

OVERCOMING BARRIERS TO CREATING ON-LINE COMMUNITIES

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Abstract

In this paper I compare the engagement of mature-age students (the teaching staff of our university) in face to face and on-line discussion options of the graduate certificate in higher education, and assess the reasons behind both participation and the lack of it. I investigate the relevance of factors previously identified for undergraduate and postgraduate classes to the class of mature-age professionals in the Graduate Certificate and discuss new approaches to overcoming identified barriers to participation in electronically-mediated communication.

Key words

Electronically-mediated communication; web-based discussion; on-line teaching and learning; student reaction to

Introduction

Context

As we approach the 21st Century new communication technologies are being increasingly adopted throughout the higher education sector. We see this reflected in new policies, appointments, educational resources and ways of teaching and learning. In teaching and learning there are both practical and educational reasons for the use of communication technologies. On-line technologies were introduced in the Graduate Certificate in Education (Higher Education) at QUT for both these reasons in 1998. This course is a mixture of on-line course materials, electronically mediated discussions, video, audio and face to face learning experiences.

In our situation there are a variety of practical reasons for going on-line. One of the main reasons is to develop the competence and confidence of staff with on-line teaching and learning before or as they are introducing on-line aspects to their own courses and units. Another important reason for us was to make the course (materials and interaction with the materials, fellow students and instructor(s)) more accessible in both time and space.

The challenge has been to accommodate the diversity within our mature-age participant and coordinator group. Our participants are full- and part-time teaching staff (both general and academic) across all disciplines of study. The group varies in age and academic status and is multicultural. Although everyone in the class has access to a computer, the currency of the models varies greatly as do the participants' technological literacy skills. In the transition from face to face to on-line teaching and

learning in the Graduate Certificate, the demand for face to face classes has been so great that we have not been able to offer the course in purely on-line mode.

Online communities

Email communities of learners

In 1997, Crook and Webster reported on student discussion as a means of learning among undergraduate students. Crook and Light (cited by Crook and Webster, 1997) found that undergraduate students value peer discussion as a means of assisting their learning, but most of this discussion is serendipitous rather than planned. Crook and Webster (*op cit*) found that although students have access to electronically mediated communication via e-mail, they tend not to use it for academic purposes. Undergraduate students tend not to use e-mail to contact each other nor their instructors. They suggest that “the asynchronous exchange of discreet messages is not a convincing model of conversational discourse” and suggest that carefully constructed web-based materials may better facilitate the construction of a shared understanding among a community of learners.

Web-based communities of learners

A team of both technical support and instructors assembled to develop the Web site. The teaching team found the initial and on-going technical support invaluable. We still have technical support to assist with problems arising with the site, and changes we want to make on the basis of the shared experiences of the pioneers of Web-based teaching and learning. I joined the team after the first year with little experience of on-line teaching and learning.

Methods

During the semester, I informed Unit participants that I would initiate an action research project on the use of the electronic discussion forum and I would like them to participate in the project. This project was designed with the aim of overcoming barriers to on-line communication as a way to promote learning. The project involved myself, the participants and will include a colleague who also uses the discussion forum now that he has returned from study leave. To date my colleague has been a source of evidence rather than a participant in the project. Unit participants have participated in the action research to varying degrees, participating in the discussions, making suggestions, and answering survey questions.

In addition to my reflections on the survey and the participants’ reflections on the discussion forum, I analysed participation in the on-line and face to face discussions. I examined both the quality and quantity of the discussions. In analysing the quantity of the on-line discussion, I counted the number of discussion threads initiated and replied to by each participant. I also made a judgement about the quality of the discussion based on recounting experience, reference to and integration with the

literature, whether the discussion was reflective and whether the discussion was initiated or a reply.

I analysed participation in the face to face meetings by attendance, quantity and a subjective global judgement of the quality of the participation based on the same factors as the on-line discussion.

Results and discussion

Refinements based on first year of experience

In the first year the on-line course was offered, our team predicted and planned for barriers associated with the change to on-line teaching. The perceived barriers were social and technical — the possible less personal nature of communication and the lack of technical skills. As a result of the experience teaching this course for the first time, we now offer a two-stage orientation programme to address the on-line aspects of the course.

Orientation to on-line learning

Each unit in our on-line graduate certificate has a two-stage orientation program. The first stage gives practice with technical skills, develops a social framework for on-line communication and gives an overview of the unit. The second stage reviews and reinforces the technical and social skills for those who enrolled at the first intake and introduces these to late enrollers.

Stage 1

The first stage has three parts. The first part facilitates participants meeting each other so that when we meet on-line we know whom we are talking to. For this “getting to know each other”, we meet face to face, but as we take external enrolments, this face to face meeting will include videoconferencing for remote students. In my unit, I ask participants to work with someone they have not met before. They introduce themselves and interview each other, then we reform a group so each participant can introduce their colleague to the class. My suggested interview schedule covers:

- Participants’ teaching experience/what they’re teaching this semester
- Why they’re doing the unit
- What they hope to get out of it
- What they will bring to the unit
- What are their apprehensions about the unit
- Something interesting about themselves

The second part of the first stage facilitates computer literacy and social skills. Our technical support staff continue to assist in the development of technical literacy skills. This technical assistance is essential as there are inevitable hitches with the on-line system that requires immediate, expert knowledge. Technical and teaching staff facilitate this session in a computer laboratory classroom where we have at least one computer for each one or two participants. We ensure participants can log onto the system as a student, can access the web site and can redirect their student e-mail to

their staff e-mail address. We then give participants the opportunity to become familiar with entering the electronically mediated discussion forum, sending and editing messages to each other. For the threaded discussion, which I will discuss in more detail in this paper, we have a test site where participants can practice their skills (see Fig. 1).

Figure 1: Discussion forum showing the discussion threads including the Test Area (fourth thread from the top)

We also have a group profile page (see Fig. 2) where participants are encouraged to enter their own or their colleague's details from the interview. Participants who missed the first few classes because of unavoidable commitments found it difficult to put faces to names. Next time I teach this Unit, I will ask participants to lodge their photograph with their profile. Some people express reluctance to post their photograph on the Web, but our Web site has security access and I anticipate that most participants will post their photo.

Figure 2: Home page for *The Reflective Practitioner* showing the structure of the Course Web site designed to enhance navigation ease. Note the three sections: Coursework, Collaboration, and Communication.

Once participants are comfortable with the technical side of the on-line learning, we spend time discussing and developing our social skills or what one of our coordinators, Pat Kelly, termed *netiquette*. The *netiquette* we developed is posted on the Unit's Notices page for reference.

NETIQUETTE

In developing a netiquette for my class we discuss issues of how we would and wouldn't like to be treated on-line. We discuss the issues of boundaries (or lack of them) associated with anonymity on web-based discussion, and recognise that we will not be anonymous. My class developed the following ground rules (Table 1).

Table 1: *Netiquette* — guidelines for social skills to facilitate electronic communication among communities of on-line learners

What we'd like	What we'd find upsetting or intimidating
<ul style="list-style-type: none"> • Honesty 	<ul style="list-style-type: none"> • bad language (swearing)
<ul style="list-style-type: none"> • Respect each other's opinions 	<ul style="list-style-type: none"> • high-falutin or erudite language (<i>ie</i> keep it simple).
<ul style="list-style-type: none"> • Tolerance (especially with respect to spelling) 	
<ul style="list-style-type: none"> • Friendliness (<i>eg</i> use of salutations) 	
<ul style="list-style-type: none"> • Ownership of your own "stuff" 	
<ul style="list-style-type: none"> • Feedback on religious, cultural and emotional gaffs 	

Whilst we agreed it was helpful to use language that we could all understand, we also recognised a need to learn the jargon of education and higher education that is

unfamiliar to most of the group. To assist us in this we agreed to start a glossary which we all can add to. The glossary is a thread of the Discussion Forum and all participants are free to add terms which they want to clarify and develop a working comprehension of.

Stage 2

A few weeks later when participants have had the opportunity to practice their skills, we run a follow up session where we welcome late enrollers to the group and give participants an opportunity to develop and refine their computer literacy skills.

In tracking the electronic discussion over the weeks following Stage 2 Orientation, I found that some participants had not grasped the subtleties of the discussion forum software package. This created difficulties in managing the structure and format of the discussion as the number of threads grew. Participants found the disorganised appearance of the discussion threads off-putting. The sheer number of threads and lack of organisation among the threads left participants wondering where to start reading. This was compounded by the fact that most participants only had a short time frame which they devoted to the discussion forum.

Managing the discussion forum

I deliberated about participating in the discussion forum or leaving it to participants. I took a mixed approach (which could be regarded by some as caving in!). Initially I left the development of the discussion on the forum to the class but after two weeks I thought the discussion was faltering and justified my participation on the basis that if I were in a face to face setting and the discussion stopped, I would step in with a question or a comment.

Was two weeks long enough to let the forum go? Again I had anticipated that participants would, and in the introductory classes, I tried to encourage participants to work on their modules on a weekly basis. The reality was that the monthly meetings were an impetus to continue the discussion from the class onto the forum. Were participants working on a weekly basis? Halfway through the term, participants responded to a questionnaire indicating that on average they were studying for 6.5 of the recommended 10 hours for a 12 credit point Unit. Was that because they were very bright or was there no more time to commit to study? My impression is that it was a mixture of both. The majority indicated that they thought they were well prepared but the discussion was neither as reflective nor referencing the literature to the extent that I had anticipated. My tactic was to prompt the discussion with questions aimed at assisting reflection and referencing the literature.

Some participants sent e-mail to me direct rather than posting a message on the discussion forum. Whenever I regarded the issue to have broader relevance, I depersonalised the message and posted it as either a Notice or a discussion thread on the Web site. I think this reduced the amount of e-mail I received from participants and promoted collegiality.

Structuring the discussion forum

I deliberated about establishing a structure for the forum from Day 1 and decided against it as I didn't want to direct the forum. Perhaps naively, I had anticipated that participants would structure the discussion by topic as they posted their comments and reflections. When the structure of the forum started to become unwelcoming, (judged by participants comments) I established a structure that would order the discussion by the modules and activities of the unit. Technical staff then rearranged the forum (see Fig. 1). I would have liked to structure it in a similar fashion to a Table of Contents page for a book, but, as written, the software didn't allow for that. The items are ordered by date of last entry.

I resolved that the next time I run the Unit, I will structure the Web site on a weekly basis, and that the Stage 2 Orientation, will use standard exercises for the group to do in class time to ensure participants understand the practicalities of the subtleties of the discussion forum software.

Overcoming the change itself

After a tea break in the class that was held midway through the term, I returned to the classroom to find a very animated discussion about the discussion forum. I found it interesting that no one had raised the issue in class but as soon as I was out of the room, the discussion was generated. I also found it interesting that in that regard, seasoned academics behave in much the same way as our other students.

We spent a few minutes discussing the issues before moving back to the class's agenda. In those few minutes, I thought that starting a thread about the discussion forum on the discussion forum (meta-discussion) would be a good way to enable the participants to express their emotional reactions to the forum. I reasoned that it would perhaps free them to participate in a greater way — in much the same way as in problem-based learning the first task (Sadlo, 1997) is to make explicit one's emotional reactions to the trigger(s). I announced that I would initiate a thread about the discussion forum.

The response was overwhelming. In that period, there was more discussion about the discussion forum (24 threads) than any other thread! Although the effect could be confounded by the assessment items (subject matter of Modules 3 and 4), after the meta-discussion was started, there was greater participation in the other threads and Module 8 on presentation skills which was started after the meta-discussion, had the largest number of threads of any of the modules (Table 2). I resolved that the meta-discussion will be generated earlier in the semester in the next offering.

Table 2: Activity on the electronic discussion forum before and after the discussion of the discussion forum (meta-discussion)

	Number of threads initiated before the meta-	Number of threads initiated after the meta-discussion

	discussion	
Module 1: Reflective Practice	10	0
Module 2: Learning Contracts	1	0
Module 3: Teaching Portfolios	4	13
Module 4: Action Research	14	14
Module 5: Assessment	2	5
Module 6: Evaluation	0	5
Module 7: Active Learning	0	11
Module 8: Presentation Skills (includes thread entitled May18th Class)	0	33
TOTAL	31	81

Comparison of participation in face to face and electronically mediated class activities

Contrary to the perception that that students who participate in class do not participate in electronically mediated discussions and those who are shy have the opportunity to come forward in a less threatening environment of the electronic discussion, my experience indicated the opposite. Participants who attended and were active in the face to face discussion participated in the on-line aspects of the course.

The purpose of the first two face to face classes was developing and reinforcing the necessary technical and social skills for teaching and learning in an on-line environment. Posting personal profiles on the Web site was an exercise designed to fulfil both the objectives. I found that participants who attended the first three classes posted their profiles on the Web site. Three of the four participants who didn't post their profile were late enrolments.

In order to promote collaborative learning, participants were encouraged to post their learning contracts on the Web site. My data indicate that collaborators collaborate irrespective of the environment. The participants who attended more than 50% of classes posted their learning contracts and/or action research project on the Web site.

Since all students do not participate in face to face discussion, Herrman (1999) believes it is a fallacy to assume that all students will want to participate in an on-line discussion. My data indicated that participants who attended more than 50% of classes posted five or more threads on the electronic discussion. With the exception of one participant who lacked suitable hardware, the two participants who did not participate in the on-line discussion forum attended fewer classes than the rest of the group. These participants indicated that time was the limiting factor.

Participant reaction to electronically mediated discussion

One person thought web-based discussion is ‘fine in theory, but in practice ...’. Time was the most frequently cited barrier (35%) to participation in the on-line discussion. Participants indicated finding time in one’s schedule was an issue. Also mentioned were the time it takes to type messages and the time it takes to read and catch up on what has been said. Whilst one participant commented that on-line discussion is an inefficient way to converse, others commented that it was a great way to converse between classes and continue discussions that had been started in the class. Short postings were seen as enhancing interaction.

Access was an issue for two participants. For one person the poor access was a complete barrier while for the other it reduced the number of entries.

The impersonality of the screen associated with this form of communication was perceived to be a barrier for some.

One participant made 36 entries to the discussion forum and commented that s/he uses it as a way to learn. This person had experience with electronically mediated discussion in other units of the course and had become more skilled and confident with the technology with repeated exposure. This person commented ‘It forces me to know what I am talking about before I post my message’. Another participant commented that they didn’t like to appear ignorant in written form as it could be remembered but they thought that conversation is forgotten so it doesn’t matter what you say.

Participants viewed Web-based discussion as adding diversity to the ways in which we communicate and that this form would not make other forms of communication redundant. It was viewed as being a useful tool for some learners but was acknowledged as not being suitable to all. A landscape architect thought it would be unappealing to visual learners. Participation in the on-line discussion was viewed as a valuable first hand experience of what ‘our students will be exposed to’.

Analysis of the face to face and Web-based discussion forum discussions indicated that participants were comfortable with discussing their experiences in either mode. The web-based discussion promoted discussion of the literature and reflection or questioning assumptions (see Table 3). I believe the asynchronicity of the forum contributed to this effect and is a useful tool for enhancing reflection in this Unit.

Table 3: Ways in which asynchronous web-based discussion enhanced the conversation (number of students contributing to the discussion by relating experience, discussion of the literature and reflecting in the FTF=face to face, WebDF= web-based discussion forum)

	Experience	Literature	Reflection/question assumption
FTF<Web DF		4	5
FTF>Web DF			
FTF=Web DF	11	3	5

TOTAL number of students participating in both forms of discussion	12	12	12
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Summary and conclusions

In the development of our on-line graduate certificate course, our team identified issues similar to those identified by Solloway and Harris (1999), and Hara and Kling(1999) for creating on-line communities of learners among postgraduate students. Issues that needed to be addressed were in the areas of Course Planning and Development, Course Orientation, and Course Instruction and Management.

In Course Planning and Development, Solloway and Harris's recommended establishing a team for delivering on-line courses including a teacher assistant, technical support and instructor and include the technical support person in the planning of the course. We found the technical assistance invaluable and would highly recommend including such assistance in any development and implementation of on-line teaching and learning experiences. Our design team also found access to the Web site (Hara and Kling, 1999) to be an issue. Our team used simple graphics in the design of the Web site to enable access for participants who had outdated hardware.

Solloway and Harris (1999) recommended using an on-line application that provides a variety of ways in which students can communicate with each other. Whilst I think it is useful to have the diversity of modes of discussion available, I would not recommend using *all* approaches without consideration of technical skills. For example, I decided not to use synchronous on-line discussion which I anticipated would be limited by typing speed as we met face to face. I recommend using modes that will enhance the kinds of discussion that you want to promote in the subject area being taught and learnt. For example, in my Unit, the asynchronous web-based discussion appeared to enhance integration of the literature and reflections.

Solloway and Harris recommended a Course Orientation covering:

- familiarisation with software and course outline (also including contact details, expectations, etc) and providing support strategies and resources including personnel
- needs analysis of hardware access and technical skills, and
- on-line self-directed tutorial that enables students to use the site.

Our experience in the Graduate Certificate indicates that the development of social skills for the on-line setting is necessary. We have each developed a strategy suited to our context for enhancing communication through an impersonal medium. This socialisation for overcoming barriers to communication is more important to some students than others.

Solloway and Harris (1999) identified important Course Instruction and Management issues which I also found to be important. These included:

- encouraging dialogue between participants and between participants and teachers
- scheduling time to deal with student queries on-line on a daily basis, and
- encouraging student collaboration through group activities such as projects and discussion.

I used activities and posed questions to promote discussion *via* the Web-based forum with some success. The introduction of Web-based discussion did not appear to promote participation among quieter members of the class as participants who were active, were active in both face to face and Web-based discussions. I realised that I needed other strategies to engage students in the experience to the extent that I thought indicated that they were learning. I found that the discussion forum appeared to enhance the quality of the discussion among participants and that generating a web-based discussion about the discussion forum appeared to enhance the participation in the discussion forum itself.

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