currently more reliable and accessible (compared to, for example, audio or video-conferencing). One aim of the paper is to illustrate how particular models relevant to the use of online discussion in teaching and learning can be used to inform practice in terms of identifying the purpose of the online interaction and the management of this interaction (e.g. the role of the moderator). These issues are discussed in the context of using online discussion in an undergraduate psychology subject, and the second part of the paper reports on the results of an evaluation of the effectiveness of this discussion group as a learning resource for students.

Ways of using online discussion

Student-student and student-teacher interaction is a highly valued part of the university education experience. This value reflects a common theme in contemporary theories of education which view learning as the active process of constructing knowledge (e.g. Duffy and Cunningham, 1996) that is supported by dialogue (e.g. Laurillard, 1993). The need to instigate this dialogue 'online' reflects the global phenomenon of 'flexible learning' that is changing the way universities deliver their courses. The push for flexibility is seen as responding to market needs of mature-aged, life-long learners with work and family commitments (Bates, 1995). This flexibility affords the learner choice about not only place and time, but also in some instances level and timing of entry, curriculum and pace of learning (e.g. Nikolova and Collis, 1998).

There can be, however, a certain degree of tension between wanting to offer flexibility and being able to include dialogue as part of the learning experience. This tension can be usefully viewed in terms of the idea of 'transactional distance', referring to the distance between teacher and learner that is bounded by the degree of structure in the course materials and the opportunity for dialogue (Moore, 1990, cited in McIsaac and Gunawardena, 1996). Mason (1998) proposes a framework for considering online courses, identifying three course models that could also be seen as varying along a continuum of transactional distance. The greatest 'distance' will be found in the type of course which Mason refers to as the 'content + support' model. Here there is a clear division between the course materials that students are working on (typically print-based or web-based) and the availability of support by tutors who are unlikely to have been involved in the development of the content. In this situation, online discussion may be used to support interaction with tutors to discuss issues arising from set learning materials, with relatively little of the students' time spent online. This type of course is likely to offer the most flexibility in terms of time and place of learning. In contrast, other courses place greater emphasis on the role of student-student and student-teacher interaction as part of the curriculum. In Mason's terms, the 'wrap-around' model is based around a select set of resources, with interaction as an important part of encouraging students' interpretation of material. In entirely 'integrated' courses, students work on collaborative projects, and the substance of the course is based on small group work. In both the integrated and wrap-around models, the opportunity for dialogue becomes a core component of the learning activities, and may involve the

small group online discussion. However, in these cases, the flexibility offered by an online discussion forum may be compromised by requirements to spend considerable amounts of time online, and the need for a critical mass of students to be working at the same pace. In sum, depending on how important flexibility is to the students and teachers, and the degree of structure in the learning experience, the use of online discussion to support interaction between teachers and learners will differ. Mason's framework offers one way of assessing how the opportunity for online interaction might best be integrated into a given learning context.

Using online discussion in the undergraduate psychology context

The introduction of online discussion in an undergraduate psychology context was part of a move toward more flexible delivery. One of the challenges was to determine how online discussion could be used as a useful resource in subjects with large enrolments and a diverse student cohort. The second year psychology subject that is the focus of this paper, is taught on-campus (lectures plus laboratories) and by distance education (print-based study materials and laboratory 'weekend school'). Lecture summaries and online audio of lectures (for some components) are available for all students via the Web. The laboratory program includes some face-to-face classes and some flexible laboratory activities which students complete at a time and place of their convenience. It was decided to set up one online discussion group dedicated to answering student questions about the academic content of the subject, in particular the laboratory program. One academic was responsible for replying to student messages as part of their teaching duties. Within this context, the potential for the use of online discussion was seen to be more closely aligned with Mason's (1998) 'content + support' model, described above. The use of the online discussion was seen as likely to be unstructured dialogue between a tutor (academic moderator) and students about the course content, maximising the flexibility in terms of pace and timing of the interaction. In this subject, the flexibility of the environment is important in accommodating both on-campus and distance education students. These groups of students are likely to be working at different paces (e.g. weekly on-campus laboratories versus one weekend school), and to different assessment schedules. The percentage of time spent online by students was seen as a minimal component of the total learning activities, and participation in the online discussion was voluntary and did not contribute to assessment.

Facilitating online discussion

The role of the moderator in the online discussion depends on the purpose and audience of the forum. Given the large enrolment of students in this psychology subject (approximately 600), the use of the online discussion group corresponds to Salmon's (2000) description of a large-scale course community. In this situation, Salmon suggests accessing and responding to the group on a daily basis, and using a team of moderators to facilitate course team involvement. Although desirable, this was not possible in the current context, where one academic was responsible for moderating the forum. However, help and advice from relevant others was sought in response to specific questions (e.g. from the subject coordinator or technical advisers). The level of responsiveness was committed at a response within 24 hours, where possible.

In the psychology context, the use of the online discussion group was aligned with 'content + support' for a large group of students, where the focus of the 'discussion' is likely to be on question and answer between the tutor and student. As such, the likely moderator's role does not fit well with the more typical view of the moderator in educational settings, such as Salmon's (2000) five-step model. This model begins with an access and motivation phase (technical problems and welcome), followed by a phase of encouraging online socialization, before participants begin to focus on information exchange in the third phase. The later stages involve the facilitation of discussion to support knowledge construction and finally reflection as participants take on responsibility for the discussion. In the psychology discussion forum, the initial phase remains important, although there is much less emphasis on online socialization (in fact, providing a separate discussion group for that purpose discourages this). Instead, the main focus is likely to be on information exchange, but this

dialogue will occur between tutor and student rather than between students themselves; and there will be less emphasis on the higher stages of development identified by Salmon.

Despite these differences, the importance of facilitating interaction and providing a comfortable atmosphere for participants remains an essential part of developing an effective learning environment. As more teachers go 'online' there is a steadily increasing number of 'how to' guides for moderating online discussion groups (e.g. Collins and Berge, 1996; Harasim et al., 1995; Paulsen, 1995; Salmon, 2000; as well as various authors at http://www.emoderators.com/). Summarizing these guidelines is beyond the scope of this paper; however, it is worth noting that the recommended techniques respond to a number of unique aspects of using text-based, asynchronous communication. Some of these peculiarities include the absence of non-verbal cues and obvious 'turn-taking', time delays between responses that can contribute to anxiety and feelings of isolation (Feenberg, 1989; McIsaac et al., 1999), the need for an informal 'say-writing' style and specific rules such as 'netiquette'. The moderator guidelines also highlight the importance of training, the 'welcome' message, use of reinforcement and encouragement, and techniques for facilitating student-to-student interaction.

Results and discussion

An evaluation of the discussion group was undertaken at the end of the teaching semester, and included an analysis of the transcript from the online discussion for this subject, and student responses to a short questionnaire. (Note: a similar online discussion group was also part of this subject in the previous year, but this level of evaluation was not conducted on the first offering.) In the last week of teaching, the questionnaire was sent to all distance education students and was administered during the review lecture for on-campus students. The evaluation included questions about access and previous experience with online discussion. If students did access the discussion group, they were asked questions about their perceptions of the usefulness of the forum and the effectiveness of the moderator (not reported here). Most of the questions were structured, closed questions to facilitate analysis. A final question eliciting more open-ended comment was also included. A summary of the response rate to the questionnaire for the different student cohorts is given in Table 1. The overall response rate was 25% (N = 152), which is quite low, and even lower in the areas of distance education and at the rural campus. However, note that lectures were not compulsory and the last week of semester is always a very busy time for students. Also, the return of the questionnaire for distance education students required the extra step of postage.

Student cohort	Accessed the discussion group?		Total responses	Number enrolled
	YES	NO		
Metropolitan campus 1	40 (40%)	60	100 (27%)	368
Metropolitan campus 2	12 (34%)	23	35 (29%)	120
Rural campus	3 (42%)	4	7 (17%)	42
Distance education	7 (70%)	3	10 (13%)	79
Total	**62 (41%)**	**90**	**152 (25%)**	**609**

Table 1. Summary of responses to the question about access to the subject discussion group as a function of total number of responses and the number of students enrolled for each cohort of students

Users of the psychology discussion group

A count of the number of messages in the transcript of the discussion forum showed that a total of 398 messages were posted over 15 weeks of the semester (beginning Week 1). Approximately 13% (N = 81) of students enrolled in the subject posted a message to the discussion group. Almost half of these students (47%) posted only one message, with a further 38% posting between two and four messages. Of the sample that completed the questionnaire, 16% (N = 25) of students reported sending a message to the discussion group (which is slightly more than the 13% of the total number

of students enrolled in the subject who posted to the discussion group). Although the number of students actually posting to the group was relatively small, the responses to the questionnaire showed that, on average, approximately 40% of the sample accessed the discussion group (see Table 1). The percentage was much higher for distance education students (70%), but this is likely to reflect a bias toward students who did use the discussion group finding the subject of the questionnaire more relevant and therefore being more likely to respond. The majority of students who indicated they did access the discussion group nominated their frequency of access at less than 5 times (N = 30); 13 accessed up to 10 times; and 5 students up to 20 times. A small group of 14 students were very frequent users, accessing the group more than 20 times. It is difficult to know how to interpret these results as the data could indicate frequent access over a short period, or regular and ongoing access throughout the semester.

Purpose of the psychology discussion group

Of the total number of messages posted to the discussion group (N = 398), the moderator posted 43% of the messages. An analysis of the content of the discussion forum shows that the moderator generated only seven of the 147 subject threads, and most of these were in the very early stages of the forum. The subject of the student-generated threads was categorized into five topic areas, and the frequency of each topic area was counted. The results indicate that the content of the discussion was primarily about the laboratory assignments (55%), with questions about subject requirements contributing about 25% (e.g. due dates, access to course materials, extension policy, assessment requirements, etc.), questions about the end of semester examination 12%, and other questions 8%.

The high degree of moderator input, and the evidence that the content of the forum was largely student-driven is indicative of the 'content + support' model. The majority of the interaction was question and answer (Q&A) between tutor and student, indicating that the discussion group was functioning primarily as a form on 'online consultation'. Even though the moderator began in the initial stages of the semester to prompt student input by posting messages, this approach changed as the discussion group developed a life of its own and the moderator's role became very much a *re*active one, rather than a *pro*active role. Because of the focus on tutor-student Q&A, the opportunity for student-student interaction was not emphasised, although there were a few occasions where students answered each other's questions. This is one area where the use of the online discussion group in psychology may be extended. However, to take this path would change the nature of the way the discussion forum is being used currently. If the goal becomes to encourage student-student interaction in the sense of Salmon's (2000) model toward developing knowledge construction and reflection, then a more structured, *issue-based* discussion forum may be appropriate. This move would raise issues related to flexibility, moderation, relationship to learning objectives and assessment, size of the group, etc.

Accessing the psychology discussion group

Those students who *did not* access the online discussion group were asked about their reasons for not doing so. Students could choose one or more reasons from a range of alternatives, as well as nominate their own reason. The majority of responses indicated 'not thinking it would help me' (N = 36) as the reason for not accessing the discussion group, and technological problems (e.g. access from home) (N = 25), or 'didn't have time' (N = 25) were also fairly commonly cited. A few students nominated other reasons such as they obtained help from other sources or could not 'be bothered' (N = 16), and seven students indicated they did not know it was available. Students who *did* access the discussion group but did not post a message, were asked to nominate one or more reasons for not participating by selecting from a range of alternatives, or nominating their own reason. The most commonly cited reason for not posting a message was 'did not have a specific question' (N = 27). Some students also responded that they preferred to email (N = 12) or see a tutor (N = 10). Few students indicated technical problems (N = 5) or not being comfortable mailing to the group (N = 4) as the reason for not contributing.

Students were also asked whether they had previous experience with using online discussion groups, and if so, whether this experience was in another university subject. The results were clear: 43 (72%) of users of the psychology discussion group indicated prior experience, and 19 (44%) of these reporting experience in another university subject. Of those who did not access the discussion group only five students (6%) had used an online discussion group before, and in all cases this use had been for another university subject. Taken together, these observations suggest that better informing students about how the online forum may help them, and providing more direct (preferably 'hands-on') training on how to use the technology may increase the number of students accessing the discussion group. However, given the non-compulsory nature of the online 'consultation', even with increased awareness and training, there is likely to remain a proportion of students who do not need to access the discussion group. In sum, these findings highlight the need for a broad approach to the type of support available for students, if possible, to accommodate student preference.

Effectiveness of the psychology discussion group

Users of the discussion group were asked to evaluate the usefulness of the group (see Table 2). Overall, the range of responses suggests students were evaluating the usefulness of the discussion group positively. The most favourable evaluations reflect the most commonly discussed subjects identified in the content analysis (i.e. laboratory assignments and subject requirements), and also help in the subject generally. Although participation in the online discussion was not assessed directly, the emphasis on assessment-related activities suggests the discussion forum may be of indirect benefit to students in this regard. The opportunity to learn from other students' difficulties with the assignments may prompt students to think about issues and areas they may not have covered themselves, leading to improvements in the quality of their work.

Evaluation question	Mean	SD
Overall, the discussion group helped me as a student in this subject.	3.7	1.1
The discussion group provided clarification about subject requirements and access to course material.	3.7	0.9
The discussion group helped me with assignments.	3.8	1.2
The discussion group helped me overcome a sense of studying in 'isolation'.	3.4	1.1
The discussion group provided quick access to announcements from staff.	3.3	1.0

Table 2. Evaluation of the effectiveness of the online discussion group by users indicating the mean and standard deviation of responses on a 1(strongly disagree) to 5 (strongly agree) rating scale

Conclusions

Subject developers who are considering using online discussion groups need to ask three basic questions: who is interacting; for what purpose; and how can this interaction be facilitated and supported. Defining the answers to these questions in relation to the unique characteristics of a particular teaching and learning context will lead to quite varied uses of online discussion. In the context of this undergraduate psychology subject, the use of the online discussion group did serve a useful purpose in the form of tutor-student consultation. The face-to-face corollary of the use of this type of discussion group would typically be individual tutor-student consultation, usually offered during specific hours outside of class time (or by telephone or email for distance education students). In comparison, the online discussion forum offers support to a large group of students (with the learning benefits of exposure to other students' questions and feedback), and the flexibility of access to this consultation at a time and place of convenience to the student. As with any medium, however, individual student preferences and needs will vary, and this is not an argument for preferring online discussion to all other avenues of teacher-student interaction. The intended purpose of the online forum also impacts on the teachers' approach to moderating the discussion. The role of the moderator in this psychology subject was primarily to provide academic support to students in their work on laboratory assignments, and as administrative support to students in their management of the

subject requirements. To be an effective moderator in this environment, the emphasis was on providing timely, useful and positive responses to student contributions. Finally, there were benefits for the teacher, as well as the students, in moderating the online discussion. For example, it was a useful way to gain an overview of student problems in the subject, particularly in relation to assignment-related content and skills. This feedback is valuable in future curriculum development.

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