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## DEVELOPING E-LEARNING DESIGN CAPABILITIES IN A DUAL-MODE INSTITUTION

*Roger Dence, University of Leicester, UK (1)*  
*Alejandro Armellini, University of Leicester, UK (2)*

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### Introduction

Higher education institutions offering open or distance learning provision alongside traditional on-campus delivery can face particular course design, development and delivery challenges on account of their 'dual-mode' nature. Such institutions arguably are more typical than 'mono-mode' institutions offering either on-campus only or distance-learning (DL) only provision. A single-system approach that meets the majority need can result in disadvantages in the other context, while a twin-track approach can lead to duplication of resources and effort. In contrast, 'single-mode' institutions can build systems optimised to support their particular context, with consequent economies and efficiencies to be gained in timescales and costs.

In a dual-mode institution, e-learning is often situated within a 'mosaic' of disciplinary and departmental differences and similarities, with the challenge of fostering innovation and the development of good pedagogical practices in both on-campus and DL contexts that benefit teachers and learners alike. In the DL context, academics need to be supported to a much greater extent than for on-campus delivery by learning technologists, information librarians, multimedia experts and, most importantly, by pedagogical advisers with access to a strong practice evidence base.

Taking the University of Leicester (UoL) as a case, this paper: (a) describes the background to dual-mode provision at UoL; (b) outlines the strategic initiatives relating to learning design enhancements in general and their relevance in the DL context; and (c) summarises the early outcomes in enhancing the e-learning aspects of course design and delivery in both modes.

### Distance Learning in a Dual-Mode Context

The University of Leicester (UoL) is a traditional campus-based university with a significant DL offer that is largely the result of entrepreneurial activities by individual academic departments over more than 15 years. At 1st December 2007, it had over 19 000 students, including over 8500 part-time and distance-learning (DL) students.

Since the early 1990s, the UoL DL portfolio has grown considerably and has widened further since 2006 by developing new programmes and expanding into new markets. It now embraces some 50 programmes from 12 academic departments with particular strengths in the social sciences, and most DL students being adult learners studying for master's degrees (see: [www.le.ac.uk/distancelearning](http://www.le.ac.uk/distancelearning)). Most DL courses are offered worldwide, with over 50% of students currently based outside of the European Community region.

While the institution may be thought of conceptually as a 'dual-mode' university (eg Renwick, 1992; Hope, 2007; Power, 2008), in practice it has operated to date primarily in 'parallel single modes' with little overlap between the two modes of delivery. The UoL situation is distinct also from the 'mixed-mode' provision in which students may have options to switch between delivery modes as their course of study progresses.

Currently, few UoL courses co-exist in both modes, but where they do the student choice is generally one of 'either/or' in terms of on-campus or DL provision, with limited ability to switch between modes during their course of study. Such 'crossover' courses, however, are expected to increase in number to meet the growing needs of students, employers and professional bodies for work-based learning, staff development and continuous professional development.

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<sup>1</sup> Mr Roger Dence is an e-Learning Research Associate with UoL's Beyond Distance Research Alliance.

<sup>2</sup> Dr Alejandro Armellini is a Senior Learning Designer with UoL's Beyond Distance Research Alliance.

The university is at a critical point in the development of its DL portfolio. While the successful DL growth to date has happened organically and entrepreneurially, it has been rooted in differing policies and practices within the various departments involved. The main challenge in curriculum design is twofold. Firstly, to reduce the element of 'distance' (in its broadest sense) between on-campus and DL provision. And second, to transform the student experience such that those studying similar courses in either context receive 'equivalent' learning experiences meeting appropriate academic and quality criteria and, where necessary, professional recognition standards.

Some authors argue that, even in dual-mode institutions, the distinctive methodologies for the design, development and delivery of DL courses are not immediately or widely understood by academics or by administrators (eg Renwick, 1992). The characteristics of most traditional university contexts, in terms of student community, teaching and learning imperatives and the organisational policy structures and curriculum development processes involved, can result in compromises where dual modes are involved.

The issues faced by dual- mode institutions, compared with mono-mode institutions, can include, *inter alia*:

- a) the diverse institutional cultures involved, with often highly devolved, largely autonomous academic departments in each of the two delivery contexts;
- b) the conflicts that can exist between teaching and research imperatives, leading to fluctuating priorities and resource demands;
- c) the tensions between on-campus and DL course development and teaching roles, with implications for routine academic involvement 'across the divide'; and
- d) the opportunities for academic professional development and mechanisms for the mutual exchange of knowledge and experience.

### Developing the e-Learning Agenda

The development of e-learning capabilities, at institutional level and in respect of individual academic staff, was given new impetus in mid 2005 when a formal strategy explicitly addressing e-learning was adopted (Salmon, 2005). This complemented the existing learning and teaching and distance learning strategies. Since then, significant change interventions have been made to strengthen further the institution's learning design capabilities, for both on-campus and DL delivery, and in particular the individual and team e-learning competences necessary at the course and module level in a number of departments offering both modes of provision. A view of the causal linkages seen between these elements is shown in Figure 1:

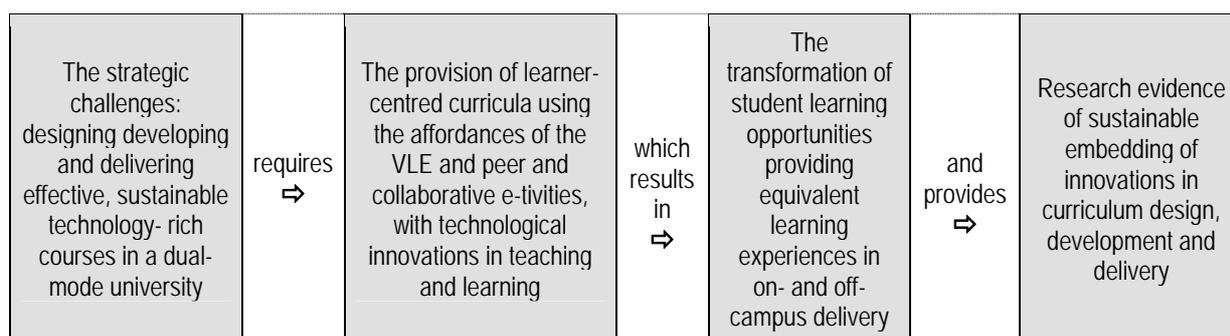


Figure 1: An e-learning enhancement causal effects flow.

At UoL, the e-learning capability and capacity building role is led by the Beyond Distance Research Alliance (BDRA), a research-led unit independent of operational academic responsibilities and separate from staff development functions. BDRA is tasked, in collaboration with IT Services, with the front-line support of academic departments in developing and enhancing e-learning effectiveness and bringing innovation into practice through the generation and dissemination of e-learning research evidence ([www.le.ac.uk/beyonddistance/](http://www.le.ac.uk/beyonddistance/)). In this way, potential learning technology transitions can be highlighted based on current research projects that feed into individual (and individualised) course design and development initiatives.

The BDRA's aim is threefold, namely: (a) to improve the flexibility offered to students, in order to enhance their individual learning experiences; (b) to utilise fully the affordances of developments in learning technologies, as evidenced by the research; and (c) to conduct research-evidenced innovation in a way that is appropriate contextually to the delivery mode and to the teaching, learning and assessment imperatives of individual courses working within the culture of each department. Some of the resultant e-learning challenges are shown in Table1:

Desirable features	Key characteristics
Robust for 'dual modes' of study	Learners are able to choose whether to study certain modules on campus and others at a distance, or using a personally-suitable combination of the two. The learning experience is 'equivalent' regardless of the chosen mode of study.
Work facing and aligned with work-related demands	Student experiences (learning outcomes, design and tasks; teaching, learning and assessment activities) are aligned with work-related needs and personal/professional development aims, thus enabling active, situated, work-based learning.
Negotiated and personalised	Students learning experiences are negotiated and personalised, and are updated regularly and proactively through planned design consultations with and feedback from learners.
Technology rich	Be technology-rich, with appropriate technology choices that exploit institutional, non-institutional and user-owned technologies to encourage active learning in multiple locations through meaningful interactions with peers, tutors, employers and course materials.
Enable the VLE to PLE transition	Enable students to transition from the VLE to a Personal Learning Environment (PLE), through integrating tools and technologies into a Web 2.0-intensive online environment.
Stakeholder engagement and involvement	Engage with key stakeholders, including subject and sector specialists, employers, externals and students, throughout the design, development and piloting.
Flexible	Have sufficient flexibility not to require re-validation to meet differing students' needs, enabling subject teams to 'design once, deliver many times', with minimum resources and revisions.

Table 1: Desirable features and characteristics of new-era technology-rich curricula.

The adoption of the UoL e-learning strategy in 2005 was followed by an audit of the institution's e-learning capabilities as a pilot project within the UK Higher Education Academy's Benchmarking programme ([www.heacademy.ac.uk/benchmarking.htm](http://www.heacademy.ac.uk/benchmarking.htm)). Further e-learning change initiatives formed part of the Academy's Pathfinder programme ([www.heacademy.ac.uk/Pathfinder.htm](http://www.heacademy.ac.uk/Pathfinder.htm)), the e-Learning Research Observatory programme ([www.heacademy.ac.uk/ourwork/learning/elearning/elro](http://www.heacademy.ac.uk/ourwork/learning/elearning/elro)) and the Pathfinder Network programme ([www.heacademy.ac.uk/assets/York/documents/ourwork/tla/Pathfinder\\_Pilot\\_Network\\_Projects.pdf](http://www.heacademy.ac.uk/assets/York/documents/ourwork/tla/Pathfinder_Pilot_Network_Projects.pdf)).

## Implementing Change

### *Benchmarking e-Learning*

From January to July 2006, the UoL took part in the HE Academy's e-learning benchmarking project's 'pilot' phase, as one of twelve Higher Educational Institutions (HEIs) chosen for this phase, working closely with an HE Academy-appointed consultant and in a benchmarking small syndicate or 'club' with three other institutions.

This first round of benchmarking at UoL in 2006 identified two criteria as key targets for improvement, namely 'instructional design/pedagogy' and 'learning material'. These indicated a strong requirement for the building of sustainable capacity among course teams to design and deliver online activities and group work for students, across disciplines and different modes of delivery. These needs were addressed by two further projects aimed at embedding e-learning capabilities for teaching/learning and assessment more strongly across a wide range of course teams.

### *Embedding e-Learning - the ADELIE Project*

E-learning can, of course, be introduced into traditional teaching, whether on campus or at a distance, through large-scale centralisation and the provision of professional services. A more incremental, and challenging, model involves gradually engaging all members of staff, through the choice of easy-to-use technologies and investment in individual, course and departmental learning. This has the advantages of: (a) developing capabilities for the longer term; (b) keeping ownership within academic departments; and (c) embedding and contextualising the changes. It is this model that was chosen as being most appropriate for UoL's academic and autonomous cultures, and within the contexts and frameworks of the strategies involved.

The ADELIE project (Advanced Design for e-Learning Institutional Embedding) was one of a number of HE Academy-funded 'Pathfinder' projects that emerged directly from the results of the pilot e-learning benchmarking programme ([www.le.ac.uk/adelie](http://www.le.ac.uk/adelie)). The programme's aims were to enable institutions to undertake enhancement and transformation projects informed by their earlier benchmarking exercises (Morrison, 2007). This project ran from October 2006 to September 2008, and focused on building and embedding activities for e-learning, ensuring that ownership of content and pedagogy continued to lie directly within academic departments and also recognising that a wide variety of mechanisms must underpin development (Armellini and Jones, 2008). The project brought together pedagogy, stable learning technologies, subject knowledge and e-learning design in planned change interventions in order to build capacity for designing more activities-based learning (Salmon *et al*, 2008; Armellini and Jones, 2008).

These aims were achieved through the use of 2-day discipline-specific facilitated workshops called *Carpe Diem* events, during which individual course teams, working in collaboration with subject librarians and learning technologists, reflected on appropriate course design and assessment practices as they considered new or redesigned online elements. In parallel, a short 2- or 3-week online course in e-moderating (the 'barefoot' e-moderator) was introduced as part of the staff development programme. These twin approaches, ie the *Carpe Diem* process and the e-moderating course, have continued beyond the end of the funded phase of the ADELIE project and are now embedded within UoL's e-learning approach to course design, development and delivery.

### *Making the Link with Assessment - the ADDER Project*

In the early stages of the ADELIE project, many of the e-tivities developed of necessity were focused more on immediate online teaching needs, whether for on-campus or DL course delivery. The next logical step was to extend this approach formally into the area of assessment, using the features and facilities of the various online tools available and the peer and collaborative opportunities they provided.

The subsequent ADDER project (Assessment and Disciplines: Developing E-tivities Research) was a 12-month HE Academy research project funded under the E-Learning Research Observatory programme which ran to September 2008 ([www.le.ac.uk/beyonddistance/adder](http://www.le.ac.uk/beyonddistance/adder)). This investigated assessment practices using e-tivities (Salmon, 2002; Armellini *et al*, 2007) and their impact on the learner experience in four disciplines (education, inter-professional education<sup>(3)</sup>, media studies and psychology), and involving seven course teams at four UK universities<sup>(4)</sup> (Armellini and Aiyegbayo, 2009 forthcoming). The vehicle for the ADDER project was a series of two-day *Carpe Diem* events run in the partner institutions with a focus on designing for e-learning and assessment, and based on the model developed and researched by the earlier ADELIE project (see Table 2).

### *Extending the Partnering Approach - the CHEETAH project*

The HE Academy's experience with the successful benchmarking pilot projects in 2005/2006 (and subsequent Phase 1 and 2 benchmarking projects in a much larger number of HE institutions, in which UoL was not involved) and the Pathfinder programme projects led in 2008 to the creation of the Pathfinder Network projects. These projects aimed to transfer the institutional know-how developed in e-learning and in e-learning capacity building more widely among the UK higher education benchmarking community.

<sup>3</sup> Inter-professional education includes medicine, nursing, midwifery, pharmacy and related disciplines.

<sup>4</sup> The three partner institutions were De Montfort, Derby, London South Bank and Northampton universities.

Links between e-tivities and assessment	Rationale
All output of e-tivities is summatively assessed.	All student work should count. May replace traditional assessment tools (eg an essay) to avoid over-assessment.
E-tivities are optional, but their output explicitly builds towards assessment.	E-tivities are aligned with the requirements of a subsequent summative assessment.
E-tivities are compulsory and their output builds towards assessment. The tutor 'ticks a box' when each e-tivity is satisfactorily completed by each student (but does not assess individual contributions).	E-tivities are aligned with the requirements of a subsequent assessment. As they are compulsory, e-tivities generate additional learner engagement.
All e-tivities are optional and not explicitly linked to assessment.	Keen students given opportunity to learn more without assessment pressures.

**Table 2:** The ADDER typology of links between e-tivities and assessment. **Source:** UoL ADDER project, 2008.

Following the ADELIE project developing e-learning capabilities at UoL, and with the proven *Carpe Diem* model then being used in the ADDER project, UoL undertook one of the Pathfinder Network dissemination projects. Known as CHEETAH (Change by Embedding E-learning in Teaching Across HEIs), this involved six other HEIs from the benchmarking programme as project partners <sup>(5)</sup> ([www.le.ac.uk/beyonddistance/cheetah/](http://www.le.ac.uk/beyonddistance/cheetah/)).

The aim of the project, running from January to October 2008, was to disseminate the key outcomes of the ADELIE Pathfinder project in a variety of specific host-institution settings, providing cross-disciplinary and broad sectoral experience and including both on-campus and DL courses and undergraduate and post-graduate provision. At an institutional level, the aim was to enable partners to apply key interventions and principles to facilitate successful (re)designs for courses selected on their own criteria and needs, and the opportunity to develop a fresh, sustainable institutional approach to capacity building in e-learning design.

### Outcomes and Lessons Learned

Following the adoption of the UoL e-learning strategy in 2005 and subsequent e-learning interventions, several outcomes and lessons can be highlighted. After the first e-learning benchmarking initiative in early 2006, another exercise was conducted in summer 2007. This showed that the ADELIE interventions had been successful in increasing the scores for the critical areas of 'instructional design/pedagogy' and 'learning materials' by 1.5 and 0.5 points respectively, on a scale of 1 (base level) to 6 (excellence). In addition, the results for 'e-learning strategy' increased by 2.0 points, those for 'student understanding of system' and 'student satisfaction' both increased by 1.0 points and for 'staff recognition and reward' increased by 1.5 points. (Mukherjee, 2006)

Up to the end of 2008, 20 *Carpe Diem* sessions had been held at UoL under the auspices of the ADELIE project or internally-sponsored activities. These involved some 160 academic and support staff (eg subject librarians and learning technologists), representing 31 courses across 14 disciplines and resulting in more than 100 newly designed or redesigned e-tivities. In addition, a further 13 *Carpe Diem* sessions have been held at 10 other institutions, involving some 125 academic and support staff, representing 19 courses across 10 disciplines and resulting in more than 70 newly designed or redesigned e-tivities. Further *Carpe Diem* interventions have also been run by UoL staff outside of any project context on behalf of several other UK and European HEIs. Of these overall totals, and covering both UoL and partner institutions, some 26 courses have involved DL provision.

These projects have shown that the *Carpe Diem* process is sustainable, robust and appropriate to the design of new courses and the redesign of existing ones (whether in on-campus, blended or distance modes) in any discipline. It has been used with: (a) different VLEs; (b) a wide range of e-learning technologies; and (c) a comprehensive range of teaching, learning and assessment tools. It has been used for enhancing on-campus courses, designing completely new DL courses, the transition from a largely paper-based DL course to a largely e-learning format and the transition from a solely f2f on-campus taught course to a dual-mode course.

<sup>5</sup> The project partners were: University of Bath, University College Falmouth, Leeds Metropolitan University, Newman College Birmingham, Oxford Brookes University, and University of Worcester.

## Conclusions

E-learning, coupled with disciplinary knowledge and underpinned by sound research, is the vital enabler of effective and efficient teaching and learning and is now a major determinant of the student learning experience<sup>(6)</sup>. The cognition, attitudes and skills of university teachers can change very rapidly during the process and that their ability to design for learners' actions online and to realise the potential gains on offer increases in all disciplines. Thus, the *Carpe Diem* process will remain an important part of its e-learning capability development, offering participants e-learning resources, skills and adaptable models for the development of institutional capacity, and potentially high returns for the investment of a small amount of time.

That said, many challenges remain, not least the pace speed of change in technology. When the UoL e-learning strategy was adopted in 2005, the use of podcasts, wikis and blogs in higher education, for example, was in its infancy; in 2009, they are commonplace and in everyday use by most teachers making effective use of online resources. Their place in pedagogical innovation arguably has been taken by newer technologies, such as multi-user virtual environments (MUVES, such as Second Life) and e-book readers. The continuing requirement for work-based learning and professional development will help to promote the use of mobile solutions and greater personalisation in meeting individual learner needs.

In these contexts, the need for continued innovation in e-learning will continue, with the fostering of active experimentation with new technologies, the continued refreshing, updating and enhancing of existing courses, and the exploration and exploitation of different, if not actually new, technologies to enhance existing courses.

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<sup>6</sup> UoL has topped the UK National Student Survey among mainstream universities for overall satisfaction for three consecutive years from 2005 to 2007, and in October 2008 was nominated University of the Year in The Times Higher Education Awards 2008/9.