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## **Embedding eLearning in a Higher Education Institution**

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### **1. Abstract**

This paper discusses issues surrounding the “embedding” of eLearning in a UK post-1992 University. For purposes of discussion, eLearning will be considered fully embedded into an institution when all policies, procedures, roles and responsibilities pertaining to the use of eLearning are fully integrated – not just with each other, but with those applying to “normal” practice. Whilst a full institutional “road map” could be produced for eLearning, this would be done by extracting the required information from policies, etc., covering the institution holistically, rather than as a “special” set of eLearning statements. Many of the components of practice covered by these policies, procedures, roles and responsibilities are not (and some may never be) implemented technologically. Embedding implies however, that the technologies are employed seamlessly alongside them

Embedding also implies that eLearning has become part of the culture of the institution, and is seen by teaching staff, learners, administrators and managers (and all other stakeholders) as part of normal working practice. Its use will be seen by teachers and learners as part of the normal portfolio available to facilitate learning. Equally, management and administrative practice will be aligned to the use of eLearning, which is integrated into business systems and part of day-to-day operations whilst also forming part of planning and strategy. The issue of cultural embedding is one which, given experience so far, can only be addressed in parts until “process embedding” is complete.

### **2 Introduction**

The use of eLearning in the majority of universities has begun with the introduction of a Virtual Learning Environment (VLE), a system focussed on the delivery and support of learning opportunities. Institutions whose use of VLEs is relatively mature are moving towards the establishment of Managed Learning Environments (MLEs) which include all of the wider features of enrolment, course options, management, student record and profile keeping, the wider management, interchange and publication of content, and the features needed to allow learners to move or progress between courses and institutions<sup>1</sup>

and which must include both technological and “manual” elements.

Embedding is a long-term process; the UK Department for Education and Skills comments:

Embedding e-learning will not happen fast. This is a long-term strategy that looks ahead to years when the technology will probably have evolved further. That is all part of the strategy - how we prepare ourselves, through our education system, to cope with an ever-changing world.

Most importantly, this is a unified e-learning strategy for the whole of England. There are e-learning strategies being developed at every level - in the four countries of the UK, in local authorities, institutions, agencies, and departments, as well as in private sector organisations. E-learning does not recognise these physical boundaries. Coming together to consider how best to blend e-learning with our existing systems will benefit all partners.”<sup>2</sup>

## **2. The Local Background**

eLearning at Staffordshire University did not come about as a strategy in its own right, but as a component of a wider Learning and Teaching Strategy ‘Building a Learning Community’ (BLC). The BLC strategy resulted from senior management recognition of the need for the organisation to become “distinctive” in a changing and competitive UK higher education sector. The strategy was promulgated in 1996 as a result of a Vice-Chancellor led process, facilitated by external consultants, and coordinated by the then Head of Education Development, Steve Outram. Outram notes:

“Any doubts that I might have had about the desirability of using external development consultants were dispelled very quickly once the critical issues started to be addressed. ... External consultants often see things that are taken for granted by, or quite invisible to, people working within an organisation. ... Our external consultants were invaluable; in the expertise they brought to the situation and in their skills in sharing that expertise and moving faculty into a position where they would accept change.”<sup>3</sup>

The nascent strategy saw the University as a learning community where collaboration and peer support were valued, and people felt welcomed and included. Importantly, this concept, with its student-centred ethos, was driven from the top down (as well as from the bottom up), with the Vice-Chancellor and the Executive making it clear that firstly, “buy-in” to the strategy and its development were not optional, and secondly, the process would be resourced. A change process involving senior management, Schools and academic and

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service staff was put into place requiring them to comment on and suggest their contributions to development and implementation of the strategy<sup>4</sup>.

A first round of funding was made available (via top-slicing of existing budgets) for schools and services to carry out projects in support of learning and teaching innovation. Many of these were technology related and typically carried out by “enthusiasts”. This first round of projects, whilst producing some good outcomes and localised change, did not have the widespread impact desired and revealed the weakness in the “enthusiast” driven approach<sup>5</sup>.

Late 1997 saw a move to large scale adoption of “distributed learning” to increase the rate of change and provide a University-wide focus to BLC development<sup>6</sup>. This development centred on the adoption of the Lotus LearningSpace and COSE VLEs. 1998 saw major developments. The “definitive” version of the BLC strategy was published and included:

- Promoting lifelong learning and flexibility in learning provision using educational technologies where appropriate.
- Enabling students achieve academic credit for experiential learning, including work-based learning.
- All programmes including learning outcomes related to skills and the application of tacit knowledge gained in student’s studies.
- A focus on learning and the delivery of flexible learning using ‘active learning’ strategies rather than on teaching
- Enhancing students’ independence as learners and promoting collaborative learning
- The use of resource based learning in conventional programmes
- Using ‘distributed learning’ where appropriate, using technology to support the learning strategy, not to drive it.
- Promoting effective dissemination processes to share good practice and resources and supporting development and use of common materials

A new Learning Development Centre, co-directed by the author and Steve Outram, was set up to lead, drive and support the introduction of distributed learning and the BLC strategy and act as a focus for associated research and development.

Large-scale pilots of Lotus LearningSpace were chosen by competitive bidding, judged against BLC and Schools’ own learning and teaching strategies. Subsequently this changed to a system where schools submitted annual learning and teaching plans which, once approved by the learning and teaching committee, saw each school allocated central funding to support them. Specific developments also had to be approved before funding was allocated to them, with funding released against progress. Each school appointed a BLC manager to drive BLC activities within the school and be a member of a central

group designed to encourage dissemination and the spread of good practice. Additional funds were set aside to support centrally chosen initiatives in particular areas. This “project” model, with developments being managed within schools and supported as requested by central services, continued until 2002, and was supported by use of the Logical Framework approach to planning and management developments<sup>7</sup>.

Staff development in eLearning was embedded in the process. Staff accounts for using VLEs were allocated conditional on the undertaking of centrally provided training or verification of cascading within Schools. Centrally provided staff development had pedagogic issues embedded into the “technical” training, and this was found to be more acceptable to teaching staff, who were less likely to take up purely pedagogic offerings.

The University strove to integrate BLC with other strategies. The Estates Strategy included a focus on teaching and learning accommodation, a Learning and Teaching Fellowship scheme to reward excellence was introduced, the Information Strategy included plans for maintaining and enhancing the required infrastructures, including the linking of MIS systems with VLEs, and quality assurance procedures and policies for eLearning were introduced. As Outram comments,

from 1998 until 2002, the institutional learning and teaching strategy, *Building a Learning Community*, together with the University’s widening participation strategy, led the university’s purpose and activities<sup>8</sup>.

### 3. The Internal Context – Outcomes as of mid-2002

By Summer 2002, BLC could be viewed, with reservations, as an overall success. The initiative had succeeded in joining up many University strategies and had received direct commendation from the UK HE Quality Assurance Agency.<sup>9</sup> Also, all QAA teaching quality reviews since 1988 had received “excellent” scores.

In terms of cultural change, BLC was successful in bringing teaching and learning into the mainstream of discussion amongst faculty.<sup>10</sup> A number of School BLC managers had received advancement as a result of their work and other staff had received Learning and Teaching fellowships. This showed progress in getting faculty to view developing excellence and innovation in learning and teaching as an area worth investing personal effort.

In eLearning there had been considerable progress:

- Several hundred teaching staff had undertaken training in the use of the VLEs
- Some two hundred modules were making use of eLearning
- Full distance learning “e” awards had been developed and were proving successful

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- As part of its HEFCE funded HE/FE consortium, Staffordshire University Regional Federation (SURF), the first new Foundation Degree had been developed, making significant use of a VLE<sup>11</sup>
  - Generic modules in careers development and information skills had been developed and used
  - Links between the VLE and MIS systems had been developed for enrolment of learners
  - Progress had been made in the provision of eResources for learners from eLibraries and eAggregators

#### 4. Lessons learned and problems

By summer 2002, a number of lessons learned and problems had been identified. Outram notes of the overall BLC strategy<sup>12</sup>:

- Both strategy and policy changes should have been evaluated from the outset
- Too much effort was spent on staff who did not wish to engage with change, at the expense of focussing on gaining early wins
- Whilst the need for continuous dissemination of strategy and activities was recognised, this was not as successful as hoped for, leading to some staff “getting the wrong messages”

Staffordshire’s eLearning environment consisted of physical, rather than technological practice with exception of:

- The VLEs themselves
- The automatic and semi-automatic links between the VLEs and the student information system used to enrol students on courses and modules in the VLEs
- Links to library resources and e-book systems actively under development but not yet in place
- Use of repositories for learning content – in very early stages of work
- Systems for Personal Development Planning (PDP) – at “project” stage

With eLearning, the move from competitive “enthusiast” led developments to funding developments against strategies and supporting them centrally had overcome the problems inherent in the former but still had significant weaknesses. Developments sometimes failed to deliver anything, frequently delivered something different, and suffered from “creep”, false expectations, late delivery, and academic workloads. Despite a central methodology, projects were difficult to monitor, and evaluation was often lacking or weak, or had only local benefit. Support staff were not involved in the entire process of development, constraining growth and spread of expertise.<sup>13</sup> Despite

eLearning being generally accepted and widespread, there were significant areas of non-involvement. Overall, it was clear that Staffordshire University was still not a “learning organisation”.<sup>14</sup>

Specific problems with eLearning included:

- Students falling through the “administrative net” and not being enrolled into their courses within the VLEs.
- Uneven support for eLearners from services and academics ranging from excellent to sometimes poor.
- Work with partner FEIs had revealed weaknesses in policies and procedures, and problems with roles and responsibilities.
- Insufficiently sharp arrangements for approving new developments, resulting in those charged with supporting development not being involved soon enough to ensure smooth production and desired quality
- Insufficiently joined-up policies, procedures, roles and responsibilities applying to eLearning.

eLearning could clearly not be described as embedded in terms of the definition given earlier, and importantly the University’s approach to eLearning was not as sustainable needed (with reinvention of wheels and failure to reuse or repurpose resources and approaches). Also, this position did not make University agile in responding to new opportunities and demands.

##### **5. Additional Change Drivers**

The University used two VLEs and was one of the first to face migrating a large body of courses and content from one (LearningSpace) to others (Blackboard, being introduced in the 2002/3 academic year, and COSE, in wide use already). This provided a useful “light” in which to review practice.

In response to the changing UK HE sector, in particular greatly increased competition for students, changes in the basis of student financial provision, and major revisions in research funding, the University had begun developing a revised corporate plan with a focus on enabling the University to:

- Anticipate demand and meet individual needs and aspirations
- Retain its share of “traditional students” but seek new areas for growth via innovative delivery modes and patterns
- Increase part-time and postgraduate numbers including continuing professional development and other specifically targeted areas
- Widen participation and offer flexible opportunities for an increasingly diverse group of learners
- Foster enterprise and engage in focused, applied research resulting in consultancy and knowledge transfer to the private, public and voluntary sectors

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- Play a lead role in regeneration and the cultural, social, economic and intellectual development of the local, regional and wider communities it serves

These are all areas of strength for the University and ones in which its expertise in flexible learning and using technology to support learning would play a major part. This initiative involved major restructuring within the University and in summer 2002 a new Information Service was created. This includes Learning Development and Innovation, Learning Support, Corporate Systems, and IT. eLearning is one of its four core strategies and wider “MLE” developments are embedded into all of these.

The SURF consortium runs foundation degrees across its partner FEIs. The first of these, started in 2001, makes heavy use of one of the University’s VLEs, COSE. At that time COSE was already linked to the University student information system, TheSIS, for enrolment of students. COSE had been used since 1998 for a number of the University’s on-campus and distance courses. Not unreasonably, the University thought it could anticipate most problems, and put in place a programme of staff development for teaching and support staff from the partner FEIs. However, as might be expected given the inexperience of the FE partners (and of the particular group of University teaching staff) in eLearning, coupled with everyone’s inexperience with Foundation Degrees, things did not go entirely smoothly. This is discussed later. (It must be stressed that the foundation degree in question has continued to recruit well and is successful, but the lessons learned have proved useful.)

## 6. The Wider Context

This period saw a major explosion in the use of eLearning in UK HE and FE, with most institutions introducing or planning for VLEs and many starting to build or plan for MLEs. One UK agency heavily involved in these developments is the JISC<sup>15</sup>, which has funded numerous national initiatives and produced guidance and briefing for institutions.

Staffordshire University benefited from being active in these initiatives, locally and nationally, including development of a VLE<sup>16</sup>, work on the interoperation of VLEs<sup>17</sup>, interoperation of VLEs and MIS systems<sup>18</sup>, accessibility in eLearning<sup>19</sup>, reuse and repurposing of content<sup>20</sup>, work with eAggregators<sup>21</sup>, and Personal Development Plans (PDP)<sup>22</sup>. The author has also contributed articles and briefing papers<sup>23</sup>, including a section on Embedding for the JISC MLE Development InfoKit<sup>24</sup>. The InfoKit draws on expertise from across the UK and reinforces many of the experiences and conclusions covered here.

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JISC funded a major study of MLE activity in 2002/3, surveying a significant sample of UK institutions and detailed case studies of a small number<sup>25</sup>. This revealed the vast majority were now using a VLE and that 73% were involved in some degree of MLE development. The study gives the following main drivers for development:

- Enhancing the quality of teaching and learning
- Improving access to learning for students off campus
- Widening participation/inclusiveness
- Student expectations
- Improving access for part-time students
- Using technology to deliver “eLearning”

There is a strong resonance with the current objectives of Staffordshire University. Perceived disadvantages of the move towards MLEs were revealing<sup>26</sup>:

- Cost and time involved
- Resistance to culture change
- Need for large scale staff development

Whilst the study finds evidence for positive reaction from students to developments there was little evidence of enhancement of learning and teaching, with many institutions feeling it was “too soon to give a response”. In addition, the study concludes that pedagogic issues have not in general been addressed, commenting<sup>27</sup>:

“It could be said that HE has never addressed pedagogy; its priority has always been, and broadly continues to be, research and the subject discipline. Until now, pedagogy has traditionally barely figured in planning or professional development. In FE, where learning and teaching have been the prime concerns, staffing and resource deficiencies have prevented, and continue to impede, a sustained focus on pedagogy.”

The study takes a similar view to the author on “embedding”, concluding<sup>28</sup>:

“What is not broadly apparent is any real sense that the MLE is as yet fully embedded in the institutions’ strategic and operational frameworks. MLE development is included in a variety of strategic planning documents, but it is hard to identify many examples where MLE activities are yet an integral part of the philosophy, policies and practice of the institution.”

Echoing an earlier study by Boys<sup>29</sup>, these conclusions equate strongly with those of the author in who, writing about issues surrounding the use of eLearning to widen participation, concluded<sup>30</sup>:

“Unless there is a national focus on the aspects of eLearning concerned with “form” (pedagogy and assessment) which is aimed at bringing these into balance with the current focuses on “content” (curriculum and resources) and issues of technology, students will be increasingly provided with isolating and passive learning experiences which, in turn, will impact most negatively on those very learners which the government is concerned to involve in FE/HE participation.”

## 7. The Approach

Compared with this general UK picture, Staffordshire’s situation in 2002 was distinctive in a number of ways:

- eLearning had been embedded as a *part* of the BLC initiative. Discourse on learning and teaching had become part of normal practice – an indication of considerable cultural change<sup>31</sup>.
- This was enhanced by embedding pedagogic issues in staff development in using VLEs (not popular with all staff, however). Other institutions had argued that getting people started justified a technology led approach, but Staffordshire felt this risked embedding weak educational practice.
- Having two pedagogically contrasting VLEs<sup>32,33</sup> and urging staff to choose on educational grounds had, whilst receiving criticism, produced evidence of eLearning changing mainstream teaching and learning practice<sup>34</sup>.
- The BLC initiative had contributed to the creation of an institutional philosophy of “joined up” strategies
- Work in moving towards an “MLE” was proceeding as part of normal activity, and was integrated in the strategies of the both the institution and the new Information Service
- The institution had come to terms with the infrastructural realities and costs of eLearning

Problems were largely organisational:

- Moving eLearning development work from a “project” to a “production-line” approach
- Ensuring lessons learned were spread across the organisation
- Ensuring eLearning developments were closely targeted at (new) institutional priorities

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- Ensuring eLearning was embedded at the operational level, and formed a natural part of all relevant policies, procedures, roles and responsibilities.

These were outlined in a discussion paper for the Information Services senior management team. The Service had adopted a formal “project management” approach to all its developments, and quickly realised that these problems could neither be owned nor addressed by it in isolation. A project plan to address embedding eLearning was drawn up by the author, and sponsorship and approval for the initiative (called eL-P2R2) sought from the most senior levels of the institution and its major committees.

The first task was identifying the full range of issues and problems. A “walkthrough” approach has been adopted, starting from the position of an academic group that has an idea for a new course involving eLearning and following this through developing the proposal, approval to proceed, validation, design, development, quality assurance, implementation, delivery and support, assessment, post-course evaluation, monitoring and other requirements.

This involves interviews with staff at different levels, “rock-lifting” (asking “difficult” questions of departments and services) and group discussions. Small task-focussed working groups are being spun off to address specific areas. These involve staff from the relevant parts of the institution plus practitioners. Progress is reported at multiple levels and through various committees.

Gaining sponsorship at senior level has been vital in opening doors and getting staff to make time available. It also encourages those “owning” policies and procedures to be open to the idea of changing them. The initiative manager (the author) is both a manager and a professor, which assists in gaining participation from a wide cross-section of the institution. Alongside eL-P2R2, a new approach to the management and support of eLearning developments was developed, and a number of major initiatives of a more technical nature, aimed at specific information needs, started. This discussion dwells largely on issues identified, but includes approaches to solving problems where these have begun.

## **8. Course Planning and Approval**

Institutional policies and processes covering the creation and conduct of courses were considered first. The notion “I/we have an idea for a new course which includes eLearning” was posited and followed through existing channels. This revealed a number of problem areas, and an associated issue of support services not becoming aware of new developments in time to make the best input, leading to important advice sometimes not being received by academic developers in time to

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prevent failure at approval to proceed stage, difficulties at validations, failure to reuse existing resources, failure to make best pedagogic use of the available tools and so forth.

Initial discussions with the Quality Improvement Service focused on two forms used at Faculty and Institutional level to facilitate the “approval to proceed” process. The forms asked many pertinent questions, but did not ensure that prior consultation with QIS and Learning Development had taken place. Following discussions, and a team meeting of QIS, it was agreed that the forms should be changed to ask if the proposal included the use of eLearning, and if so require the completion of an “eLearning annexe” to be signed off by the proposers and Learning Development. The annexe is now being developed by QIS and Learning Development. This should mean that new eLearning courses cannot be developed without appropriate consultation taking place, and that an outline plan for development will be in place involving Learning Development and the academic group (see discussion of Integrative Development).

Teaching staff raised the issue of assessing demand for the proposed new offering. Whilst the University has a central service that can offer advice and support, the onus on demonstrating demand falls to the proposing academic group. Faculty find this difficult at best, and the area is one identified as needing a working group to progress. Given widespread recognition that the cost of developing eLearning courses is both considerable and not well understood<sup>35,36</sup>, credible assessment of demand is vital.

Following approval to proceed, proposals are worked up for formal validation at Faculty and University level. Considerable work on the requirements for validation of “distance” eLearning courses had been carried out under BLC and refined in the light of experience. Requirements additional to those for “traditional” courses are focussed on ensuring that course development and delivery is thought through and planned. A tension is created by the need to assure academic quality and mode of delivery without making validation events unmanageable in terms of workload and paperwork. Where courses are to be largely delivered via eLearning, economies are sought by providing validation material electronically in forms allowing prior consideration which are also useful beyond validation (e.g. course specifications and handbooks).

Whilst there are national guidelines for the quality assurance of distance learning<sup>37</sup>, these focus on the “distance” aspects somewhat at the expense of addressing “e-delivery” issues. (Although, the BSI is now progressing this<sup>38</sup>.) The University had developed guidelines including service levels for academic, learning resource, technical and other support and focuses on a philosophy of ensuring equity between “e” and traditional learners. As usual, validation includes examination

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of staff development needs of staff, including administration and support, and where shortfall in expertise is revealed its correction is made a condition of validation. Vital at validation is assurance of intended learning strategies and pedagogic approaches. At Staffordshire validation events look for evidence of understanding of the educational aspects of eLearning, as well as the technical ones. Without exemplar content this is difficult and new “e” awards must supply substantial parts of three modules in advance of the validation. These should be quality assured (see later) and available electronically to all panel members.

#### **9. Courses Changing to “e”**

This is a difficult issue. Staffordshire, like most institutions, has procedures to be followed when courses change learning strategies, mode of delivery or learning outcomes. However, what degree of change to e-learning or e-resources requires a review, re-validation or re-approval? This is a source of considerable debate and again reveals the tension between ensuring quality whilst not discouraging staff from innovation by imposing additional workload and bureaucracy. This issue is yet to be solved and will be examined by Quality Improvement, Learning Development and representative teaching staff.

#### **10. Assessment**

Review has identified that whilst the University has worked hard to ensure good practice in assessment overall, assessment in eLearning requires considerable further thought, including where “traditional” forms (essays, projects etc) are submitted electronically. A variety of good practice has developed “locally”, but University-wide policy and practice is yet to be defined. Issues requiring consideration from an eLearning perspective include:

- How should “blind” and double marking be implemented?
- How is authorship and receipt of material submitted verified?
- What additional mitigating circumstances might arise?
- Does eLearning alter the role of external examiners?
- How are assessments and exam boards for roll-on-roll-off courses organised?

#### **11. Diverse Course Types**

As eLearning has developed and evolved, courses have diversified in structure, calendar and delivery mode. Discussion showed that this diversification challenged traditional administrative course categorisation. Distinctions between full and part-time modes of study were blurred, and increasing numbers of courses had start and completion dates that conflicted with traditional “administrative rhythms”. This was particularly true when “roll-on roll-off” courses

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were proposed. In these, there are no “cohorts” in the traditional sense, posing problems with mainstream VLE products which tend to view a course as a body of content to which learners are assigned<sup>39</sup>. A new development in negotiated learning is compounding this problem by requiring a highly granular relationship between learners, mentors and tutors. Issues of course granularity in consortium based foundation degrees have also revealed administrative systems issues.

## **12. Course Development and Delivery**

Whilst the “centrally monitored project” approach discussed earlier had been largely successful and had led to overall penetration of eLearning across the institution, by 2002 it was clear that the rate of increase of uptake had slowed and there were still areas of low involvement. Impact of developments was too localised, inhibiting change of practice across the institution.

The new Information Service, decided to move to an Integrative Development approach for the support of the development of eLearning courses. This is discussed at length elsewhere<sup>40</sup>, and is characterized by a shift from a project approach led by individual groups of faculty, to a more centrally managed approach to development. This included a shift from the Logical Framework approach to management of developments (well suited to less well-defined developments) to an approach loosely based on Prince<sup>241</sup> - an approach better suited to a “production” mentality.

A member of Learning Development is assigned to manage each new development as it is identified. They, and other Information Services staff, work with the particular academic group to take the development through to validation or approval, produce a development plan and manage it from conception to delivery. As well as managing development, Learning Development focus on working with the academic group to produce a coherent course structure for use in the chosen VLE, and, where possible, pass on known good practice in terms of pedagogy. At various points other staff are involved. Learning Support staff (including information specialists) work with the group to identify resources, clear IPRs and, with other, clerically skilled, staff, populate the VLE with content produced by faculty using the structure created. (The approach varies according to the ability, inclination and time available for faculty to carry out various elements of the process themselves.) A managed approach is taken to each of the following critical issues:

- Rational for an eLearning solution, feasibility and capacity
- Market and income, profile of potential learners
- Learning outcomes, assessment mode(s) and pedagogy
- Delivery mode and course structure
- Technology choices

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- Producing an Outline Plan
  - Course Design – based on an output driven model<sup>42</sup>
  - Development and Implementation of the course product
  - Satisfying quality requirements

(This approach is being widened to encompass development of foundation degree courses delivered across the SURF consortium. Here a lead academic from a University School and a SURF College work together with a Learning Development manager to drive development of each module.)

An important facet of this new approach is that previously most staff development in eLearning was generic and in advance of development. Integrative development allows staff development, including “eTutoring”, to be built into the production and delivery processes as part of normal activity – a vital part of embedding.

The approach has been very successful. For example, two distance eLearning modules were taken from conception, through validation and development, to delivery in just over eight weeks. However experiences with the approach revealed how un-embedded much of the University’s eLearning and MLE actually was, and also the need for further work on the support of delivery. These conclusions contributed to the creation of the eL-P2R2 initiative.

### 13. **Quality Assurance**

A Quality Assurance Handbook for Distributed Learning outlining good practice was produced in 1998 providing guidelines on types and uses of resources, types of course, course design, usability and accessibility, delivery and feedback.

Two forms are used as part of the QA process, one for courses/modules that are “new” (to eLearning) and one for “repeat deliveries”. New courses require that an agreed peer reviewer assesses the course against a range of questions covering clarity of expectation, course conduct, guidance and induction, accessibility, communication and feedback, and monitoring and evaluation. The reviewer lists conditions and recommendations, and once these have been addressed signs off the course. The repeat form is similar but is lighter in touch. This QA process is used as a “trigger” to allow completed or updated courses to be made available to learners and the forms are submitted to Learning Development who “own” the technical process enabling this.

Initially the process was the source of some understandable resentment: “Nobody asks me to QA the notes I give out or slides I use” (Perhaps they should?) - another example of the tension between wanting to do things well and not inhibiting new developments. But in the light of new legislation on accessibility<sup>43</sup>, perhaps the distinction between “traditional” and “e” resources in terms of QA of content will

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break down. There is now less resistance to this process although it is still regarded as an imposition by some staff. The process has in general worked well at the “trigger” stage, but had been less well attended to in the provision of indicative content for validations. An additional, and sensitive, problem is ensuring that content does not include (normally accidentally or unintentionally) plagiarised material – now the subject of specific consideration.

The initiative has shown that quality requirements need to be addressed throughout design and development, rather than as an “end-point” activity, and have sometimes been not well addressed or addressed too late. Future effort will include work on mechanisms to counter these problems and the production of a new eLearning quality handbook to replace the now venerable original.

#### 14. **Support**

Whilst the infrastructure and service levels for support were understood and clearly stated, it became clear that its elements were insufficiently joined-up. This led to inappropriate escalation of problems, or learners being “taken around in circles” when seeking support. “Who owns what problem?” needed examination, clarification and effective dissemination. A number of students, particularly those accessing from work or other institutions, experience problems caused by firewalls, local IT regulations etc. that cannot easily be foreseen. Learners are often unsure if their problem is academic, administrative or technical. Problems are often presented as, for example, “COSE doesn’t work”. This could indicate an IT problem at client or server end, an administrative problem (e.g. account not set up), a network or firewall problem, a human problem (e.g. using the wrong URL), a failure in induction, and so on. Learners needed a single point of contact who would ensure the problem was handled and escalated effectively.

The most pressing need for support improvements came from the foundation degree courses of the SURF consortium. This required discussion and agreement with partner colleges (and within the University) on the “ownership” of the various types of problems. Following this, a script was produced for use by college teaching and technical support staff addressing the basic problem of “I can’t access the course” or “COSE doesn’t work”. The script was produced by examining support records both for consortium and University students, and could not have been produced without a considerable experience base to work from. The script takes its user through a carefully worked out series of questions and lists solutions and escalation paths. Similar scripts are now being developed for use within the University covering the MLE in its wider context (including both the VLEs used in the University).

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The development of non-academic staff supporting eLearning delivery was another area needing thought. As well as obvious “holes” identified in training, it was clear that it had concentrated on enabling them to carry out technical tasks required in support of eLearning without providing an understanding of how the systems involved were intended to be used by learners. This was particularly true of helpdesk staff, where training had focused on tasks required to solve specific problems (e.g. with accounts) without providing understanding of how learners used the VLEs educationally. This made effective problem solving and communication with the “customer” more difficult than necessary. A “development” activity identified was the potential to involve Help Desk staff in improving support by, for example, them looking at help desk records and reflecting on students support needs in their light. It is also clear that Information Services could make more use of eLearning in its own role as a staff-training provider.

In support of wider staff development within the Information Service, and in recognition of the change in roles that eLearning brings, a component of service-wide strategy has been developed which aims to encourage staff to publish externally, give conference and workshop presentations, and involve themselves in national activities and groups. This is seen as an important part of embedding eLearning in the culture and practice of service staff, and is led by Learning Development staff, who are already active in these areas.

#### 15. **Enrolment**

Whilst effective links between the VLEs and the student information system (TheSIS) had been developed, human error could easily lead to individual students not being able to access VLEs at the start of their courses, with obvious negative impact. There were also problems with late starters and early dropouts. Non-standard courses, starting and finishing outside the norm, roll-on-roll-off courses and short courses also caused unexpected problems, as did “combination courses”. Analysis revealed a surprisingly high number of “informal” and commercial courses that did not use the student information system. With SURF courses, enrolment is carried out at each partner college using the University’s own (paper) forms. Delay in getting enrolments from the colleges to the University, processed and entered into TheSIS could mean learners had no VLE accounts by the time of the first face-to-face sessions. This led to the use of temporary accounts which, coupled with the need for “local” accounts to access the individual colleges networks and computers, meant that once the individual VLE usernames and passwords were available, students could be confused about which account to use for what system.

All of the above led to an undesirable level of manual intervention - itself a source of further errors - and revealed weaknesses

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in manual and technical processes and systems. Also, the review has given rise to a debate about whether “informal” courses should, in fact, be credit bearing anyway and whether any course should go “outside” of the central administrative systems. A final issue around informal courses is that their existence outside of institutional systems would be impossible should an electronic PDP system be introduced.

Many problems proved to be associated with the level of granularity and combination of course groupings that TheSIS and the VLEs could provide and operate with automatically. Whilst the VLEs could provide several or many levels of sub-grouping, TheSIS was designed around “standard” modularised awards. In the case of the SURF foundation degrees, whilst the link between TheSIS and the VLE allowed automated enrolment of learners into both course and modules, students needed to be grouped in the VLE into specific sub-groups for each college within each module. TheSIS could not supply groupings at this level of granularity and therefore this required manual intervention to achieve. A similar problem identified was where a module serves more than one course. For example, a study skills module could be delivered to a group of students who are registered on more than one course, for whom the module might have different learning outcomes.

As mentioned earlier, a course is being developed where learning is negotiated - except for two core modules, the course is chosen by negotiation and can include any module offered by the University, and modules which are independent or work based learning and agreed uniquely in each case. (Also, the course can be started at any time and completed at any time within five years). This means the learner will have multiple tutor relationships and also account managers for independent and work-based learning.

These issues revealed fundamental MLE problems that impact on the flexibility of courses. This is now being addressed as part of a redesign of TheSIS. Enrolment is still therefore an area of work in progress. In the case of the SURF courses, on the second delivery of the degree in September 2002 a scheduled comfort zone was built into the start of the award to allow learners to have individual usernames and passwords before use of the VLE started. In addition, the bulk of all course module content was put onto a CD (COSE allows course content to be published onto a CD containing a player which allows the VLE to be used in offline mode). This helps those with connection problems and gives late enrollers access whilst account issues are resolved. Longer term, the University is looking at electronic enrolment.

## **16. Pricing**

Nearly all staff consulted have raised this as an issue. The university has recognized the need for a costing model to enable decisions on the pricing of eLearning courses to be well informed. This

is being addressed by a group of senior staff. The problem is far from simple as pricing is often contextual: according to type of client, mode of attendance, need to “break into” a new market etc. However, the lack of a common shared model could result in inconsistent charging (even to the same client!) or unintended loss making. The problem of “free” courses can pose problems where access to courses is linked to an enrolment system triggered by payments. For example, there are cases where one module (e.g. key skills) is free but the rest of the course is charged. Some groups consulted have urged the introduction of “e-payment” and the ability for learners to “pay as they learn”. However, automating enrolment, payment and registration processes completely would require authentication of eReferences and eReferees, and verification of off-campus eLearner credentials, bona fides and qualifications prior to enrolment by electronic means.

#### **17. Academic Staff Development and Student Induction**

These two issues have proved to be interdependent. Staff development had been embedded in the BLC initiative and is a requirement considered at validation. It has become clear, however, that although staff development had concentrated heavily on course design (including the pedagogic aspects so vital to cultural change), development in the *delivery* of eLearning had been less well addressed. The importance of induction for “eLearners” was recognized and the provision of this had been integrated into processes and policies. However whilst frequently well done, induction was uneven in quality. Problems at the start of the courses can be demoralising to learners who need know where to get help, and be confident that support is both available when stated and that it will respond quickly. Therefore, staff development was built into the new “integrative development” approach to embed it the development and delivery processes. Experience and discussion had indicated that breaking such training into smaller, more focused components, delivered close to the point (and time) of need was a desirable change.

The need to reach the right balance in terms of the range of systems and functionality covered when training teaching staff was an issue. Whilst during the early phases of the introduction of eLearning it was thought necessary to train staff in some management and higher-level course creation procedures, embedding leads to the centralization of certain responsibilities and controls. However, this can then lead to friction with teaching staff who feel control and flexibility is being taken away and hence staff development and the policies and procedures associated with eLearning are co-dependent.

The need to improve staff development in delivery and learner induction was highlighted by the SURF foundation degrees. Here, the programme of staff development put in place when the first degree was

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being developed was less successful than hoped for various reasons. Firstly, it was difficult for partner FEIs to identify the staff who would be involved in delivery some four or five months before the start of courses. Secondly, staff involved in delivery needed course content available to make best use of the training, and this was largely undeveloped at the time of training. Last, staff did not engage enough with the technology following training, often because they did not know they would need to! This is an example of a cultural difference between HE and FE as staffing decisions in FE often are made at a late stage and a higher proportion of part-time staff are employed.

This was the first time that most of the partner colleges had used a VLE with off-campus students. The VLE server was also off-campus, being based at the University. There was a dangerous assumption by course teams that using a VLE was basically just like using the Internet. However, there were problems with firewalls, with some colleges finding that various components of the VLE were blocked. Also, colleges were not advised strongly enough to check access from the actual computers that students would use whilst at the college. This resulted in problems where the software installation on students PCs varied across the college (for example, browser versions and plug-ins installed). Overall college staff did not receive enough advice on what might go wrong, and what induction learners needed.

Support staff from the University will now go to colleges to carry out staff induction immediately prior to delivery. (This also helps to identify local technical issues). Also, an induction checklist has been produced, drawing on good practice and experience within the University, aimed at those delivering VLE-based modules in the partner colleges. This covers a range of issues: from ensuring the staff member has checked that they can access the VLE content and understand its intent, that they have all support materials, that learners have accounts and are members of the right group within the VLE, that facilities for induction are in place and working, to ensuring that the staff member understands all the various support mechanisms and procedures. The checklist should help also ensure a consistent approach by making it clear what learner induction should include. To assist, a comprehensive set of materials for learner induction has been produced including PowerPoint slides for use in induction sessions, and student handouts on the use on the VLE in the context of the SURF courses.

It has become clear that working practice and culture can only be changed if the policies, procedures, roles and responsibilities that are in place will reinforce the impact of development on staff, in that they will practice what they have learned.

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**18. Course Monitoring, Evaluation and Teaching Quality**

Mechanisms had been developed to allow access to past courses by learners, tutors, and external “officials” such as examiners. Investigation showed that that no clear policy on the retention period and rights of individuals over such “archived material” existed in the eLearning context. This is an area for further investigation. Issues of what can be presented electronically for external inspections and assessments, and what is needed on paper need to be resolved. The problem of enabling the learner to take away all the “e” aspects of their learning experience when they leave the institution is also yet to be fully solved. Lastly, alignment eLearning with “traditional” practice in aspects of the internal maintenance of teaching quality is needed – for example the practice of peer observation for lectures and other traditional forms is well embedded but has not been extended to “e-Tutoring”.

Course monitoring and student feedback was being practiced effectively in both traditional and “e” delivery but the approaches used were “local”. Work is now being carried out to develop a university-wide electronic feedback form for eLearning courses. If this can be adopted, overall evaluation – an area identified as weak – would be greatly enhanced.

**19. Sustainability**

As discussed, the University is in the position of migrating a significant volume of courses and content from Lotus Learning Space to either Blackboard or COSE. In addition, it is developing other MLE components such as content repositories, and links with eBook systems and content management systems. As a result, planning the change processes so as to not impair progress towards embedding and achieving the required cultural changes is an important issue.

A prime area to address is facilitation and promotion of the reuse and repurposing of eLearning content. The COSE VLE, which allows any user to reuse and repurpose their own personally authored content, or to publish it into a central area for reuse at any level of (dis)aggregation by all users. Staff have made good use of the “private” reuse facility, but have been slow to publish content to allow general reuse. This results from faculty views of intellectual property, but there are signs that as some form of “critical mass” of content is reached, the potential time savings become more attractive.

Another initiative relates to the eLearning equivalent of “e-Reading lists”. Links to external references and resources are highly contextual, and represent the exercise of professional expertise by their creator, thus constituting significant intellectual property. The University is working with leading eAggregators (providing access to substantial holdings of eBooks) to build a mechanism for the creation

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of contextualized “reusable reference objects”. This will allow the publication (with confirmed authorship) and reuse of "e-Reading lists" providing authenticated access to the various external resources.

Integrative development, with learning development and information specialists building staff development into the course creation process is intended to reinforce the reuse and repurposing of content and to contribute to required cultural change. Alongside this, the University plans to develop a learning content repository allowing the reuse and repurposing of content in multiple VLEs.

Adherence to, and contribution to the development of, standards for interoperability of learning systems and materials is critical to the sustainability of eLearning and the University is currently actively involved with the IMS Content Packaging, Metadata, Enterprise, and LIP specifications<sup>44</sup>, and also the UK LOM Core (Metadata for learning Objects)<sup>45</sup>, Accessibility Metadata<sup>46</sup> and the SCORM<sup>47</sup> reference model. In addition, it is clear that in the future the reuse and repurposing of pedagogic approaches as well as content will become vital and the author considers that initiatives such as the IMS Learning Design specification<sup>48</sup> will become important.

Sustainability of courses and resources involves a profound effect on roles<sup>49</sup>, and is being taken into consideration in the approach to staff development discussed earlier.

## **20. Evaluation of eLearning and the MLE**

This has been, and continues to be, a problematic area. Several attempts to carry out a large scale evaluation of BLC failed, due to time constraints, staff changes and similar barriers. This picture is common across education, where “more challenging” approaches to evaluation are called for.<sup>50</sup>

The reporting mechanism based on Logical Framework used for BLC funded projects did, in the main, work and produce some prima face evidence of enhancement of learning, as well as confirming expected barriers such as faculty workload, inexperience in project management, and the need to “create” time. These barriers also tended to “squeeze” the amount of time spent on evaluation with a corresponding negative impact on its quality. The switch to the “integrative development” approach is enhancing formative evaluation by providing a more managed framework within which to review and reflect on outcomes as developments progress.

Evaluation needs to be ongoing and to evaluate process as well as outcomes, procedures as well as educational impact. This implies it must be both formative and summative, and must be focused on the “user”. As eLearning and the emergent MLE are on-going developments that do not, given technological and sectoral change, have “end points”, those managing developments at Staffordshire are

convinced that, formative evaluation is the most informative. Summative evaluation is useful for “review” at the end of specific developments when used to examine changes against original plans for reflective purposes. So far, the eL-P2R2 initiative with its use of interviews, discussion and working groups, is proving to be an invaluable evaluative tool in its own right.

## 21. Conclusion

Embedding eLearning clearly requires an understanding of how it fits into organisational strategy and its incorporation into departmental and other operational plans. However, a shared understanding of how it forms part of the learning and teaching experience is an equally important facet of progress. This requires a perception, by all staff, that eLearning is part of normal practice. The cultural changes required affect teaching, support, administrative and management staff. To achieve these changes requires recognition of the symbiotic relationship between “culture” and “policy and procedure”. Staff development used only in cohort with “strategy” will not achieve the changes required. Staff development needs to be embedded in the “production process” and the processes of changing policies and procedures. Only by doing this will changes in roles and responsibilities be embedded culturally as well as functionally? However, given their relationship to policy and procedure, administrative and management staff must be involved fully in this process and embedding MUST imply senior management commitment to real change at strategic and operational levels.

To date, the process for investigating and working towards embedding at Staffordshire, with its inclusive walkthrough approach, has proved to be a major staff development and cultural change activity in its own right as it is causing disparate groups of staff, and particularly managers and administrators, to engage with the issues and each other in the context of eLearning and an emerging MLE.

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