

## Appendix 2

### Case study

#### Providing a blended learning approach for a postgraduate module

##### Abstract

This mini case study explains how teaching and learning on a face to face postgraduate module was augmented by the introduction of VLE-based activities.

##### Background

The module is SE72311 Information Technology Management and Applications, which is taught as part of several Master's degrees within the School of Engineering, including the MSc in Engineering. It was originally part of the MSc in Information Technology, and was first introduced around 1998.

##### Cohort profile

There used to be a mix of mainly UK and EU students, with a few from overseas, but in recent years the cohort profile has changed dramatically, with almost no UK students (typically one or two per year), and a vastly increased number of overseas students, notably from India. This has affected the operation of the module in that many more people come with a very different background and culture of learning, and lack of English language skills are more obvious, though this problem was always there to some degree in the past. There are typically 30 to 40 students in the class, which is taught in trimester 1 of the academic session. As such, most students have just joined the university, though some taking the module will have started in February of the previous academic session and will be in their second trimester.

##### Delivery arrangements

Students have three hours per week contact time with the lecturer, comprising one hour of lecture and two of computer laboratory based tutorial, and this extends over a 12-week pattern, with a slight change in week 13 to incorporate a class test. In addition, two hours of unsupervised directed study time is booked in a lab so students are guaranteed access to a computer to complete practical work required for the class.

##### Assessment

###### Summative assessment

The module is continuously assessed and has no formal examinations. However, a class test was introduced in session 2004/05 to replace one of two assignments. This was done in recognition of the different learning cultures referred to above, specifically that some students found large reports on scenarios difficult, and were

more used to examinations. Providing variety in assessment offered these students the chance to perform better by using their knowledge in a more familiar way, though many students of all backgrounds said that revising for a test helped them engage with the materials and learn more effectively.

### **Formative assessment**

For some time the teaching schedule had offered students the opportunity to think about assessment criteria from the marker's point of view, and to test their knowledge at three specific points in the module, which mapped on to three main topics. In each case this was done as a peer assessment, with some preparatory work being done outside class time, and discussions taking pace in class with the tutor.

### **Use of VLE to support the approach**

The module first used WebCT (Campus Edition) in session 2003/04, though the approach was basic at that point, being little more than a repository of notes, assessment materials and module administrative information. In subsequent sessions lecture notes continued to be posted, usually after the lecture was delivered, as were tutorial materials and supplementary resources, including the module guide. Various web links were added to the Resources section of the site, some generic, such as NULIS study-skills and NUINlink, and some subject specific. Standard minimum presence data was included, ie links to timetables and the module descriptor, as well as the teaching schedule.

In session 2004/05 the class test referred to above was created as a WebCT quiz and ran in a closed-book, invigilated format, with all students taking the test in together in the same computer lab. In 2004/05 there were 30 questions and in 2005/06 this was increased to 40. The questions were a mix of yes/no, multiple choice and paragraph (free text) types so WebCT automatically marked most of the test and the tutor manually marked the paragraph answers. Respondus was used to create and edit the quiz, which was then published to WebCT. This was much easier than creating the questions on WebCT directly.

The peer assessment requirements (ie the task descriptions and marking schedules) were posted on WebCT as before but in session 2004/05 the module leader started to use the group facility to allow students in a group of 4 or 5 to see all of the peer assessed materials produced by that group and to make comment on them. The formation of groups was done as a combination of student self selection and tutor input, and the tutor created the groups on WebCT. In addition, students were asked to submit their work through the WebCT Assignment facility.

### **Results and issues arising**

The quiz facility worked well in effectively supporting learning and the revised assessment strategy. It was more efficient for the tutor as well, saving marking time. Using Respondus for the test creation was much easier than doing this directly on WebCT.

The discussion tool was used to some degree though some students still struggled to understand its role, eg one or two consistently put private messages

about reasons for absence on the board rather than sending this to the tutor via e-mail.

Class list accuracy was very poor in 2003/04 and 2004/05; it improved in 2005/06 though there were still some access problems, especially early on in the module. This makes all aspects of managing the class effectively time-consuming and inefficient and it makes VLE-supported group-work difficult to organise.

Allowing multiple attempts at quizzes is helpful as a technique to reinforce learning but is problematic if the number of attempts is unlimited and tutor marking is required. The system required all to be marked to accurately reflect scores in 'My Grades' tool, even when 'show highest' was selected. Therefore it is suggested that tests requiring tutor marking are limited to a maximum of three attempts or perhaps two for large classes. Unlimited only multiple choice and yes/no questions for formative assessment.

Lack of student willingness to complete the tutorial tasks in timely fashion and to engage in the assessment process limited the effectiveness of peer assessment. This was a characteristic of the class and not a function of the VLE or its use. Also a culture of 'no criticism' together with an inability to accurately analyse work against set criteria made many student marks meaningless. They wanted tutor input, which was problematic from a time point of view, but in the end the two tutors did mark one of the peer assessments and use the results to diagnose general and specific student problems and to engage with each student in a discussion on their progress. On reflection it was a mistake to ask for individuals to submit peer assessments as well as viewing them in their groups as this perpetuated a dependence on the tutor and delayed the process of the students taking responsibility for their own learning, including getting to grips with the assessment criteria.

### **Solutions and future plans**

Although it is important to have each student practice with the Assignment facility prior to formal submission, another approach will be used in future, perhaps where students upload their comments only and not the work itself.

The Registry and C&IT have taken a different approach to class list generation and maintenance in session 2005/06 and this has helped to produce more accurate lists. However, more still needs to be done to ensure that lists become 100% accurate within at least the first two or three weeks at most.

The module has now been migrated to WebCT which will provide a more user-friendly interface for staff and students. It will also better support group-work, with options for automatic creation of groups (using tutor input on number of groups required and an accurate class list), or for students to self-select and register online themselves, which was used as a technique in trimester 2 of SE72305 in session 2005/06.

More quizzes (now called Assessments in WebCT) will be used in next session, and designed so that formative assessment requires little tutor interaction, eg feedback comments will be built into MC answers in advance.

Work done in the TESEP<sup>1</sup> project by the ML will help form the approach to teaching and learning, eg it is hoped to introduce audio feedback as a technique to reduce staff time on written feedback. Also recent work done in the School with input from Professional Development on use of video for teaching may well be used to help students develop their presentation skills, perhaps by creating presentations using Microsoft<sup>®</sup> Producer. Wikis, ie editable, web-based collaborative document, may also be used to support group-working.

The enhanced web links facility in WebCT will be used to point students towards helpful resources for learning.

Consideration will be given to grading some discussions, perhaps around the peer assessments.

More formal directed study will be required and this will be supported by the WebCT Assignments feature, with formal submissions being required regularly.

It is hoped that WebCT will help support an active learning approach, though success depends in large part on the students and their basic commitment to their studies, and also on effective support from Registry and C&IT Service.

<sup>1</sup> Transforming and Enhancing the Student Experience Through Pedagogy  
<http://www2.napier.ac.uk/transform/>