Community Building: Facilitating Successful Online Courses

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ABSTRACT

It is important to build a community of learners, so that co-operative learning takes place. This is more difficult to accomplish online, where the lecturer has to overcome the natural reticence of students to post in shared class spaces.

This paper suggests constructive methods of ensuring the success of an online course. These include reinforcing and recycling course content in a variety of integrated media, and encouraging students to become leaders and help their classmates.

We report results (from 1999-2001) from three undergraduate and two postgraduate computing courses that each have a significant proportion of the course taught online. These courses are studied by students with a wide range of ages, ethnic backgrounds, life and work experiences. We report widely ranging student participation rates in a variety of online discussions and course exercises, and discuss the contributing factors that cause some branches of the online learning tree to blossom and others to wither.

Keywords: online learning, flexible learning, student motivation, CMC, computer-mediated conferences, discussion forum, bulletin board, WebCT, Blackboard CourseInfo.

1. INTRODUCTION

Many researchers point out the importance of building a community of learners, (Campbell and Hawksworth, 1999, Foley and Schuck, 1998, Lehtinen, *et al.,* 1999, McSporran and King 2002), so that students can learn from each other. Felder and Brent, (1994) cite research that shows that "cooperatively taught students tend to exhibit higher academic achievement, ... better high-level reasoning and critical thinking skills, deeper understanding of learned material, more on-task and less disruptive behavior in class, ... ".

Online conferences, either synchronous or asynchronous, are generally recognised as a powerful tool for active learning. As Klemm (1998) points out, they require students to "comprehend what is being discussed by others, to create ideas in the context of the topic at hand, to organize thinking coherently, and to express that thinking with carefully constructed language (hopefully, clearly and concisely)". However it is also generally recognised that students are reticent about posting in shared class spaces - perhaps because they lack the confidence to assert themselves

in public, or they are afraid of embarrassing themselves in front of their peers.

Klemm (1998) recommends eight ways to increase quantity and quality of student participation in online conferences:

♦ Require participation (through assessment)
♦ Form learning teams
♦ Make the activity interesting
♦ Don't settle for opinions
♦ Structure the activity
♦ Require a deliverable
♦ Guide and steer students
♦ Let peers grade each other.

It is all too easy to invite student participation in an online course only to find that the contributions never happen. It is necessary to encourage and cajole students to participate using inclusive, enthusiastic and motivational language. However this is very time-consuming, and can result in the tutor feeling trapped in a "virtual prison" (Hart and Gilding, 1997). In this paper we share our tips and experiences for ensuring student participation, while reducing personal time overheads for tutors.

Some of the pedagogical strategies that we employ to ensure the cognitive engagement of the online community include:

♦ Encouraging student leaders
♦ Forming student groups
♦ Peer grading or comment and student exemplars
♦ Motivational, student-centered, socially inclusive, enthusiastic, positive, and conversational dialogue in a variety of media, such as email, discussion forum posts, time-specific course website announcements and co-ordinated tasks.

We aim to become "active partners" (Laurillard, 1993) where staff and students learn from each other.

2. ABOUT THE COURSES

We discuss three courses in the Bachelor of Computing Systems degree (Internet and Web Development 1 and 2, and Help Desk) and two courses in the Masters of Computing degree (Internet Applications and Website Management). All our courses are taught in flexible task-orientated manner.

We generally offer co-ordinated classroom sessions, paper and online lecture notes, practical exercises, and integrated usage of communication alternatives offered by the standard tools included in the course website building shells, Blackboard CourseInfo and WebCT. All of the courses involve some degree of assessment that is conducted online.

Internet and Web Development 1 is a popular introductory course, described in previous research (McSporran and Young 2001, Young, et al. 1999). In the first assignment (20% of total) the students research an aspect of the Internet in groups. Part of this assignment (20% of total) is attributed to online communication: how effectively the students communicate using email, web-based discussion forums and chat.

In Semester 2, 1999 we hosted the IWD 1 course website in WebCT which contains a built in web-based discussion forum, however we did not implement this facility until the 1999-2000 Summer School, which was the first real remote class. The discussion forum was promoted, but we were disappointed with the low student usage, even though the remote students had few other ways of forming a community of learners, (Dewstow, et al. 2000).

In Semester 1, 2000 we decided to assess student usage of the group discussion forum for first time, to force them to use the system. To our surprise we noted that overall student usage wasn't any better, and with hindsight we noted that usage of the discussion forum in the first Summer School was actually quite good.

In 2000, the Masters of Computing degree started at UNITEC. This is taught part-time one weekend a month, with a large part of the course work taking the form of online activities between the monthly class sessions. After experiencing the low usage of the IWD 1 discussion forum, the decision was made to follow the advice of Klemm (1998) to increase quantity and quality of student participation. We designed structured and/or assessed exercises to encourage discussion forum usage. These exercises are described in detail in a previous paper (Young, 2001).

In Semester 2, 2001, the IWD 2 course was offered for the first time. This course focussed on real-world tasks and involved many class exercises. However very low participation rates in the class exercises were experienced. The decision was made to require participation in Semester 1, 2002, by allocating a proportion (20%) of the first assignment

(25% of the course total) to participation. Students receive either 1 or 0 for correctly following instructions and completing each of 20 class exercises. This has had a dramatic positive effect on participation rates in the first part of this semester.

3. DESCRIPTIONS OF EXERCISES UTILISING DISCUSSION FORA

Examples of structured, assessed exercises that utilised a discussion forum include:

◆ **Website critique**

An individual component of a postgraduate course group research project. The students formed three member syndicates and chose a topic, and then each student submitted a critique of a single website within that general topic area. A week later the students were required to reply to the critiques of their fellow syndicate members. After a further week the writer of the critique submitted a response that integrated all the posts. Thus in a three person group, each student wrote two replies, and each student received two replies.

◆ **Debate exercise**

A postgraduate course syndicate assessment that followed a typical debate format, again on a weekly basis, with the groups required to make opening and closing statements and to respond to the points made by the opposing syndicate.

◆ **URL Synopsis**

An individual assessment, designed to encourage the postgraduate course students to continue their reading around the subject and develop their communication skills. They were required to write one sentence reviews of a useful web resource. These were marked on quality and applicability of the resource and accuracy of the review.

Some examples of structured, yet non-assessed exercises that utilised the discussion forum include:

◆ **Website case study changes**

The students in this postgraduate course were given a case study for a complex e-commerce website, which included many screenshots of the different pages of the website. The students were asked to read the case study, to visit the website, and to identify the many changes that had been made since the case study was written. They were asked to list changes, with their reasons for why they thought the changes were made, in a post to the discussion forum. After one week there were no posts to the discussion forum. The lecturer then posted a list of 5 or so changes and asked the students to reply with their reasons for why they thought the changes were made. This solicited 2 reply posts.

◆ **Server monitoring exercise**

Undergraduate and postgraduate students were asked to repeatedly test the response time of various websites, to calculate the average response time and to post their results to the discussion forum for the lecturer to collate the results. In classes where this exercise was not assessed there were poor participation rates. In IWD 2, Semester 1, 2002 where exercise participation was assessed, participation rates of close to 100% were experienced.

4. STUDY METHODOLOGY

Data for this study was collected from course website usage statistics. WebCT gives summary data on the number of discussion forum postings read and posted by each student, although there is no way of identifying assignment group posts or general posts. Blackboard CourseInfo offers no summary data for each student, and it is necessary to manually count numbers of student postings. It is impossible to detect how many posts each student read.

It is necessary to decide where to draw the line for inclusion of a student's record in this research. For this and our other studies we decided to include those students who have recorded at least one assessment mark. However it is interesting to note that some of the students who drop out without submitting an assessment utilise the course website fully, while some of the students who submit one or more assignments never visit the website.

5. STUDENT DISCUSSION FORUM PARTICIPATION RESULTS

Table 5.1 reports student participation in the IWD 1 discussion forum, 1999-2001. The average number of discussion forum posts read, and posts made by each student are reported. It can be seen that generally participation rates are low. The 99-00 Summer School showed a high average posts read

Semester	Average Posts Read	Average Posts Made
Summer School, 99-00	75.0	4.0
Semester 1, 2000	21.5	3.0
Semester 2, 2000	23.1	3.1
Summer School, 00-01	16.9	3.5
Semester 1, 2001	32.0	3.3
Semester 2, 2001	30.6	5.3

Table 5.1: Average student discussion forum participation, IWD 1.

figure - it seems as though this cohort of students really did develop an online community of learners; they really were interested in what the other students had to say.

In contrast, the figures for the 00-01 Summer School are very low. Two reasons for this may be:

♦ This cohort of students was composed mainly of Asian students who preferred to form their learning teams offline. Felder and Brent (1994) note that co-operative learning can occur in or out of class.

Forum activity type	Posts Made
non-Structured, non-Assessed	0.6
Structured, non-Assessed	1.6 (4)
Structured, Assessed	3.8 (4)
Total	5.0

Table 5.2: Average student discussion forum participation, IWD2, Semester 2, 2001. Numbers in parenthesis are the number of posts that each student should have made.

♦ The lecturer teaching this online course was disadvantaged by personal injury and made far less posts than normal.

Participation rates in 2000 were particularly low, but there was improvement in 2001 as we increased our efforts to promote the discussion forum.

Table 5.2 and 5.3 describe different categories of forum activities, based on the work of Klemm (1998).

Masters students would be expected to be more motivated to take part in class discussions than undergraduate students. However levels of participation in non-structured, non-assessed discussions were equally poor in both undergraduate and postgraduate classes. Levels of participation in the General forum (non-structured, non-assessed discussions) in the postgraduate course, 818, were particularly poor, because there was no attempt by the lecturer to promote discussions. Levels of participation in structured, non-assessed exercises were disappointing. Only when the exercises were assessed was there near 100% participation. These low participation results may be because of the non-English speaking background of a large percentage of the postgraduate students.

	Posts Made			
Forum activity type	S1, 00	S2, 00	S1, 01	S2, 01
non-Structured, non-Assessed	2.6	0.2	1.2	0.1
Structured, non-Assessed	-	0.4 (1)	0.6 (1)	1.2 (2)
Structured, Assessed	7.4 (8)	6.0 (5)	7.7 (8)	6.3 (7)
Total	9.9	6.6	9.5	7.6

Table 5.3: Average student discussion forum participation, postgraduate courses, 2000-2001. Numbers in parenthesis are the number of posts that each student should have made.

Forum	Posts Made
General	0.9
Assignment 1	2.3
Industry Contacts	1.8 (1)
Personal Diary	26.6 (14)
Training Day	2.6

Table 5.4: Average student discussion forum participation, Help Desk, Semester 2, 2001. Numbers in parenthesis are the number of posts that each student should have made.

Table 5.4. shows that student participation in the Help Desk discussion fora, in Semester 2, 2001 was considerably greater than required, and greater than the other courses. Some reasons for this success may include:

♦ An important outcome of the course is to improve communication skills.

♦ Students only receive departmental help with their industry placement if they display the level of communication skills required.

♦ Students develop personal relationships in class during the first six weeks of the course, which helps foster later online communication. Campbell (1999) found that quality of online contributions on a distance education course improved after the mid-semester class get together.

♦ Several of the fora were related to real world tasks and involved peer grading. Klemm (1998) recommends that discussions should be interesting, require a deliverable, and involve peer grading.

6. DISCUSSION

6.1 DISCUSSION FORA

We have noticed a trend for discussion fora to wither and die. There is often an initial flurry of posts as students excitedly discover the system and look for group members; then the numbers of posts falls off through lack of encouragement. It is important for the lecturers to respond quickly to student queries posted in the forum, so that students are not discouraged. However, this sets a precedent and students thereafter except a quick response. On several occasions we have noted that if a student question on the discussion forum has not been answered within a few hours, the student will then email us their question.

To keep the level of activity on a discussion forum ticking over it is necessary to continually post new material. However this can be very time-consuming. Campbell (personal communication, 2002) found that student demands for attention became overwhelming and she therefore introduced two non-academic staff members to her course to help respond to basic student enquiries.

Our strategy for ensuring that contributing to a discussion forum does not overwhelm the lecturers is two-fold. Firstly we recycle posts from previous semesters. We have built up an electronic resource of discussion forum posts that we can quickly copy and paste into a "new" posting. To the student it appears as if the lecturer has taken the time to compose a thoughtful posting, giving the illusion of a mentor. In addition, if an important current news story occurs we can copy and paste it into the discussion forums for multiple online courses.

Our second strategy is to encourage students to take on a leadership role and respond to other students discussion forum posts. This is discussed in Section 6.3.

6.2 ANNOUNCEMENTS

We deliver administrative, motivational and content-specific announcements to our students in more than one media: emails, and course website announcements and tasks. We believe that a strong integration of a variety of learning materials has a beneficial outcome.

We send out weekly newsletter emails to all the students on the IWD 1 and Help Desk courses. These contain content such as class administration issues, relevant news items, motivational material and notification of changes to the course website. A major component of the emails is content related to the assignments, such as upcoming deadlines, milestones (what the students should have accomplished each week) etc. We re-use the weekly emails from previous semesters, but with some editing so it is possible to add new material, for example answers to questions that may have been asked in class. The weekly emails are sent out every Friday, which allows the students to revise what they should have accomplished each week, and to prepare for the forthcoming week.

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They are in a standard format that the students become comfortable with; student comments refer to them as being "well organised".

We utilise two types of announcements. Standard weekly announcements that are reused every semester and one-off announcements that may have come up, for example relevant news stories and questions asked by students.

An example of a weekly announcement from the IWD1 course: "In Week 3 the theory session is on search engines and effective searching while the practical session covers HTML Tables". The same text is re-used in the calendar tool, as a time-limited announcement on the front page of the website, in the weekly email, and in relevant discussion forum posts. An example of a relevant discussion forum post would be: "This week we covered search engines and effective searching in the theory session. You may find it helpful to share your experiences of using search engines with your group."

WebCT has a batch upload feature where new data can be uploaded in the form of a comma-delimited text file. When we set the course website up at the beginning of each semester it is only necessary to adjust the dates in the text files. Often we can change these dates using search and replace, saving even more effort. The entire IWD website changeover process only takes about 2 hours in total despite involving:

♦ archiving the student record for a semester,
♦ making backup copies of the entire course (to save the discussion forum posts for example),
♦ deleting past students,
♦ adding new students,
♦ deleting discussion forum posts,
♦ adding new calendar and time-limited announcements, and
♦ uploading new versions of the course outline and assignment documents.

With Blackboard however, to change the dates and recycle announcements it is necessary to use the course administration browser interface, which takes considerably more time.

Blackboard also offers a Tasks tool, which allows students to see what tasks are currently due. Students can order these by priority or due date, and can change priority and toggle their Tasks from "Not Started" to "In Progress" to "Completed". We presume that this is a powerful tool for students to manage their own learning, and both authors began to use the Tasks tool in our Blackboard hosted courses in Semester 1, 2002.

6.3 COMMUNITY LEADERS

Kim (2000) discusses the importance of encouraging online community members to become leaders and help other members. The benefits for the leaders are:

♦ rewards of being an "insider",
♦ satisfaction at helping others,
♦ reinforcing their learning by teaching others
♦ gaining new skills,
♦ receiving feedback about their performance.

Leaders can either be in some official capacity, or simply enthusiastic members of the normal community. Oliver *et al.*, (1997) suggest that "ways to encourage capable students in the class to spend the time to view postings and submit solutions, and tips and tricks" should be integrated into the online environment.

There are a number of ways of encouraging leadership (Kim, 2000). Firstly it is important that the lecturer leads by example, by maintaining a friendly, responsive, collegiate voice on the discussion forum. Next it is important to offer leaders some sort of status or reward - this could range from a simple acronym in their website username to awarding stars for helpful discussion forum posts. Finally, a document explaining the leadership process is created. This document contains information on:

♦ the process involved in being a leader,
♦ the personal skills that make a good leader,
♦ the benefits of becoming a leader,
♦ good practice for leaders.

Such a document could be describing an official leadership role, or simply a page on the course website that encourages capable students to help others.

We encourage a leadership process within the IWD 1 Assignment 1 groups, by asking the students to designate a group leader to represent the team. This individual receives private emails from the

lecturers and is encouraged to help their fellow team members.

In Help Desk the students undertake a project to plan a Training Day. This is a group project, with each group assigned a different part. Each group chose a group leader, and all contact with the lecturer was through the group leaders.

Kim (2000) advocates creating a "backstage" area for leaders to gather, relax, prepare and discuss topics relevant to leadership roles. This private gathering space could be a mailing list, private discussion forum or chat room. In Help Desk a private discussion forum was created for the Training Day group leaders. Independently of the lecturer the group leaders organised a face-to-face meeting of all group leaders, when they discussed whether each group was on track. At the training day debriefing, the leaders commented that the face-to-face meeting was very useful, one student commented that it would have been helpful to appoint a leader of leaders since there was no-one to chair the meeting and act as an overall project manager.

Kim (2000) promotes the use of feedback loops to keep track of leader performance and if necessary to intervene. In Help Desk this was accomplished by entries in the student's personal diary, which could be monitored by the lecturer. At the end of the course group leaders were asked to comment on the performance of the group, while group members were asked to comment on the leaders skills in managing the group. An additional benefit for the leaders was that the lecturer offered to allow the students to include her name as a referee on their CV.

We also acknowledge student excellence by highlighting the best student work. The best student assignment websites are displayed in an annual gallery, and examples of good work in class exercises are highlighted and acknowledged. This is a driver for encouraging quality student work, and indeed we have noticed a general positive trend in the quality of student websites.

7. CONCLUSIONS

To build a successful community of learners online requires the same teaching skills as building a community in a classroom. Motivating and responding to students online is very time-consuming. In addition the lecturer must practice many different ICT skills. If employing teaching assistants is not an option, then to avoid lecturer burnout it is necessary to save time by recycling content, encouraging student leaders and good time-management.

Content can be redistributed and reinforced in a variety of integrated media such as emails, discussion fora, course notes (both hard and soft copy), exemplars, and in the various tools provided by the course shell such as calendar, announcements and tasks.

Strategies for encouraging student leaders are essential to motivate students to help others online.

We also need strategies to encourage students to ask questions in public fora, such as allowing students to edit or delete their posts, to post anonymously, or to build in opportunities for private communication, such as private group forums.

We hope that other online educators will learn from our experiences, as we learn from others.

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