

Teaching with technology: Using online chat to promote effective in-class discussions

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Much has been written about the role discussions can play in creating an effective learning environment. However, the difficulties in conducting an in-class discussion in which all students have the opportunity to take part in a meaningful way are well recognised. It may be difficult for a student to feel his/her contribution is integral to the discussion if they are one of 20; shy students are rarely heard from, and controversial content may not attract adequate student contributions. Is it possible for the tutor moderating the discussion to determine those students who are finding the concepts under discussion difficult to understand? Does the opinion of the tutor influence the nature of students' responses? In-class discussions have been used in tutorials in School of Education courses at Macquarie University to study the set course readings but the course tutors were not convinced of their effectiveness. As firm believers in the value of discussion, the tutors had to find another way to enable everyone to have a voice. This paper reports on the in-class online chat assessment task currently being offered. These discussions successfully encouraged all students to become involved and the students' understanding and engagement with course material improved dramatically.

Keywords: computer-mediated communication, learning communities, collaborative learning, teaching and learning strategies, technologies for marginalised and disadvantaged

Introduction

For a number of years, in-class discussions have been used in tutorials in the School of Education to study the set course readings; but the course tutors were not convinced of their effectiveness, particularly when it was discovered that in any tutorial group of 20 students, only 4–6 students contributed regularly throughout the class discussion. Some others occasionally made a comment but the remainder (the majority) did not actively participate. Attempts by the tutors to include 'the silent majority' by directing a question specifically to a non-contributor were often met with an embarrassed silence.

Prior to this study, students have been given direction in the unit outline as to which readings were to be discussed and when. Inevitably when the tutorial discussion began, it became obvious to the tutors that some students who were familiar with the readings did not contribute regularly to the class discussion, while other students had either not done the required readings or had given them a cursory read at best. Clearly this had a serious effect on the quality of the ensuing tutorial discussion. At the end of the unit when the students' examination papers were marked, it emerged that the students had read these articles in preparation for the exam, understood their messages and effectively engaged with them. However, their level of engagement and understanding of both the readings and the course lectures could have been improved had they actively discussed the issues in tutorials throughout the course.

It was decided that assessing the tutorial discussions might encourage students to study the readings as the course progressed, rather than just before the examination period at the end of the course. The students would then have the benefit of this knowledge throughout the course and enhance their understanding of the course lectures. The difficulty of assessing in-class discussion was solved when the tutors became aware of new software being trialled at the university which recorded online discussion. Hence students' contributions could be reviewed at any time and formally assessed, if required.

The success of the first online discussion was immediate and significant. Every student contributed to the discussion and was able to discuss the issues raised with confidence and in depth. When the course tutors commented on the students' enthusiasm for the online discussion activity to the LAMS@Macquarie team who were overseeing the project (<http://www.melcoe.mq.edu.au/projects/LAMS@MQ/index.htm>), the team confirmed this observation was not an isolated incident: some of the teachers involved in the LAMS

school trials were now incorporating synchronous chat into their own classroom discussions. These classroom teachers believed the online chat overcame many students' reluctance to speak up in class, avoided the discussion being dominated by one or two of their classmates, could accommodate simultaneous small groups and moved the discussion to a more student-centred activity.

The role of discussion in effective learning – the literature

There is a great deal of evidence to support the idea that good quality discussions can help students learn. In fact, discussion is the basis of social learning theory. Vygotsky (1978) emphasises students learn from each other's scholarship, skills and experiences and stresses that learning is more than the accumulation of facts: it includes social interaction and socially constructed discourse (McLoughlin & Oliver, 1998). Speech organises, unifies and integrates many disparate aspects of student behaviour such as perception, memory and problem solving (Vygotsky, 1978). Debates with their peers serve to effectively highlight alternatives to the student's own point of view. As the resulting conflicts of opinion demand resolution, the students involved are prompted toward higher-level solutions (Piaget, 1932). Discussion exposes students to multiple perspectives and encourages them to build their own knowledge of the subject matter (Larson, 2000). The result is a more in-depth learning about a topic, and it helps students understand the subject matter more clearly because the process of discussion clarifies their thinking.

Wittgenstein believed that "understanding grows as discussion grows" (Wittgenstein, as quoted in Rhees, 1998) and that students develop and clarify ideas in discussion. We are social creatures who simply enjoy talking to each other and when it comes to learning, discussion can be a very valuable tool (Jonassen, 1999). When students own the knowledge, rather than that ownership resting with the tutor or the textbook, they become committed to building knowledge, rather than merely receiving and reprocessing it. It is clear that discussion-based teaching methods are very effective for obtaining higher-order thinking in students because the students are actively engaged in the process. The creation of a learning environment that enables students to hear a variety of points of view and express and explore their own views, supports them in formulating their own opinions and allows them to apply their knowledge to problem-solving (Brookfield & Preskill, 1999).

Like the tutors in the study, Kanuka & Anderson (1998) believe online discussion tools can be used to advantage with discussions. The online discussion forum represents a learning environment in which group collaboration is practiced in a technologically mediated environment. McLoughlin & Luca (2000) agree collaborative learning tools offer some unique opportunities both for peer and electronic support for higher-order thinking, and online forums and provide opportunities for student dialogue that stimulate interchange of ideas and reflective processes. However, any euphoria about the effectiveness discussions should be tempered by the body of research reporting online discussions typically suffer from low participation rates, varying degrees of disappointing collaboration and low learning performances in terms of quality of learning and student satisfaction in online environments (Kreijns, Kirschner & Jochems, 2002; Ho, 2002; Laurillard, 2002; Garrison, Anderson & Archer, 2000; Kanuka & Anderson, 1998). These reports of disappointing outcomes when using online discussions contrast markedly with this study's findings.

Background

Three online discussions were implemented in the course: two of which were to become part of the assessment schedule. A feature of the online discussion trial was that it allowed simultaneous small group discussions. This provided students with a much greater opportunity to contribute than the 20:1 ratio of previous in-class discussions. With five group discussions operating at once, the tutor's normal role of discussion director was gone. Although the software allows the tutor to monitor what each group is doing via a computer screen, the 'mantle of control' is passed to the students themselves.

The decision as to whether to have synchronous or asynchronous online discussions arose. Whereas an asynchronous environment would encourage higher-order thinking, giving our students time to reflect and consider before responding, a synchronous discussion had the advantage of spontaneity and immediacy of response that also held appeal to the tutors. A combination of both was trialled: An initial synchronous discussion in a computer laboratory where students could have their first experience of the software under

the guidance of a tutor; followed some weeks later with an asynchronous discussion over run over 10 days, and finally a synchronous discussion held under exam conditions at the end of the course.

Method

To determine whether the quality of in-class discussions could be improved by introducing assessment, a pilot study was begun in 2005, with 94 second year Education students (28 male and 66 female). One in-class discussion was recorded of each group and the transcripts compared with transcripts of one asynchronous on-line discussion and one synchronous in-class online discussion of each group. Each student's participation to the discussions was analysed for the number of contributions, evidence of higher-order thinking, substantive communication and off-task claims. These results were then compared for each of the discussions. Three focus groups were also arranged to discuss the students' experience.

Discussion

It was the quality of the online discussions that convinced the tutors that this trial was a resounding success. The level of engagement with the readings and their enthusiasm for the topics when they were confident of the material was inspiring. A growth in the students' level of understanding was often witnessed during a discussion and many times a student's firm stance on a topic swayed after a healthy online debate with fellow students. Unsurprisingly, the quality and length of the postings were greater in the asynchronous discussions, but these lacked the coherence and fervent argument of the synchronous discussions. Both were successful in their own way and in the upcoming semester both will be used again. When students' reflected on their own learning, their responses to the online discussions were mixed. In one of the synchronous discussions, a student wrote:

Intensive writing is really good for learning ... how much are we all writing at the moment, synthesising thoughts and having a great intensive interactive discussion!!! This is a good example, we have time to listen to each other and respond with hopefully well considered comments.

However, in the same session, another student wrote:

I think this forum just goes to show how superficial online learning can be. It's poisoning my experience of this assessment.

The latter student also stated later, in a focus group, she found the whole exercise quite confronting – she was not comfortable with technology and yet her responses were of a very high standard and she did well in the assignment.

The students in the trial ranged in age from 17 to 68 years and each student brought with them a variety of academic learning, life experience and culture. In face-to-face class discussions, the student's identity often determined how their contributions were interpreted by other students. The software used allowed the tutors to see each student's identity throughout the discussion but their names were not visible to other discussion group members. When comments simply appeared as text on a screen, discussion contributions were taken on their own merit. The resultant anonymity of the online chat was particularly helpful in encouraging an acceptance of all students' views. The online Chat also gave our quiet and shy students added confidence. As one student commented:

Thank you for giving me a voice in this course. It is so great to have my thoughts heard. I am usually the quiet one sitting at the back of the class. By the time I have thought about what I want to say, someone else has already said it, or the conversation has moved on. Thanks again for giving the silent majority a go.

With the emphasis on verbal face-to-face discussion in this course in previous years, the tutors had an on-going concern that students of non-English speaking backgrounds (NESB) were being disadvantaged. The move to written discussions made participation in class discussion easier for some of these students:

I do not speak English well. I learnt English from a book. But in this class I can write what I think without worrying about how I sound.

Clearly, in-class discussions will always be more difficult for NESB students regardless of the medium, but many of these students performed more confidently when they could read other student's comments and take their time to reply.

Conclusion

The online discussion assessments held in this course led to a deeper understanding of the set readings and improved engagement with their content. Their use overcame many students' reluctance to join in the classroom discussions and avoided them being dominated by a small number of their peers. The use of the technology meant the discussion could accommodate simultaneous small groups and moved the discussion to a more student-centred activity. The quality of this cohort's work throughout the course confirmed the use of the online discussions facilitated student understanding and engagement of the course material.

There are several factors that may explain this result. The tasks were assessable, which is always a powerful motivator with students; the software used for the online discussions was easy for students to use and most were keen to take part in the online class discussions (novelty value?); students did not need to be assertive to contribute to the discussion; it was more obvious in the small group environment when students were not familiar with the readings and the small groups gave students ample opportunity to speak up. Further research is planned to determine how each of these factors may have influenced these in-class online discussions.

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