

Oxford Brookes University - Main Study Text

Title: Enhancing Learning through Online Assessment

Background

Oxford Brookes University offers undergraduate courses in a wide range of subjects for study in full-time, part-time or mixed mode. Learners attend from the surrounding area, across the UK and from overseas. E-learning at Oxford Brookes is facilitated through 'Brookes Virtual', which integrates the WebCT virtual learning environment (VLE) with a range of associated technologies. This is increasingly being used to support courses delivered both on and off-campus.

Challenge

First year undergraduates in Law arriving at Oxford Brookes begin their legal studies with the compulsory module, Legal Method. The aim of this module is for learners to quickly acquire a broad base of factual knowledge and to develop the skills in legal reasoning and analysis that underpin all subsequent modules in the degree programme.

Paul Catley, Senior Lecturer in the Law Department, has been teaching this module for 10 years, employing the traditional teaching methods of weekly lectures and regular seminars. Despite his best efforts, however, learner performance has tended to be rather disappointing - "In 2001, around 25% of students were failing and 25% getting 3rds, so over half of all results could be considered disappointing".

Feedback from learners indicated that they often did not understand what was expected of them until they were assessed. In other words, the summative assessment was actually working in a formative way to inform learners on their performance, but at a point at which it was too late to have an impact. This is supported by the high proportion of passes amongst learners re-sitting the examinations.

The reasons for this appear to be mostly logistical. The module is taught in just eight weeks, during which time learners must manage their learning effectively to cope with the material covered. As the module also runs during the very first term at university, distractions outside the classroom make this particularly difficult for some learners who may miss taught sessions and are not prepared for the first assessment in week 5.

What e-learning offers

To address some of these issues, Paul recognised that he needed to provide formative assessments. Whilst he could have used paper-based assignments, this would have created a significant increase in the workload on the module team in terms of marking and feedback. Instead, he decided to create a series of online assessments using the VLE run by Oxford Brookes.

By using variations on multiple choice question (MCQ) types, learner responses could be evaluated by the VLE and appropriate feedback provided automatically and immediately. Although by its nature, such feedback may be generic and brief, this is compensated by the fact that it is provided immediately. Indeed, one of the more common issues highlighted through learner evaluation of courses is that feedback is often provided too late to influence their approach to learning.

The assessments were configured to be released to learners following a lecture, ensuring that when they next accessed the VLE, they would automatically be notified that a relevant new assessment was available. From then on, learners could revisit

the released assessments as often as they like, at any time, from any location, enabling them to study in more flexible ways. The quizzes were also accompanied with guidance on the module examination in the form of sample questions, model answers and marking schemes for self-assessment.

As always, it is difficult to prove a causal relationship between the use of e-learning and improved learner performance. However, by using the VLE tracking facilities, it was possible to identify learners who had taken the quizzes and compare their performance with that of those who had not. It was found that the 'quiz-takers' performed significantly better in all aspects of the examination, including those assessing higher order skills (such as evaluation and synthesis). This result was rather surprising, given that the MCQs were targeted only at increasing retention of lecture material. Paul puts this down to this underpinning knowledge being essential in evaluating a case and formulating arguments.

Tracking was also used to identify those learners not taking quizzes, allowing the course team to implement procedures to ensure such learners received appropriate support in the learning process. Perhaps most importantly, tracking assessments helped identify common misunderstandings which could then be addressed by adapting the teaching and learning activities.

Benefits for learners

By using online assessment in a formative way, the consequences of failure associated with summative assessment were reduced and learners were able to self-assess their own knowledge of the lecture material.

As feedback was provided automatically by the VLE, rather than by a lecturer, this was a more personal process, allowing learners to diagnose and respond to their own learning needs.

In the three years since being introduced to the module, these resources have been well used by learners and this has been associated with a marked overall increase in grades. The failure rate has been almost halved and the number of learners achieving first class degrees has more than doubled.

In attempting to control for factors other than quiz-taking that may have led to improved learner performance, a strong correlation was found between quiz-taking and attendance at seminars. It was thought, therefore, that one of the major impacts of online assessment was actually to increase engagement with the traditional teaching and learning process.

This was reflected not only in increased attendance at seminars, but also in performance. It appears that learners used the quizzes to identify gaps in their understanding which they addressed at seminars through more focused questioning. Interestingly, Paul believes that this improved performance is being maintained in subsequent Law modules, possibly demonstrating a long-term influence in learner behaviour.

Key points for effective practice

Not all e-learning needs to be based on delivering extensive amounts of content. Indeed, it can be more effective when the tools available in a VLE are used selectively to deliver appropriate learning activities.

The use of seemingly simple tools, such as MCQs, to address a particular problem can have significant knock-on effects to the wider learning experience. In this example, targeting improved retention of lecture material was thought to impact on attendance and overall performance.

The assessment tools of many VLEs allow online assessments to be created by all practitioners, not just those who are experts with web technologies. The major challenge is actually in designing appropriate assessments.

Automated, generic feedback that is provided immediately by a VLE can be very useful in directing learning. Where learners require more in-depth feedback, this can be provided via alternative routes.

Barriers

The main barrier to developing online assessment turned out not to be a technical one, but rather the time taken to create the questions, appropriate distracters and informative feedback. Once the assessments had been designed on paper, generating an online version was relatively simple and required few technical skills. This is perhaps one of the more powerful features offered by VLEs.

Final word

Paul Catley says, "It was hard work in the short term, but the rewards are ongoing". The next challenge is to increase the numbers of learners making use of the quizzes. As e-learning is forming an increasingly important part of the institutional strategy at Oxford Brookes, he is able to draw on support and expertise from across the university.

Further details

Paul Catley is happy to discuss the approach taken at Oxford Brookes University and can be contacted in the first instance via email at: pccatley@brookes.ac.uk

e-Learning at Brookes: www.brookes.ac.uk/virtual/

WebCT: www.webct.com/