

1 Introduction

The University of Birmingham was established in 1900. Currently it has over 27,000 students. These include approximately 16,800 undergraduates, 5,400 taught postgraduates and 2,500 research postgraduate students, with a further 2,300 sub-degree students. The University undertakes teaching and research in 34 of the 42 subject disciplines as currently defined by the Quality Assurance Agency for Higher Education (QAA). The primary organisational units within the University are the 20 schools, which have significant devolved academic and financial responsibilities. The schools are the main focus for learning, teaching and research. The University is highly active in research and is a member of the Russell Group and Universitas 21.

2 Current state of play

In March 2000, the University's Flexible Learning Group took the decision to implement a single campus-wide virtual learning environment (VLE). A commercial VLE (WebCT) was chosen and at the start of the academic year 2001/02 and fully implemented across the University for the first time. Since then, Information Services (IS) has been active in promoting its use and there are now over 8,000 individual users at the University. Information Services offers training courses for authors developing WebCT materials and these services continue to be developed and expanded. WebCT continues to provide the core of the central eLearning service, although functionality and usability are enhanced by the use and integration of other eLearning services. Currently these include QuestionMark Perception, Respondus and TRIADS (Tri-Partite Interactive Assessment Delivery System).

Management of the learning and teaching processes at the University of Birmingham is characterised by responsibilities devolved to schools, within a clearly articulated institutional framework. Pedagogic developments are supported through a variety of methods including the funding of projects through the Learning Development Unit (LDU), to integrate innovative ways of learning into the mainstream curriculum. Over 40 projects have been approved (August 2003), of which just under half have successfully completed.¹

Infrastructure and software

WebCT provides the backbone of the eLearning service. Its use is growing in terms of functionality, quality of content and numbers of users. 12,000 students on the campus are using this VLE to support their learning. Version 4 has now been released, offering an enhanced interface. This version, with training and support, is being used for development work for the 2003/2004 session.

In addition, QuestionMark Perception has been in use in various parts of the University to create assessments as a fully integrated part of the central eLearning service. A site license is also available for Respondus, a package for the creation of question sets that can be used within WebCT and/or other IMS QTI (Instructional Management System Question and Test Interoperability) compliant systems. For highly specialised assessment the TRIADS package is available. Training in the use of these packages is included in WebCT training courses.

¹ For further project details see

IMS (Instructional Management System) is recognised as the principal standard for the storage, transfer and use of learning information. As new systems are implemented, every effort is made to ensure IMS compliance. IMS compliance will also be an objective as existing systems become more closely integrated. However, IMS specifications have not yet developed to cover all areas of University activity and in some areas of development full compliance will not be achieved for some time. Even without this, interoperability and communication between various systems and repositories that constitute the MLE is increasingly a reality. The underlying business processes will need continued harmonisation to allow this to contribute to a more effective and efficient environment and infrastructure.

The University of Birmingham has a well-advanced project to provide an institutional information portal². In 2003, the senior management gave the approval for the first phase of the project, targeted at providing an initial arrangement of student focused services and resources. The aim of the project is to provide a unified web-based environment for students and staff to interact with corporate data systems, eLearning and communication mechanism of the institution.

3 Drivers of MLE development

One of the goals of the University's Learning, Teaching and Assessment Strategy (Summer 2002) is: *"To give greater emphasis to student-centred learning and the development of all students as effective life-long learners."* A number of methods aimed at achieving this goal have been identified including the enhancement of student learning through ICT within the context of a "Web-enabled campus" and the implementation of an online learning environment package.

The Information Services Strategic Plan³ states that *"Information Services will support flexible learning, in accordance with the institutional Learning, Teaching and Assessment Strategy, in particular through the creation of an online learning managed environment accessible at the user desktop (on and off campus)"*.

To this end, Information Services is committed to:

- Support of an institutional virtual learning environment, currently WebCT
- Implementation and support of online formative and summative assessment mechanisms
- Development of instructor-led and self-paced training in the pedagogic and technical aspects of using the VLE
- Creation of in-house training materials using the VLE or other suitable training packages

In addition, Information Services, in collaboration with the Staff Development Unit, is committed to the development or commissioning of programmes to equip staff with an understanding of the pedagogic issues of the learning process, particularly in respect of online and networked learning.

Learning Development Unit

The Learning Development Unit (LDU) was set up in September 2000 to support the University's Learning, Teaching and Assessment Strategy. It is located in the Learning and Research Support Division of Information Services and has a remit to encourage new modes of delivery. The LDU is active in promoting Birmingham's

² <http://www.portalproject.bham.ac.uk>

³ Information Services' Five-year Strategic Plan (2001/2-2005/6)

institutional VLE. Pedagogic developments are being encouraged with the assistance of LDU funding for projects that integrate innovative ways of learning into the mainstream curriculum. Funding of up to a maximum of 0.5 FTE is provided through the Teaching Quality Enhancement Fund (TQEF) for both small and large-scale projects. Applications for funding are reviewed by a LDU Project Coordination Group, which reports to the Education Development Committee (EDC).

External Drivers

Drivers for further moves toward integration of systems within and beyond the University of Birmingham include:

- Plans and ambitions in the area of Portal development work, taken forward from 2003 under the flag of the University of Birmingham Portal project, and also working with the universities of Nottingham, Bristol and Hull. This work will exploit and test opportunities provided through past and current work to create more integrated information environments, and will help to articulate new needs.
- Developments in e-Science and Grid computing which are expected to lead to increased demand for standardisation of technologies, procedures and application interfaces and unified, structured process and data descriptions (metadata).
- There are pockets of interest in mobile (3rd generation) and wireless services, which may provide additional drivers for MLE and Portal developments – and additional requirements. Cost implications are seen as unclear, and technologies as possibly too immature for adoption beyond pilots.

3 Consultation and strategy development – the process

Strategic issues

The infrastructures that support the whole development and support of the MLE include: Education Development Committee, Directors of Learning & Teaching, Technology Enhanced Learning (TEL) Development Group and TEL User Support Group, eLearning Strategy Working Group, Staff Development Unit, Learning Development Unit and Information Services. How these are coordinated and fit within management structures and processes is seen as important and as key to the University's current and future progress and success.

The Learning, Teaching and Assessment Strategy plays a central role in informing and shaping MLE development activities at the University of Birmingham. This strategy articulates relevant ambitions and objectives and sets targets for each session. Every School has designated a member of staff as Director of Learning and Teaching, whose remit includes overseeing the translation of strategic targets into 'local' implementation plans and activities, ensuring efficient delivery within their school and informing the continuing process of adjusting and refining the strategy to reflect Schools' needs and changing circumstances.

This strategy identifies specific activities to achieve each of its learning, teaching and assessment goals, and associates targets with these for each year. Some of the activities and targets are University-wide; others are specific for (combinations of) schools and/or centralised services.

Consultation and support

The Learning and Research Support Division (LRSD) of IS provides considerable support for users of the institutional VLE. The Corporate Information Systems Division (CISD) also provides support for users of the Corporate Web. Relevant

members of this division will work with other parts of IS to provide support for the institutional portal. The primary means and channels of support include:

- Support materials that staff can use with their students
- The Computing Help Desk as a source of help for VLE related problems
- Training provided by Information Services targeted at staff who wish to use the VLE with their students, including bespoke training for specific groups where there is sufficient demand
- Clinics by experts within Information Services to provide one-to-one sessions on using the VLE for academics who request assistance
- Projects - the LDU considers all ideas for projects involving new modes of delivering learning and teaching. IS also considers small-scale projects where appropriate and where resources allow.

4 The implementation process

Educational developments and student demands and expectations are key drivers for MLE related implementation work. In order to manage the required *culture change* in a context where technology related developments mean fundamentally different things to different people, an institution wide perspective and steer is seen as essential to match – and build on - the different levels of expectation and ambition.

The institution recognises and supports the growing role of academic-related staff in relation to learning and teaching, away from traditional input providers towards 'hybrid professionals' who can be proactive in supporting, organising and facilitating learning processes. This change is already starting to be reflected in job descriptions, and is being facilitated in a number of ways including an ILT accredited Associate Pathways Module, eLearning in HE.

5 The future

For students, Personal Development Portfolios delivered through the VLE will be piloted in nine schools from September 2003. Although it is impossible to comment on the outcomes of this pilot, it is clear that expectations will have to be managed carefully, as with all other MLE development work. Implementation and 'directional' problems that can be identified in the pilot work are seen as valuable outcomes and will feed into updated strategies, activity plans and targets.

It is hoped that workshops, awareness raising sessions, a WebCT user group and an email discussion list will be implemented in the near future. Activities may be arranged in collaboration with School representatives. A substantial and relevant programme of consultation and communication activity will be implemented through the new Portal project. The 'Portal Project' aspires to provide all stakeholder groups with tailored and appropriate access to an integrated information environment. The project addresses strategic aspirations to develop a web-enabled campus and provides a solution to the web based information needs of users identified in Information Services' five-year plan. The portal environment will be constructed to allow extensions to support the various stakeholders of the University, including Alumni, prospective students, the research community and journalists. Services which are expected to be included in the early stages of the project are: integration of online student transcripts, the exam paper database, the Press Office news releases and events calendar, the library catalogue (including reservations, renewals, fine and charge checking and inter-library loan progress) and learning materials via the VLE. The Portal will have a high level of integration with the University VLE.

It is also anticipated that, in parallel with technological development and trials, a wider range of pedagogic methodologies will be applied and that the ability to match learning needs and learning methods will increase.

Finally, it is recognised that there is a need to enhance provision of IT and access to the campus network. To this end the University of Birmingham has set a target in its Five Year Plan to increase PC provision such that there is a ratio of 1 PC for every 8 students. New PC clusters are being installed in the Main Library and elsewhere and provision for wireless networking and use of laptops is about to be extended to some of the largest libraries within the University.

The University of Birmingham provides a clear framework for continued MLE development, through the infrastructures that underpin the development and support of the MLE, combined with the strategies that are in place with objectives and targets for each session. This framework encourages and builds on devolved responsibility within an institution-wide initiative. Within 3 to 5 years, the University expects to be well advanced in most areas of integration of business processes, services and systems.

6 Using the VLE - views from some academic staff

(Comments are paraphrased from an ongoing discussion)

- In parallel with wider rollout of the VLE, one academic emphasised that the 'service' by central units, including the Staff Development Unit, has improved dramatically over the last 2 years. This has been essential in getting people on board at all levels. The feeling is that these central facilities are somewhat under-resourced.
- The very positive reaction of one lecturer to a recent successful grant application to the Learning Development Unit highlighted its use to free some teaching time to design and prepare a module which will exploit opportunities offered by the VLE. The issue remains that it is difficult to find someone to take over the teaching, which will have to go ahead
- State of the art central facilities, including a media server, allowed another lecturer to make use of digital video in a way that was previously impossible and with substantially larger groups of perhaps a hundred students or more. Some teething problems with the robustness and scalability of the technology surfaced but support staff was extremely helpful and prepared to investigate solutions to these problem.
- The time available to staff, necessary to update their skills and experiment with and exploit opportunities provided by the VLE, is still a barrier to wider uptake. Maybe more dedicated support is needed.
- A significant proportion of students on Business School courses are from overseas, and often non-native speakers of English. Technology mediated communication through the VLE offers these students the opportunity to revisit and rephrase their contributions and answers before going public, which helps in building confidence.
- The Medical school was an early adopter of web-based learning and teaching. This resulted in a 'home-grown' VLE-type tool that gained a good reputation. With some staff already moving to the centrally supported VLE platform, issues are surfacing of what to do with the legacy investment in expertise and existing content. A strategic study has been commissioned to take this forward and arrive at a plan for action. It is not easy for 'non-technical' people to understand what

the impact of decisions in this area will be for their work and teaching.

- One lecturer started to use the VLE more or less independently in a fairly basic manner: 'glorified hand-outs' enriched with cluster of multiple-choice questions. This lecturer believed that some colleagues are unlikely to make even these first steps, and suggested that resources that seem to be available to support and encourage technology-related developments seem sometimes disproportionate to what is available to improve or sustain other areas of our work.

7 Using the VLE - views from student representatives

(Comments are paraphrased from an ongoing discussion)

- Consultation regarding the development of integrated access to information involves students on a high level task force and through special interest groups, in addition to focus group sessions and a 'town hall' meeting to inform staff and students. In the wider context of communication and consultation within the University, student representatives see this as an example of good practice.
- In the Law School, excellent use is made of the opportunity to use the VLE to provide better preparation for the visit to the Magistrates' Court.
- In general, projects undertaken with grants from the LDU are valuable, but before incorporating the use of VLEs in all courses there should be a discussion about what staff and students think and feel it ought to contribute. It should not simply replace lecturers and face-to-face communication as a cost saving. Tutors and students need to be motivated to use the VLE.
- There are substantial differences in the availability of PCs between schools. Maybe provision of 'connectivity' needs to be adapted to accommodate wireless networking and plug-in of laptops.