

# University of Central England in Birmingham

## Title: Delivering problem-based, experiential e-learning through a social constructionist platform

### Background

The University of Central England in Birmingham (UCE) serves a diverse range of over 23,000 students through flexible programmes allowing people from many walks of life to study in ways that suit their circumstances. UCE offers over 300 courses, covering a wide range of subject areas grouped into nine faculties. These range from Art and Design, Technology and Innovation, through to Birmingham Conservatoire, recognised as one of the major national colleges of music.

UCE is committed to widening access across all sections of the community, offering programmes in association with accredited colleges throughout Greater Birmingham, with a wide variety of full-time and part-time courses.

### Challenge

Following the general trend in Higher Education institutions in recent years, UCE has looked to develop e-learning provision to support everyday learning and teaching. Alan Staley and Niall MacKenzie of the Staff and Student Development Department (SSDD) have been developing and researching different approaches to e-learning over a number of years. Their aim was to define "how people learn and map the technology onto learning", rather than allowing technology to define the learning approach. Initially, Alan and Niall supported faculty-based staff in small-scale projects using a variety of technologies, but they eventually decided to recommend the adoption of a university-wide Virtual Learning Environment (VLE).

Many Further and Higher Education institutions in the United Kingdom have purchased a commercial VLE, however after an extensive evaluation process in 2003, UCE decided not to follow this route. Many factors affected this decision, including practical issues relating to costs, integration with existing institutional software such as student records systems or library catalogues and the potential for 'lock-in' to one vendor. Most importantly, however, it was felt that some systems lacked flexibility in terms of their pedagogical underpinning and the learning and teaching methods that could be supported.

During the evaluation process it was concluded that many VLE systems were based on a content-centred model, which was felt to be more appropriate to American philosophies of teaching and learning. It was thought that such an approach, based on transmission of knowledge, would not typically address the variety of approaches used within UCE, such as problem-based or experiential learning, for example. This led to a re-evaluation of needs, and consideration of a more flexible open source solution, which could also have benefits in terms of cost and support.

### What e-learning offers

The 'pedagogy first' approach at UCE led to *Moodle* being chosen as a VLE, because of its pedagogic design which is guided by a social constructionist philosophy. Focussing on critical thinking, the core activities revolve around discussion and collaboration and more broadly reflect the desired learner-centred approach to teaching at UCE.

Course material in content-centred systems is aggregated into 'courses' to which learners are assigned, coupling the learner closely to the content. Learner-centred systems typically organise learners into groups around which the learning is based. Content exists independently and can be made available in a flexible and dynamic way to support individual learners and activities.

Pilot studies at UCE have demonstrated that Moodle is flexible enough to enable advanced methods of content delivery (such as video lectures), as well as problem-based learning via multimedia case studies, and experiential learning via the communication tools that can link academia and the workplace.

In a staff development context at UCE, multimedia case studies have been developed using two fictional universities, 'Crumpton' and 'Mullock', where real-life scenarios are simulated in cartoon environments. Online communication tools are then used to enable staff to discuss the problems raised in the scenarios, to recommend solutions, and to link theories with their own practice. The communication tools were used both on and off-campus, but this was also combined with face-to-face sessions to provide a blended solution.

Staff and learners also now have better access to support materials from within the online environment, as the structure of Moodle allows for easier integration with other software systems in the institution, enabling the full library catalogue to be linked to directly from within the VLE.

### **Benefits for Learners**

Online problem-based learning is proving useful for learners where the multimedia case studies can make subjects 'come alive' and simulate situations that they may not have had an opportunity to experience for real. In solving the problems, learning must become more independent and learners must collaborate and participate in discussions. Research often suggests that this approach can lead to a deeper understanding than the coverage of a content-driven approach.

Placing discussion and collaborative activities at the forefront reflects the higher order skills desired to complement face-to-face learning. Problem-based learning gives students practice in tackling scenarios that reflect real world situations and allows them to define gaps in understanding. Experiential learning allows students to personalise theories and to make sense of them in their own context. The communication tools can be very effective in making these connections explicit.

Other benefits to learners have also arisen through teaching staff re-thinking how best to use class contact time. Radiographer, Paul Bartholomew, has converted lectures into video format, which are delivered through the VLE. Learners then discuss critical points in after-lecture clinics, both online and face-to-face. This has freed up class time for other activities such as group discussion based around clinical practice. For some, the fact that they could reflect on a problem before coming back and making a contribution meant they gained more from the learning process. For others, the opportunity to learn off-campus meant they could better fit their study time around their life.

### **Key Points for Effective Practice**

At UCE, learning theories came before technology. The aim was to get the pedagogy right by exploring the relevance of desired approaches and determining whether they would work online before moving on to the institutional focus.

Alan and Niall feel that the VLE is impacting on course design by giving the academic staff the opportunity to re-think their approaches prior to using the system. Focussing on using collaboration and discussion is encouraging more examples of 'learner-centred approaches' such as problem-based learning, and experiential learning.

The focus has been on encouraging the use of the tools to aid learning rather than directing staff to use the system in a prescribed manner. The driving force has been pedagogic, based around the type of learning theories which underpin teaching at the university, a factor well received by staff and encouraging them to get involved in the pilot schemes.

### **Barriers**

Technology can sometimes drive the learning solution, leading to difficulties getting staff to 'buy in' to the process. When choosing a system such as a VLE, it may be necessary to try multiple solutions in order to get the best result, even if that means delaying the final decision.

### **Final word**

The approach at UCE has been to put learning and the learner at the heart of the online approach.

"We wanted to get staff to think about how they teach. Using the VLE in this way to support teaching and learning definitely makes one think more about face-to-face teaching" Alan Staley.

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