On-line Teaching Using an Electronic Forum in Distance Education.

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ABSTRACT

In this paper we describe our experiences of using an electronic forum for teaching students by distance over a period of 12 months on the 150 Computer Concepts course. This is a compulsory course in the New Zealand Diploma in Business. We describe our initial forum structure and compare it to the current structure and describe the problems that brought about the change.

A comparison is made of our original intentions for the use of the forum chat client with our current use. A description of our current use of the ICQ application for student networking is included.

Keywords

Distance learning, Electronic forum, Virtual classroom

1. INTRODUCTION

In June 1999 The Open Polytechnic of New Zealand developed a new course in line with the revised prescription for the 150 Computer Concepts course. This course is a compulsory course in the New Zealand Diploma in Business. As the new prescription included some coverage of Internet Technologies and we have a special interest in computer-mediated communication, being a distance teaching institution, we chose to use an electronic forum as our primary means of communication with our students. The course has an average of 150 students per trimester. Each course lasts one trimester of 17 weeks. As teachers of 20 years experience we approached the medium with the intention of reproducing as much of the interaction rich experience that the student would get in a traditional classroom. We felt that the most important part of that experience was not necessarily the tutor-to-student dialogue, but the student-to-student dialogue. Peer networking, support and nurturing while crucial to learning and a feeling of belonging to a group is an element that can be much reduced by distance teaching. At The Open Polytechnic we actively promote students to meet up with others in local study groups, however with New Zealand's dispersed population many students can find themselves isolated. In addition a high proportion of our students are either working or raising a family and therefore have little time to travel many kilometres over sometimes difficult roads to regular meetings. An electronic forum allowed us to fully include everyone in the group. There have been other studies on the use of electronic forums for distance teaching (Taylor *et al.* 1999)(Hiltz 1998) but often include only small numbers of students (between 7 and 43) often at degree level. The small numbers of students and messages, and often tortuous statistics used to obtain a result makes one

wonder just how significant the results were to a larger more diverse group. With an average class size of 150 and three courses under our belts this paper describes how our initial ideas of how we would use the forum were changed by our experiences using it. We also explore how our use of the forum chat facility has changed from our original concept.

2. CHOOSING A FORUM

As we were approaching our use of the forum as much as a learning experience for ourselves as for our students we had few preconceived ideas of how the forum should be set up. We knew that list servers had the disadvantage that if discussion developed people could be pestered by E-mail and that using E-mail afforded no opportunity to organise the discussion of several topics simultaneously into anything meaningful. While the most forums allow the user to select the messages s/he wanted to view on the basis of subject it still meant that students had to scan those subject headings. We chose the Delphi forums (Delphi Forums 2000) as this is free and offered a wide variety of facilities with generous reporting facilities to record our progress. Additionally and most importantly it allowed us to group discussion threads into folders and control access to those folders. Students have to register with Delphi, give a user name and password and enter a group registration code to enter our private forum.

2.1 The Delphi Forum

The forum has three main areas for teaching, the Start page, the messages area and the chat area.

2.1.1 The Start Page

This is a simple web page that allows important messages to be presented to students on entry. These would include reminders about when assignments are due. We change this page frequently.

2.1.2 The Messages Area

This area can be divided into up to 16 folders that can be individually named and made visible or invisible. Each folder can be controlled with respect to the creation of new discussion threads, by being made reply only or read only. Discussion threads created within each folder may be moved (to a different folder), closed for posting or deleted. Individual messages may be deleted or edited by

either a staff member or the student who posted the message. Posting a message causes an e-mail containing a hyperlink to that message to be send to the recipient of the message. The message tells the recipient who is sending them a message and the discussion the message is in. This allows both student and staff to decide when they wish to deal with their personal messages. Messages may also be sent to all members of the forum, useful if there is a burning question or an important announcement. This feature may be turned off.

2.1.3 The Chat Area

The chat area lists the live discussions that are currently taking place in our private chat room. Staff and students are free to start chat sessions at any time. We choose to limit staff involvement to one hour on a specific evening every week. Students use the forum privately at other times. A chat session is started by clicking a button on the page. Staff and students can automatically log chat sessions. This allowed the freedom to chat normally without resorting to note taking and have a record at the end of the session delivered by E-mail. The chat also provides the option to send private messages during a chat. The names the students chose as a user name are displayed during the chat. After our first trimester we asked students to opt for a user name containing their first name followed by their student number. We did this as several users chose obscure names which made it difficult to use in chat.

3. DEVELOPING THE FORUM STRUCTURE

3.1 Initial Forum Structure

Our first forum structure was relatively unstructured. We set up the folders to represent the eight sections in the course and allowed students to post freely. The Forum was being used to answer questions regarding the various activities within the course. Within a week of the Forum opening we had 20 to 50 messages a day being exchanged both between staff and students and between students. However in spite of posting instructions and explaining the reasons why this was wrong we found that many students continued to post new messages as new discussions. This resulted in numerous threads on the same topic, making the discussions fragmented and difficult to navigate. This often occurs in traditional forums. By the end of the trimester we had managed to cajole most

students into using the forum correctly. However the structure of the messages meant that we could not use the messages as a Frequently Asked Questions resource. All messages from this Semester were archived in a folder within the forum.

3.1.1 Second Forum Structure

In our second iteration of the forum we created a single discussion thread for each activity in the course, a total of 86 threads, and made each thread reply only. The threads were divided across the 8 folders to allow students to find them easily. Students were advised to reply to the first message to ask a question and to any other message to reply to that message. As the first message was from a tutor it allowed us to keep track of which students were posting questions to which discussion threads and be able to respond to student queries within a few minutes if required. Any messages posted into the wrong discussion thread were deleted and the sender told to re-post into the correct thread. This tighter structure allowed us to create a Frequently Asked Questions resource that could easily be navigated by new students by Activity.

3.1.2 Third Forum Structure

In our third iteration we asked students to post their work as attachments to each discussion thread in order to obtain formative feedback from other students or a tutor. As there is a limit on the amount of space allocated per student we encouraged students to post any written work as text and reserve attachments for those files where there was a significant degree of word processed formatting or for databases and spreadsheet files. We encouraged students to post word-processed files in rich text format, so that students with different software could read the files. We decided against asking students to post in a similar manner for spreadsheets and databases as we felt that the differences between Works and Access and Excel were too great to be of any value.

Although students receive formative assessment by sending in a project based on the work they have done during the course, we felt that providing feedback through the forum would be useful. We did not expect this facility to be taken up by every student. Our expectations were incorrect as a much higher proportion of students than previously posted in the forum. Thankfully as most postings took place at the weekend it gave us the week to clear the backlog. We do not recommend this option as it generates too many postings. This option would be useful if students were working on a group problem and guaranteed to provide comments of the work carried out.

3.1.3 Fourth Forum Structure

Next semester, and one year on from the beginning of our experiment with forums we will be returning to our Second Forum Structure and encouraging questions only with no posting of work. We will reply to useful questions in the forum, other questions will be replied to by e-mail from the forum only to the student. This will be to reduce the volume of messages in the forum. Reply Only Folders will still be used to provide structure. As we have received a few comments about the sheer volume of information in the Forum it is likely that we will archive the materials in the Forum and begin again with a clean forum. We will deal with some of the more frequently asked questions in the first message in the discussion.

4. ENCOURAGING POSTING IN THE FORUM

Right from the start we made the decision that we had to provide a reason for the student to come to the Forum. To this end we made the Forum a compulsory part of the assessment for the course but made the marks available worth only 6% of the final mark in order to heavily disadvantage anyone who really could not gain Internet access. This compares with 25% in other studies (Taylor et al. 1999). Initially we were not sure how well this method of communication would work but were surprised that within a few weeks the number of messages rose above 70 a day, averaging 50.

The first posting that a student has to make is to introduce themselves to the rest of the class. This usually results in a flurry of subsequent postings in which other students seek to establish links with that student due to a hobby, family circumstances, physical location, job type or many other reasons. We feel that spending some time discussing information that the student is familiar with is essential to the establishment of student confidence. The majority of our students have little or no computer literacy beyond using a word processor or sending e-mail. Thrusting them into cyberspace left many feeling vulnerable, some even talking about fears of being abused. We encouraged them to discuss their feelings in order to let everyone know the class norm. From this introductory discussion we developed the network further by inviting students to participate in a weekly chat on-line.

4.1 Building a Learning Community Using a Chat Client

Our chat session in the forum took place in the evening when most students were not at work. Several still had problems being working mothers, shift workers or on military posting overseas. Initially we thought that we would be able to deal with detailed questions in this session. It quickly became clear that the importance of the chat session lay more in its capacity to create a sense of belonging to a group, and to establish electronic support networks based on E-mail, using the forum chat client or the ICQ chat client(ICQ Chat Client 2000). It was an opportunity for the class to meet and gain an insight into the progress of the group and problems that they were having with particular activities in the course. We made it policy that we would meet and greet people as they entered the Forum and act as a catalyst to discussion early on, but for the greatest part of the chat session we would facilitate rather than lead discussion. We normally answer questions directed to us but often pass simple questions to the group for an answer to encourage interaction, just as in a contact classroom. We also tried to establish from the beginning that the chat area belonged to the students, not to the Polytechnic and could be used for communication at any time. In order that students could establish if classmates were on-line we encouraged them to use ICQ for initial contact. While most students wanted to be part of the group and use ICQ, some of them encountered difficulty in coming to terms with the program so we changed to encouraging them to make arrangements to meet up at specific times in the chat room. We encouraged students to make arrangements of this sort privately by e-mail in the last few minutes of the chat. Initially our role as facilitator was one of "ice-breaker", simply giving permission to students to talk to each other. We kept the initial tone of the chats light hearted just as we did with the main forum, in order to reduce the intimidation that some students felt. We emphasised participation more than content in these initial sessions, in order to increase confidence levels with what to many was a novel experience. In later chat sessions we allowed discussion to become as focussed as the participants wished at the time, with discussions around particular activities that could be simply answered. More complex questions or questions whose answer was available in the textbook were dealt with in the forum. There is a fine balance as to how lighthearted the chat can become before it appears trivial to participants. Knowing when to raise the tone is a matter of experience with each group of students.

5. RESULTS OF THE FORUM OVER ONE YEAR

During the year, including days such as Christmas and New Year's Day when we received no postings, we received an average of just over 13 postings per day. This rose to a maximum of 70 postings per day during the first Semester, when there was little frequently asked question material in the forum. There were more messages viewed than posted in the forum. Just as in a normal classroom not everyone wants to contribute to the discussion, but everyone needs the information to complete the exercises. Due to the increasing number of messages in the forum the number of messages read steadily increased. Whenever new students came into the forum they began to read the new messages from the beginning. When several new students began this process simultaneously this could result in more than 18,000 messages read in a day. As the incoming and outgoing mail had no cost to us this did not concern us. However comments from students have led us to believe that a maximum of two semesters work is the happy medium for frequently asked questions. After two semesters the sheer volume of information in each thread, while it answers virtually every question the student might pose, is just too great.

6. STUDENT COMMENT ON THE FORUM

Students' comments have been useful in assessing how well the forum has been meeting their needs. These are but a few typical of the comments we receive in our "Comments on the Forum" folder.

"After my initial fears of using the forum I feel that the advantages far outweigh any disadvantages"

"More than once when I have been absolutely stuck on a question I have been set in the right direction by looking at another student's posting."

"The chats have been a wonderful way to get to know the other students and have enabled me to team up with a "study-buddy" who has been just great."

"If I am having problems or have questions on any activity I am able to see where I am going wrong and that other students may be experiencing the same problems as me. You are also able to help other students out with problems they are having."

"At first I had trouble even finding the electronic forum, as I had no idea how to use the Internet, email, windows, anything past DOS really. I kept falling into the wrong area, as I didn't know how to get the address in the address bar. I kept putting it somewhere else. I was very, very green. However, I have now been confidently using the electronic forum for more than two months. To me it is like a virtual classroom. You get to know lots of other students, even if it is just reading their activity work. Sometimes I have had a mental block with some of the activities, and by navigating to the correct folder, and looking at other people's way of answering the questions, it has given me the ideas to carrying on and complete my own activity."

"This forum has been my first experience of using the Internet as a learning tool. My first encounter went quite smoothly with no problems finding or logging into the forum. It was extremely interesting to be able to read other students comments and pick-up hints to help solve the various problems. I would agree with others that the number of messages on the various activities can be a little overwhelming but I have learned to browse and read only some of the material."

"As a lot of others have commented, at first the thought of getting into the forum was quite daunting, and I put it into the too hard basket for a few weeks. However, decided not to put it off for too long, so finally got it sorted. I am really glad that I did, I have found it to be a great help especially when the solution you are seeking seems impossible. It is good to know that everyone else is having or has had problems and has solutions to that exact problem. I have found some of the tips given by other students to be absolutely invaluable. The chats I have found great, we may not always find solutions, but the peer group support has been wonderful. I wonder how many of us would have dropped out if not for the support and encouragement from fellow students."

I have included these comments to give some of the postivie flavour of the responses that we have received. Some other suggestions have been to split the chats into smaller groups dealing with specific questions. This is not possible due to resource implications.

7.   DISCUSSION

Other work on forums at The Open Polytechnic (Hutton 2000) using a traditional forum structure, where all information is contained in a single matrix, show student resistance to using the forum. Results showed only 145 postings from 1639 logins, from 5 undergraduate courses containing 1856 students plus staff, over a period of 3 months. In contrast over the year of operation of the 150 Forum with only 500 students there have been over 3500 messages posted from around 1500 logins. This level of activity did not just happen, it was the result of many hours of chat work and initial rapid response to student postings on the forum.

7.1   Factors Contributing to the Success of the Forum

Several factors contribute to the success of the forum. Firstly the forum keeps us informed of what is happening so that we can respond appropriately. Secondly as we are permanently connected to the Internet we know which student has posted a message in which discussion within minutes of the posting, enabling us to respond quickly. We feel that a rapid response is essential during the familiarisation phase as this makes using the forum little different from using e-mail or the telephone. As confidence grows, and during weekends when staff are not available, we have found students more willing to respond to the postings of other students. This confidence is not easily found and in the role of the facilitator to bolster this during chats and by the tone of the responses to postings. It is a sensible policy to respond positively to students' work via the forum, but if there is reason to provide negative feedback, then the privacy of e-mail is used. This is no different to taking aside a student in the classroom or asking them to stay back after the end of class. Thirdly our regular chats in the forum foster a safe, community atmosphere that spills out into the rest of the forum. We regularly hear comments from students that they will "miss the forum when the course has finished". The importance of the community cannot be overemphasised (Hiltz 1998, Anderson 1998). The larger numbers of students in our courses may have yielded a critical mass of actively communicative students. Only around 15% of the class were active in the chat at any one time, though a higher proportion regularly attended and lurked in the chats and occasionally took part in discussions. Considering the rising difficulty of interacting with numbers of students above 12 it is useful that some students lurk.

Ideally all distance courses should involve not only a community, but also collaborative effort and group work but to make this effective requires easy access to common files and tight scheduling. While this is technically easy to provide, co-ordinating a group of highly dispersed students with greatly different lifestyles makes this difficult.

8.   SUMMARY

Our use of an electronic forum has been very successful with students moving from Internet innocence through to becoming regular Internet users. While it is hard to get students to post initially, by creating a safe community they begin to post and soon begin to reply to the postings of others. Chats on the forum are essential in developing the community atmosphere. We think that it is essential to facilitate not dominate and to maintain a familiar, friendly tone in the forum, avoiding formality at all cost. Controlling the proliferation of discussion threads allows the forum to develop into a useful frequently asked questions resource. However this resource needs to be carefully pruned to keep it to a useful size. It is not recommended that students are asked to post their formative work to the forum as the response is too great. Feedback from students has been very favourable.

9.   REFERENCES

Taylor, P., Geelan D., Dawson V., and Stapleton A. (1999). Can teaching in a virtual classroom enhance real learning? FID Review Vol.1, No.2/3, 121-127

Hiltz S. (1998). Invited address at "Web 98" Orlando Florida November 1998. Available at http://eies.njit.edu/~hiltz/

Delphi Forums 2000 at http://www.delphi.com

ICQ Chat Client 2000 at http://www.icq.com

Hutton J. (2000). Online Campus Evaluation (Internal Report for The Open Polytechnic)

Anderson M., (1998). Critical elements of an Internet based asynchronous distance education course. P383-388.