USING GROUPWISE TO STIMULATE ACADEMIC DISCUSSION WITH COMPUTING STUDENTS

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ABSTRACT

The paper describes a project in which an online discussion board was used to give computing students an opportunity to engage in academic discussion. Student participation was encouraged by making contributions to the discussion board part of coursework assessment. Results indicate that the discussions served to encourage reflective thought.

Keywords

Online discussion groups; Collaborative learning; Academic discussion

1. INTRODUCTION

There have been significant changes in the Higher Education sector over the last ten years. The growth of 'new' universities and the changing face of mainstream education have brought challenges for both students and staff. Additionally, new technologies have enabled different methods of teaching and learning to be explored [1]. The widespread use of the internet, and the development of informal and formal online communities provide opportunities and challenges for academic life. Students are likely to use email communication extensively, and are beginning to expect web and email support for their education. Collaborative learning environments are known to be enhanced by online interaction as sharing information and perspectives is enabled by the electronic domain [2].

It can be difficult to engage students in academic discussion, particularly within a technical discipline such as Computing. There are fewer opportunities for debate in practical subjects, yet students are still expected to demonstrate reflective thought and should be able to realise the value of a thoughtful exchange of ideas. At UCLAN students are expected to write a mini-paper as part of their final year project. This is intended to provide some evidence and experience of research and reflection. The challenge for staff is to engage the students in reflective thought in the earlier parts of their course in order to prepare them for their final year work.

2. THE PLAN

The plan was to take academic discussion out of the tutorial room and onto a shared space on the university e-mail software. It was hoped that this would open up multiple avenues of discussion; make the discussion student-led rather than tutor-led and provide an opportunity for students to comment on one-another's thoughts with less embarrassment and without feeling that they were 'on the spot'. The module being studied had no practical element, and it was felt that the introduction of an electronic discussion board would motivate the students.

3. THE PROJECT

This project involved 45 students on a 2nd year undergraduate module – Human Factors in Systems Analysis. The 'carrot' was that participation gave a potential 5% coursework grade increase. Students were given an academic paper and were asked to précis it and hand in their finished work. A shared folder was set up within GroupWise® email software. This was only available to students from this module and they had to email the tutor to gain initial access. They were sent a confirmation when they had been added to the group. Students had to use their university email address, but were able to access the folder from home by using the university remote logon system. For two weeks they were encouraged to use this shared folder to ask and respond to questions and gain 'illumination'. Two weeks later, a second paper was introduced and a

second 'shared space' discussion board was used, again for a two week period.

4. EVALUATION

When both papers were completed, students were asked to comment on their experiences of using GroupWise®, and in particular to evaluate how, if at all, it had worked differently than a classroom interaction [3], [4]. Additionally, metrics were taken to measure the level of community activity [5] including frequency of attendance, mean contribution in words per person, and the number of different classes of contributions. Each question which was posted to the board was given a 'profit' rating, this indicated the number of replies that the question generated (see Figures 1 and 2).

5. RESULTS

In response to a question asking students to give reasons for visiting the board the single most common reason was the desire for marks, followed by wanting to find answers, then wanting to ask questions. 50% claimed they had gone on to post their own question, whereas 65% had visited to find an answer to a question. These figures were in line with metrics taken at the end of the exercise, where it was noted that around 60% of the students who used the boards had asked questions.

Only one student who completed the evaluation had failed to post, giving a lack of time as his reason. There were six other students who had not used the boards, but it was not possible to ask all of these why they did not post, as they had absented themselves from classes by this time.

The students seemed to find the board a pleasant place to be, feeling that the population was largely sociable with very few (5) reports of apparent aggressive behaviour. On investigation, there were 12 postings of a personal nature, but of these, only one could be construed as being slightly threatening, the majority were of a chatty nature, as students 'spoke' to one another in front of the group. It was encouraging to see that the online community was a supportive one [6], although this was largely expected as most of the students knew each other, and had shared formal tutorials for a semester.

Students were queried about what they felt might be the optimal size for such a discussion board. There was evidence to suggest that students were more put off by the discussion getting too large, than it being too small. Over half the students felt that the discussion became too big. The two boards were very similar in size and nature; with 125 and 115 postings respectively. The average number of questions per participant (1.06) was the same for both boards. There was very little variation in the number of relevant constructive answers from board one to board two, the averages being 2.69 and 2.53 respectively. There were 21 non-relevant replies on each board, these were made up of personal statements, thanks messages, general comments, irrelevancies, pleas for extra clarification of the question asked and in one instance an absolute copy of someone else's answer! Whereas these totals are the same, there was some evidence to suggest that the second board elicited more personal and more irrelevant exchanges than the first. There was also an increased use of emoticons [6] in the second board, together with one attempt to set up a date!

There was further evidence of a change in the community from the first to the second board in the profit from the questions which were asked, see Figures 1 and 2 below.
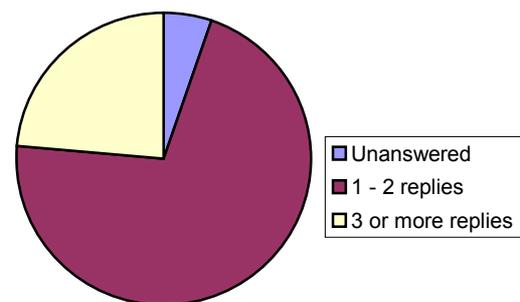

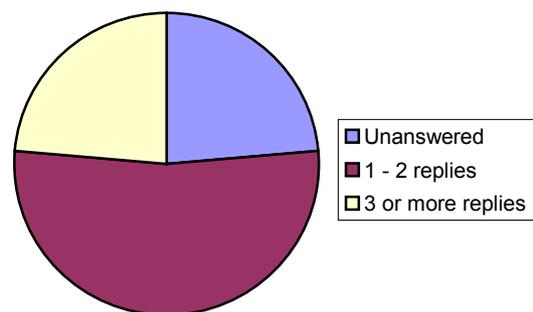**Figure 1 - Profit from Questions on Board 1**

Figure 2 - Profit from Questions on Board 2

Figures 1 and 2 show how the proportion of unanswered questions rose quite significantly from the first board to the second. There was evidence to show that this was the result of the last minute attempts of students who realised that they had not made a posting, and therefore decided to put out a

question which no one else was interested in answering. This was indicated by a late flurry of postings from students who had previously not been visible. Another interesting observation which was noted in both boards, but which grew in the second, was the phenomena of 'best mateism', where a student posted a question and all his/her mates answered. In the second board there was some evidence of students posting a question for their friend to answer, and the action then being reciprocated. This phenomenon, the creation of 'interaction dyads', has also been noted by McKenzie [7]. All of these responses suggest that the assessed nature of the board had an impact on the way in which the postings were being conducted.

Students were asked to comment on the experience and generally the feedback was positive. 67% felt the discussion board worked well, whilst only 12% felt it was a waste of time. 56% of students reported that they used the first board more than the second, with one saying that 'the novelty wore off'. This was approximately borne out by the data which showed that 33 participated in the first and 32 in the second, 50% preferred the discussion board to tutorials and 33% preferred tutorials to the board. Comments about the nature of the board included observations on the 'reliability' of the answers, the 'lack of opportunity' for serious expansion of points raised and the 'poor quality' of some of the postings.

6. CONCLUSIONS

The subject matter for this module is reasonably dry, and this activity provided an interesting diversion and a chance to widen participation. Students handed in précis which included much of the information which had been buzzing around the boards, and many of the postings included a good level of reflective thought. A previous class had carried out a similar task without the GroupWise® discussion, and it was observed that their work lacked some of the detail and the breadth which was evident in the work of the more recent cohort.

It was felt that much of the success of the venture rested on the twin facets of marks and constraint. The need for marks certainly motivated most of the students, but there was additionally a real motivation in the need to understand and analyse two complex academic papers. Students sought clarification of a whole range of concepts and terms, and this enhanced their understanding. Some students commented on the usefulness of the board as a resource when they came to write. They could look back to previous parts of the discussion, and think again about the points raised and the answers made. The ability to revisit the discussions more than once gives the online discussion a distinct advantage over tutorial discussions. The boards were constrained in two ways, by topic and by time. Students were put under pressure to attend during a fixed time span, and this encouraged them to take part.

Further work using this model is planned for the next semester. It is proposed to use a similar model, but to not award marks for participation. It is anticipated that the level of activity will be significantly lower. A further experiment intends to use a discussion board for the same group of students as they go into their third year, and to investigate whether they use this medium, and if so, for what purpose. It is expected that the loss of a common topic will result in a very different discussion.

7. REFERENCES

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