

## **Interactive and collaborative blended learning for undergraduates**

The aim of this project was to investigate ways of using new technologies for collaborative online learning in a blended learning context. A variety of interactive online learning tasks and e-learning tools such as wikis, discussion forums and concept maps were used for both independent learning and assessment purposes. The research was intended to show whether a more flexible approach to the use of these new technologies could promote engagement and raise the perceived quality of the learning experience of students leading to an improved e-learning confidence for the undergraduate group with better participation in online critical discussion and collaborative work. An additional outcome was the development of online tutoring skills for tutors and the opportunity to trial a range of blended learning materials and methodologies.

The project involved 92 first year undergraduates from Education Studies and Childhood and Youth Studies degree programmes following a newly constructed blended learning module 'ICT and Learning', for one semester (January - May 2007). The project was extended to include a second run of the same module in Jan – May 2008 again with 92 students.

### ***Research questions addressed***

- Can pedagogy for learning through dialogue combined with new technologies lead to more active collaborative learning?
- How does the online element of blended learning support academic enquiry?
- How does assessment influence engagement in learning in an online context at undergraduate level?

### **Methodology**

Students were surveyed at the outset of the module to determine the levels of ICT confidence and skills and to ascertain preferred modes of learning.

The module comprised a series of lecture presentations (ten in a lecture theatre setting and two delivered online) followed by weekly discussion tasks based on the topics covered. Students were provided with an induction session in the use of the various tools and facilities provided.

The student body were randomly divided into small working groups of five or six in which to collaboratively consider and respond to questions. Tutors commented online in response to the student group collaborative postings.

The assessment of the module was innovative for the Education Studies programme. A quarter of the total module marks were awarded for engagement with and quality of contributions to the discussions in WebCT forums. The remaining three quarters of the marks were given for an annotated electronic concept map created on a topic selected from the module. Freeware (CMap Tools) which students could download to their own computers was chosen as the tool for the concept mapping assignment. SMS messaging was also used to support and stimulate student engagement throughout the module.

At the end of the module an exit survey was carried out to determine student perceptions of their learning and experience of ICT throughout the module.

## **Results**

The initial survey of the students in both years indicated a wide range of technical confidence and competence but lower than might have been anticipated. Most students had never before participated in online learning although some were confident in their use of a variety of online environments. Overall the range of ICT competencies was quite narrow and related primarily to the use of MS Office applications in a school setting.

The tutors had prior experience of using online discussions in their teaching but the assessment of discussions and the use of electronic concept mapping as a major assessment submission was new to them all.

Contribution to online discussion was overall very good and clearly showed that the flexible mode of communication provides opportunity for discussion that would not be possible in conventional face to face teaching situations. The number of messages contributed over the semester was 2,300 in 06-07 and 3,400 in 07-08. Whilst most groups used the discussion fora provided by WebCT, some groups also took up the option to use the collaborative wiki tool to develop responses and made very effective use of what was, for all of them, a new tool.

The concept mapping assignment caused anxiety for some students as this was an unfamiliar medium in which to work. However, with extensive encouragement and support, students submitted their assignments and some of these showed high quality thinking.

There was mixed student feedback about their learning experiences. The majority embraced the use of online learning and discussion tools enthusiastically, while some remained reticent about the use of ICT in the module. This was mainly related to unease about the difference between face to face and online communication.

Overall students did feel that they increased their levels of engagement with ICT (and in subsequent modules they have shown a high degree of confidence in using new ICT tools). The collaborative opportunities afforded by the use of ICT were widely recognised and were overall seen to be beneficial. Many students appreciated the opportunity of engaging with new aspects of ICT and responded positively to the challenge.

## **Conclusions**

Both examples of this module show that a blended learning approach to course delivery can increase participation and collaboration beyond that typically seen in primarily face to face delivery options. Through the use of ICT and the asynchronous modes of communication students are encouraged and supported to examine critically the topics and concepts presented to them. Their learning undoubtedly benefits from this opportunity for reflection and the peer discussion that was a part of the assessment.

The assessment element of the discussion encouraged regular participation on the part of most of the students though many contributed far more fully and frequently

than the assessment weighting would have suggested. Despite the assessment element, on both runs of the module a few students still chose not contribute significantly.

Whilst many found the concept mapping tool a challenging alternative to essay writing they also recognised the effectiveness of it as a way of organising ideas. Some students indicated an intention to use it for essay planning and project work in other modules showing that they had acquired a transferable skill. The provision of online materials and some online lectures was appreciated by the students and seen as a welcome opportunity to review content and follow up on themes from the lectures.

### **Challenges**

- Co-ordinating effectively across the teaching team required for a large cohort of students to ensure that all tutors are asking and expecting the same thing and using the available tools fully.
- Balancing the content to meet the expectations of two cohorts of students on different programmes with slightly dissimilar focuses.
- Encouraging and managing students who are working outside an established essay writing “comfort zone”.
- Using the SMS tool consistently and effectively in a team taught module

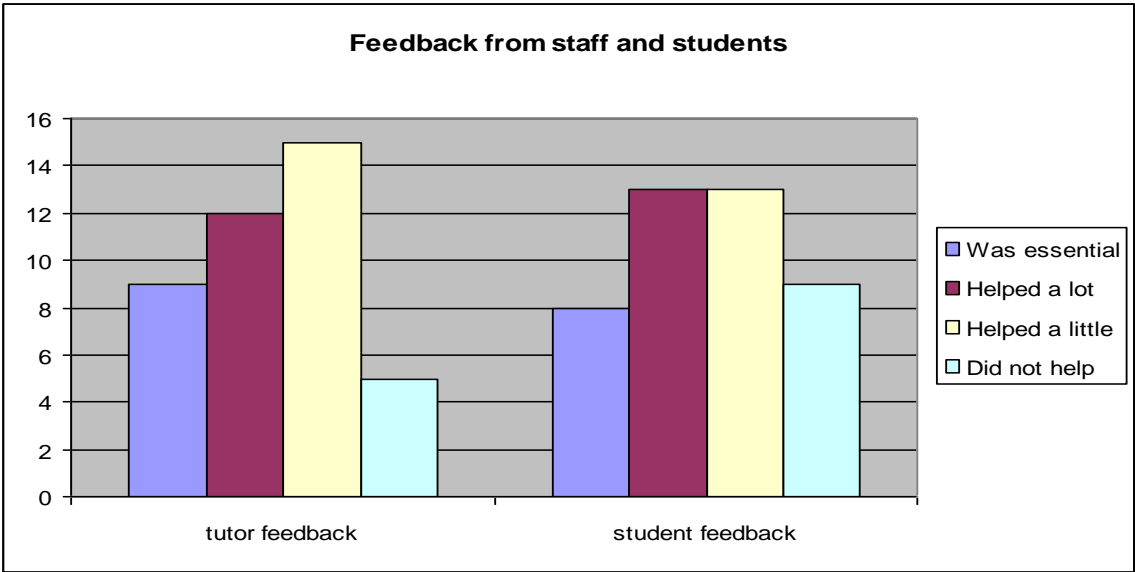
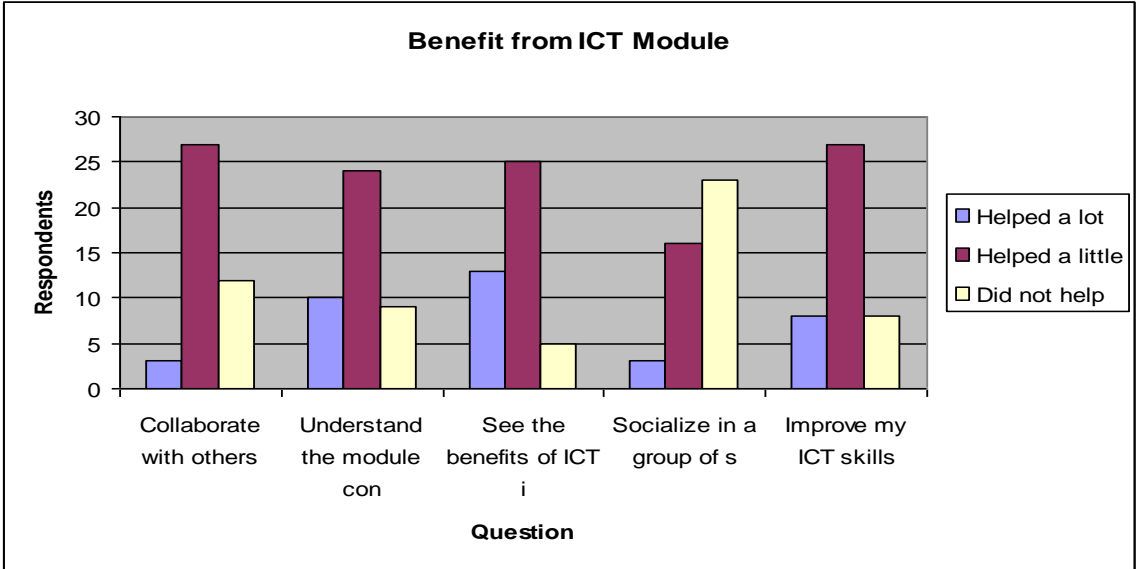
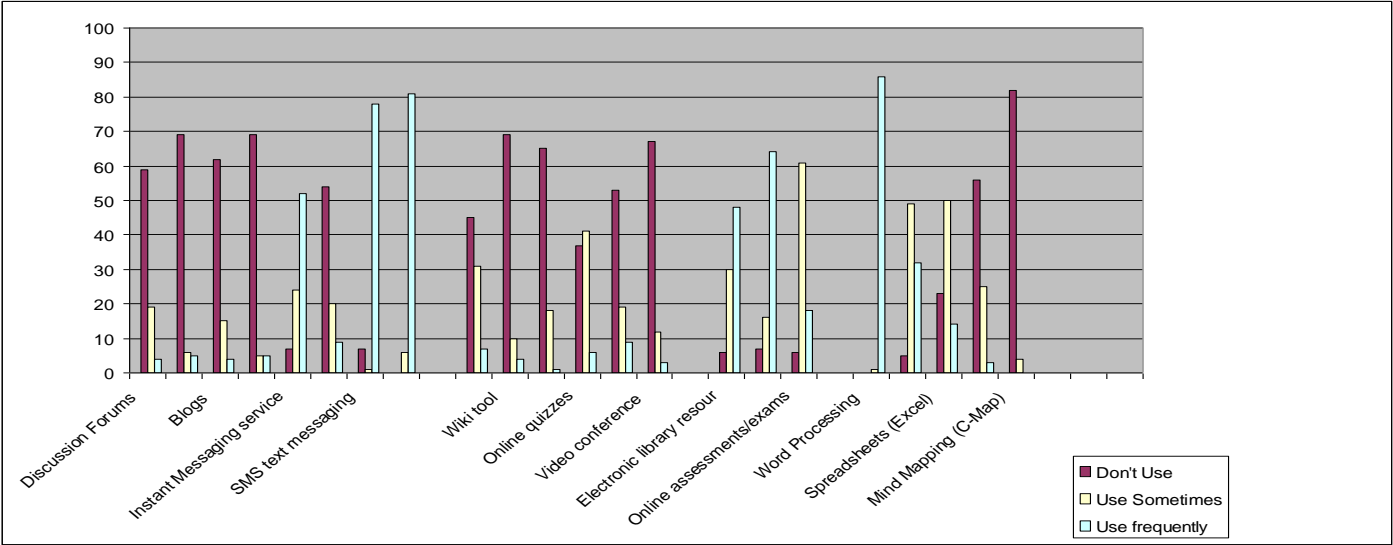
### **Benefits**

- Student increased confidence/competence in using ICT and online learning tools
- Supporting students to develop transferable skills
- Flexibility of access to discussions and learning materials
- Providing all students with opportunities for express and share their thoughts and ideas which would otherwise have been difficult in such a large cohort

### **Looking Ahead**

- Module to continue to develop and will include additional online tools
- Further exploration of the use of the SMS tool
- Explore the possibility of collaborative digital concept mapping

Appendix



## Student Comments

### On working online

- A new learning experience. interesting to know others views on the discussion topic
- I thought it was good at allowing discussions among people who may not have contributed in seminars
- Very useful, helped to show a different way of working in discussions.
- Very helpful when reviewing the course and get the latest information
- Was really good for finding out what was going on if you were stuck
- When motivated it was extremely interesting and enjoyed commenting and writing opinions on WebCT, however I found it easy to forget because there was no face to face discussion
- Easy to use but unreliable dependent on internet connection and other students
- it took a while to work sometimes which was annoying but was interesting and fun
- I found this time consuming and frustrating when other group members did not contribute
- It was hard as a lot of people hardly ever contributed so it was hard to get hold of them online
- I found there was often too much to follow on WebCT and I wasn't interested in using it

### On Concept Mapping

- Helped me plan my work + think critically although needed more tutor backup
- Helpful to know that essays may be improved by using them
- Initially i was confused but i attended the workshop which was really useful
- I found concept maps the most interesting part of the course
- I found the idea of concept mapping quite a challenge, being limited in ICT skills & patience! But the assignment proved easy enough to do.
- The positives were outweighed by the negatives - was not good as a form of assessment
- Difficult to grasp concept at first. However, found very beneficial to my learning.
- Was an interesting way of putting ideas together-good change from essays.
- Found cmap really easy to do after much concern. Think they will be useful in future.
- It was easy to use but didn't really see the point of it

## Student responses to use of SMS

### 23 positive

it was helpful to be updated on when lectures and workshops were happening  
very useful - would like it for all subjects

I thought it was useful for alerting us as to changes in lecture times & when online discussions were up on WebCT

### 8 negative

I barely received any - those that I did were not useful  
pointless as I know my timetable

