

# Electronic Support for Learning at Postgraduate Level

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## ABSTRACT

When the postgraduate computing program at UNITEC was developed it was considered essential that it be accessible to students in full time employment. Consequently all classes are held at weekends and Blackboard (in particular its discussion board facility) is used to facilitate student-student and student-teacher interactions between classes. This paper analyses the contributions to the discussion board for one of the courses. Two classes took the course in 2000 and the quantity and nature of their postings were significantly different.

## 1. INTRODUCTION

The course under review is called The Impact of Information Technology on Society: it explores past, present and future impacts and ethical issues. It was anticipated that few students would have much experience of exploring social issues, which made it very important that they have plenty of opportunity to discuss ideas and situations, both in class and between classes. For that reason, the lecturers reminded the

students at all class meetings to use the discussion board to supplement face-to-face interactions. The course ran twice in 2000 (once in each semester) with very different student groups. In the first semester class, all 16 students had significant practical computing experience (from six to 20 years) and all but four had English as their first language. The second semester class consisted of 32 students whose first language is not English. Not many had more than three years practical computing experience.

## 2. THE DISCUSSION BOARD IN SEMESTER 1

Over the 20 weeks of the course active participation in the discussion board varied greatly (we can only speculate about the activities of "lurkers" - students who followed the discussions, but did not contribute). Altogether 172 student contributions were made (an average of 11 per student). Some contributions were very brief (for example, asking for a definition, giving a URL or acknowledging a response) and some were quite extensive (for example, arguing a case or recounting an anecdote). The most active contributors made 38 and 25 postings respectively. Only one student did not contribute at all. A further 14

postings were made by the lecturer. It is interesting to review the number of times students accessed the discussion board during the semester (without necessarily making contributions). The total number of accesses was 5,645, the most from a single student being 1,173 and the least being three. There appears to be some correlation between accessing and posting, however it is difficult to draw any definite conclusions and certainly the student with the most accesses did not contribute significantly.

### 3. THE DISCUSSION BOARD IN SEMESTER 2

Altogether 128 student contributions were made (an average of four per student). The two most active contributors made 13 postings each and three students did not contribute at all. A further 26 postings were made by the lecturer. When compared to the first semester course, the student contributions tended to be briefer (which might reflect the language skills of the students) and the lecturer tended to respond twice as often. Although the semester 2 class was double the size of the earlier group, there were fewer accesses to the discussion board area with only 4,805. As average postings were lower for this semester, so were accesses to the discussion board, with only 25% of students accessing more than 200 times and 50% accessing less than 100 times.

### 4. NATURE OF THE POSTINGS

Having discussed the background of the two groups and reviewed the data regarding the number and frequency of access and postings, we will now examine the nature of the postings in more detail. The transcripts for both semester groups were analyzed and coded using Nud\*ist qualitative analysis software. Through this analysis three distinct themes emerged in relation to the nature of the postings. These were the level of engagement of students in their posting, the focus on technological versus societal issues and the qualities of the posting itself. These three themes are expanded on below.

Engagement describes the posting in relation to whether it is initiating a new conversation, engaging other students (using such techniques as open

questions, eliciting other opinions or being affirming) or is remote (in that it is merely a stated opinion of one person and makes no attempt to create dialogue). A “getting started” topic was created in which students were asked to post information on their own background, history of IT usage, reasons for taking 801 and other relevant comments. In the first semester the majority of students posting both initial introductions and follow up comments did so in a way that attempted to engage their fellow students, for example:

- “Looking forward to hearing everyone’s input to this fascinating area!”
- “I am looking forward to learning more about this timely topic and meeting you all in the exciting discussion.”
- “Look forward to meeting some new faces in the field.”
- “I thoroughly enjoyed meeting you all on the weekend.”

However, whilst this group maintained a distinctly polite and convivial etiquette they were equally comfortable challenging and questioning each other:

- “I agree that the value of the group is in the sharing of knowledge and other perspectives. Does this mean I think a group assignment is a good idea? Not sure.”

For the second semester group, this forum was used quite literally as a way of introducing themselves; no discussions took place other than a very occasional affirmative response to a posting or a reply to a question, which was provided by the facilitator. The postings were more likely to be remote, providing information on self rather than acknowledgement of the group. One exception was that students of Chinese origin showed a greater tendency to attempt engagement. The semester one group were more likely to discuss their societal interests as much or more than their technological interests, or at least to ground their knowledge and background in a societal position. This did not occur at all for the second group, their focus being entirely on their technological background.

Given that the title of the course was the Impact of

Technology on Society, it proved interesting to review the content of the topic that focused on selecting a subject for Assignment 2 (the potential impact of an emerging technology on a sector of society). As we have already observed, the first group were much more likely to be interested in societal issues than the second group and this trend continued through this topic. Semester one students were more likely to place equal or greater focus on the sector of society than on the technology itself:

- “I think this will make an interesting study of learning styles, the politics of teaching (ie, do the teachers feel threatened by the new technology?).”
- “I’m thinking about doing something to do with the visual arts. Not sure what technology to look at though the web and multimedia are obvious choices.”
- “This time - to look at the corporate agency and the corporate client.”
- “Business to Business is the obvious real impact of XML.”
- “Libraries are one of the sectors likely to be affected by XML.”

For the second semester group, the technology was paramount with little or no reference made to the sector of society to be studied:

- “I want to work on WAP for the second assignment.”
- “I’m wondering if this startup can be my topic for my assignment.”
- “I am planning to write about the new mobile phone standard UMTS which provides a broad bandwidth for mobile communication and offers opportunities for lots of new applications.”
- “The topic will be MP3.”

Postings for the Getting Started and Assignment 2 topics for both semesters were reviewed and the nature of the conversations was analyzed, allowing a number of categories describing the qualities of the postings to emerge from the data. This has led us to categorize postings as being one or more of the following:

**Debating** Postings that raised questions or challenged previous posted comments

or assumptions.

**Facilitating** Postings that facilitate the direction, structure and nature of the discussion.

**Participating** Postings that supported positions or opinions already stated or provided information requested (such as assignment topics) but which did not extend the scope or level of discussion.

**Questioning** Postings that raised questions about the course processes and procedures or asked for further information on a specific subject.

**Ranting** Postings which did not extend the conversation but appeared to be the author ventilating (often at length).

**Resourcing** Postings that provided resources useful for the group as a whole, sometimes in response to a specific question.

The most obvious difference between the two groups was the necessity felt by the course facilitator to provide guidance and facilitation via the discussion board. In semester one, the facilitator posted five comments in the getting started topic and three in the Assignment 2 topic, including the opening postings. These comments were just as likely to be participatory as facilitatory. In the second semester, the lecturer posted four comments to the getting started topic but fifteen to Assignment 2. These comments were much more likely to be offering students guidance on their assignment topics or answering specific questions related to process.

Whilst both groups were participatory, the first group were much more inclined to debate and posted considerably more resources than the second. The first group appeared much more informal and at ease with the medium, their postings appearing far more conversational than those of the second group. This could relate to a number of factors, including the experience and background of the main participants in the first group, communication difficulties for second language students as a limiting factor for the second group, and the cultural background of the students.

A much greater number of postings for the second

group were by way of making statements (this is who I am, this is what I will study) and only one topic appeared to engage the second group of students in debate. This related to a discussion of what was an acceptable subject (in terms of defining “emerging technologies”) rather than a debate on the technology itself and resulted from one student challenging the facilitator, having been told that his subject was not sufficiently new. Second semester students were much more likely to ask questions of the lecturer in order to clarify requirements or to understand the process. The only discussion of this nature for the first group was related to group work and was aimed as much at the group as the facilitator (this topic would not have been relevant for second semester students whose induction process included greater emphasis on group work).

Ranting was not a common occurrence and did not occur at all for the second group. Only one student in the first semester posted messages that could be considered as personal rants. However, the posting of useful resources and the debates that followed, often allowing this student to take a “Devil’s advocate” role, often mitigated this.

## 5. CONCLUSION

From the study carried out we have concluded that the following factors were major influencers on the impact of the electronic discussion boards within the post-graduate program at UNITEC:

- The willingness and ability of the course facilitators to create direction and their propensity to participate and create/expand on discussions.
- Culture and language appear to be barriers to posting and impact on the nature of the discussions taking place.
- A lack of interest in the societal issues and focus on the technical reduced the opportunity for dialogue in semester 2.
- Students require a commitment to electronic channels of communication (since the discussion board is passive and requires students to visit it in order to participate) and their contributions were greatly enhanced when this medium was already a familiar one.
- There was a lack of desire to create a “community”

of learners by those who simply wanted to gain a qualification.

- No assessment component meant that the use of the discussion board was entirely optional (this ignores the question of whether or not an assessment component is desirable).

Given that the students were busy people (with many in full time employment), who only met as a group on eight occasions and were otherwise widely dispersed, the discussion board proved helpful in maintaining student-to-student communication between class meetings. The lecturer also used Blackboard to make electronic announcements (an average of one a week) to keep students informed (about logistics, resources and deadlines) and give general feedback about assignments. However it is clear from student ratings and comments that they enjoyed meeting face to face and saw the electronic components of the course only as a useful support and supplement.