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AUTHOR	Jordan, Gillian; Jameson, Jill
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ABSTRACT

This case study identifies key barriers for staff on the path to an e-University and suggests ways to unlock them. The focus of the evidence-based research is an e-University pilot development in virtual learning in progress at the University of Greenwich (England). Documentary evidence for the study included feedback from 12 sub-projects in the overall development designed to test fitness for purpose in delivering and e-commerce degree program. Written commentary from staff on the steering group and from professional external facilitators on business modeling provided evidence of the following key barriers and suggestions on ways to overcome them: institutional distractions; confused perceptions of leadership and decision-making; skills and staff development issues; e-critics, communications, and overload problems; and quality problems. The authors took as their guiding principle a main focus on delivering excellence in learning for students. To recommend successful methods of unlocking the main barriers for staff on the path to an institutional implementation of e-learning, the e-University Key Barrier Matrix was developed. (Contains 13 references.) (Author/MES)

Unlocking Key Barriers for Staff on the Path to an e-University

Authors:

Gillian Jordan, MSc, Principal Lecturer, Open Learning
School of Health, University of Greenwich,
London, England SE9 2PQ
Email: G.G.Jordan@gre.ac.uk

Jill Jameson, PhD, Director of Lifelong Learning
Lifelong Learning Office, University of Greenwich,
London, England SE18 6BU
Email: J.Jameson@gre.ac.uk

Abstract

This case study identifies key barriers for staff on the path to an e-University, and suggests ways to unlock these. The focus of this evidence-based research is an eUniversity pilot development in virtual learning in progress at the University of Greenwich. Documentary evidence for the study included feedback from twelve sub-projects in the overall development designed to test "fitness for purpose" in delivering an MSc e-Commerce degree programme. Written commentary from staff on the steering group and from professional external facilitators PricewaterhouseCoopers on business modelling provided evidence of key barriers and suggestions on ways to overcome them. The authors took as their guiding principle a main focus on delivering excellence in learning for students. To recommend successful methods of unlocking the main barriers for staff on the path to an institutional implementation of e learning, an "e-University Key Barrier Matrix" was developed.

Background

In the current global stampede to convert courses for web-based delivery, the identification and unlocking of key barriers to successful whole-institution implementation of e-learning is possibly the single most important competitive advantage a university can possess. In this short paper, we deal with this issue in relation, particularly, to staffing issues. The focus on "barriers for staff" is deliberate, in recognition of the "make or break" significance staff at a range of levels can have in the institutional change processes involved in introducing e-learning (Hall, 2001). The locus of our study is the University of Greenwich - a UK regional university for South East London and Kent, with a number of areas of international expertise, and a main campus situated at the historic Wren-designed Royal Naval College site in Maritime Greenwich.

With almost 18,000 students on undergraduate and postgraduate programmes, the university has responded to emerging demographic trends of student study-work combinations by widening its range of part-time and flexible study routes. Increasingly, e-learning initiatives have been developed, innovation-driven by expert staff enthusiasts. The recent launch of a UK-wide "e-University" by the Higher Education Funding Council for England (HEFCE, 2000), combined with funding for strategic learning and teaching initiatives has enabled further edevelopments. Greenwich is one of those UK universities now systematically preparing itself for "fitness for purpose" in e-learning through an e-University (e-U) pilot HEFCE-funded project.

To integrate e-learning into the university, and re-think students' learning in terms of e-facilities as recommended by previous researchers (Laurillard, 1993), the e-U project was conceptualised in relation to the university's Framework for Learning (Humphreys, 1998). In this Framework, learning is envisaged in terms of a number of generic delivery functions (University of Greenwich, 2000). Twelve e-University sub-projects were mapped against these delivery functions to act as a test bed for the university's capability to support learning using facilities, resources and services for electronic delivery through a pilot master's degree programme - an MSc e-Commerce - to be delivered 100% on-line. All aspects of elearning delivery are being tested and

evaluated for "fitness of purpose", so that e-delivery of each separate facility can, once "fit", be applied selectively to a range of mainstream degree programmes. The sub-projects cover all aspects of learning and related support infrastructure. Each sub-project has a clearly stated aim with related tasks and is led by a member of academic, technical or administrative staff with expertise in the sub-project area (ibid.). The outcome of overall will be the delivery and evaluation of the MSc and the selected mainstreaming of the sub-projects.

Method of Identifying Key Barrie rs on the Path

In travelling the e-University development path, we have encountered particular barriers to progress that are particularly important for staff. We have found it useful to identify these barriers, prioritise those that are key to success, and find a range of ways of overcoming these. Evidence-based research in the form of a descriptive case study (Yin, 1994) can be a helpful way of enabling an institution to examine the implementation of innovations in learning and teaching, with the aim of developing good practice. Our identification of key barriers for staff and recommendations for the resolution of problems connected with implementing this kind of "borderless education" is informed by prior work on the subject of e-learning (CVCP, 2000). We recognise that these obstacles are not unique to us. However, we anticipate that sharing local perceptions of e-barriers and ways round them with a larger audience will be a valuable and relevant exercise for us all as we engage in dialogue and exchange of experiences in the implementation of virtual learning. In identifying barriers to progress, written evidence from the steering group for the project, and the report of an external facilitator from PricewaterhouseCoopers (Block et al, 2001) was utilised. A range of problems was identified from the examination of these sources. These can be grouped under the general headings of institutional distractions, leadership and skills issues, e-critics, communications and overload problems, and quality barriers.

Key Barriers Identified

Key Barrier One - Institutional Distractions

At the time of implementation of this virtual learning project, the university was undergoing a major restructuring. This change was perceived by the e-University steering group as a potential distraction. A general institutional focus on restructuring drew some staff away from the aims of the e-U project. A number of staff due to complete sub-projects were pulled out to complete important work needed for restructuring. The "hard data" perceived as necessary by the external facilitator for business modelling was not forthcoming by the specified date, staff were forced to cancel meetings and were unable to carry out work as originally agreed.

A tendency to marginalise the virtual learning project occurred through these distractions. Staff regarded their main University work as more important and significant than the e-development. The perception by some academic heads of department that the virtual learning project was an unnecessary drain on staff time did not square with the investment in funding provided to release lecturing staff from other duties. Simultaneously, some unclarity arose about the perceived overall institutional aims of the virtual learning project. One staff member commented, "I'm kind of confused about where we are and where we are going." Different perceptions arose about the main focus of the e-University: a separate entity with its own name, market, staff and facilities, or a complementary enhancement of the mainstream activity of the university. Significant institutional distractions can arise in the implementation of virtual learning. This is more challenging in a situation complicated both by comprehensive institutional change and by confusions in perceived aims.

Unlocking Barrier One – Stay Motivated and Keep Your Eye on the Ball!

In our case, the knowledge that the e-University development will make a positive contribution to the university's new structure has been an incentive to continued motivation. The original specification of the project as a vehicle to test "fitness for purpose" in virtual learning against the Framework for Learning had a useful degree of conceptual integrity for student learning. The guidance of managers to concentrate on "keeping your eye on the ball" at a time of major institutional change was helpful in retaining staff motivation and steering the project through uncertainties. Staying motivated and focussed on the original aims of the eproject therefore unlocks the first obstacle of institutional distractions.

Key Barrier Two – Confused Perceptions of Leadership and Decision-Making

In terms of leadership, differences in understanding the remit of project complicated decision-making, as a number of levels, strands of management and committee structures were involved. Swift decision-making was hence impeded, as recommendations for decisions suggested by the steering group for the project were not always in tune with the ideas of all, and a range of staff at different tiers in the university needed to know, understand and agree with the aims of the project. A variety of expertise in and enthusiasm for e-learning existed at different levels of management. Institutional recognition of who precisely was "leading" the project was sometimes perceived as unclear, as there were "leaders" at different levels in a somewhat longish chain of command. Enthusiasts at a number of hierarchical levels were perceived by staff in the steering group to have a leading role in knowledge and experience, while others, more remote, might have actualised authority in terms of decision-making on, e.g. finances. Such discrepancies could lead to delays, misunderstandings and confusion.

Surmounting these particular barriers has required a number of small forays into what Schön (1983) calls the 'swampy lowlands' in order to get back onto the main path. A major strength in this has been the existence of the twelve sub-projects (University of Greenwich, 2000). As each worked to a mini business model, progress on individual projects made contributions to the whole. Sub-projects developed at varying speeds - when one area of development was behind schedule, another was demonstrating substantial advances. This assisted cross-fertilisation and transference of ideas and skills. Regular project meetings were essential to facilitate this process. Werner comments (Werner, 2001) that effective results from this kind of small-scale focussed sub-project work is critical – "cultures change when pockets of people find success and the word spreads".

A vital area for decision–making has been that of determining the appropriate virtual learning environment to be used in the e-University. The chosen platform had to provide electronic access to all relevant facilities, resources and services of the e-University and be compatible with existing hardware/software used by the university as a whole. One sub-project was briefed with the task of identifying a range of virtual learning environments (VLEs) and evaluating their relevance and usability. A major problem was that a decision was made at the outset to adopt a particular commercial VLE for new developments, before the sub-project team had been able to evaluate a range of available platforms, whilst existing e-learning provision was using a different VLE. The solution to this problem was that, for the initial stages of implementation of the e-University, more than one platform will continue to be used. This has the disadvantage that in the short term more staff development and ongoing technical support is needed but the advantage that when a decision is finally made to use only one platform, it will be a fully informed strategic decision arising from extensive evaluative comparisons.

Unlocking Barrier Two – Identify Leadership, Achieve Consensus

In opening up this second barrier, it is helpful to all if clear leadership of an e-learning development is identified at a number of levels from the outset, and decision-making processes are clarified and disseminated. As Hall notes (Hall, 2001) a steering committee involving a range of functional managers can be useful. Delegation of specific areas of decision-making can promote local ownership, while a wide-ranging process of consultation is vital to ensure the sympathies and understandings of participants are engaged, and that staff feel that they "own" the project. This combination of clear leadership and effective consultation has been useful to achieve a growing consensual university-wide understanding and ownership of the role and purpose of e-University developments. Public support for the project from top University managers has been vital in this process.

Key Barrier Three - Skills and Staff Development Issues

The identification of staff with appropriate skills for the implementation of a vehicle for testing "fitness of purpose" of the university for e-learning was complicated by some lack of recognition of existing staff expertise. One learning and teaching developer commented, somewhat nostalgically, "... five years ago we were ahead of the field in the development of interactive collaborative learning on line ... in planning any future e-University, we need to retain the raison d'être for e-support in its original form, i.e. to support learners who feel isolated.. and retain and extend the expertise ... good and motivation of original developer/enthusiasts who are our e-University champions." (Block et al., 2001)

The implementation of the project did not automatically achieve this, as the selection of staff did not initially draw on this original group of enthusiasts. Latterly, however, enthusiasts for e-learning were drawn in, to utilise their expertise, as were new staff with unique and hitherto unutilised vital skills in instructional design and applications development. Both original and new staff with e-learning experience have acted as advisors and mentors to those developing the MSc e-Commerce. In some ways this work highlighted as many problems as have been solved, as the pedagogical model for the MSc eCommerce has so far been predominantly a transmissive didactic one (Moll et al 1993). The development team have focused more on translating lecture materials into web format than on utilising the potential of the web for creating a collaborative, peer-supported transactional learning environment (Jordan and Ryan, 1999). The pressure on the development team to prepare the programme for validation procedures has inevitably made staff somewhat resistant to embrace new or different models of learning and the MSc has initially had a teacher-centred format. The positive aspect of this is that the nature of web-delivered materials lends itself to development more readily than paper-based distance learning materials and the team are keen to participate in activities aimed at facilitating ongoing and dynamic enhancements of the programme. Re-examining the nature of the learning experience itself remains a key focus in the management of the project, and one which has *not* been subject to confused perceptions – the core value of providing excellence in student learning has been a useful common denominator in ensuring staff commitment to skills development.

One recommendation of the Business Modelling Day (Block et al., 2001) was that "An organisational migration plan is required to implement this strategy as an enterprise-wide e-learning model." A move to wider e-learning requires the involvement of more staff who need development to engage with the technological and pedagogical aspects of etutoring. Not all staff are interested in acquiring new skills and many of them see e-learning as a threat to the status quo. This is a particular problem when a major restructuring threatens job securities.

Unlocking Barrier Three - Value and Develop Staff, Identify and Use Expertise

To open up barrier three, a recognition that staff expertise and enthusiasm is a valuable commodity in the implementation of an eproject can be helpful. It is important to engage sympathies, involve staff and ensure that training, mentoring and advice is available. Developing a more sophisticated pedagogical model for collaborative peer-supported interactive learning can be achieved through such processes. The recognition of core values can be a useful common denominator.

Key Barrier Four - e-Critics, Communications and Overload problems

Problems arose in working across all university schools. Perceptions of academics that the eproject was a potential threat to their futures echoes the considerable effect that this "major renegotiation of pedagogy and authority" (Faigley, 1998) - perhaps inevitably bound up with the introduction of on-line learning - is having globally. Just as environmental critics of the internet argue that "when our own communities have become unsafe, uncertain, unpleasant, and ugly, we seek artificial ones" (Faigley, 1998), so academic e-critics have argued that the nature of learning is, inevitably, negatively affected. A perceived diminution of educational integrity is regarded by some as a necessary downside to e-learning. To counter such criticism, which can arise from those with least experience of eworking, it is helpful to have excellent, regular communications and information dissemination on the developments involved, and to be effective in keeping to deadlines. Considerable difficulties can arise with workload to achieve this, however. Staff in this eU project were seconded from full-time university jobs. Problems arose with staff workloads already very heavy with routine university work and meeting deadlines was an ongoing problematic issue. This is a common issue in many work areas - staff with particular skills are often called upon to carry out additional duties. The solution will be that, in time, as specialist skills become more widely cascaded, more people will be available to meet new demands.

Unlocking Barrier Four – Communicate Well, Release Staff from Overload

To counter e-Critics, good communication in "frequent, specific messages" engaging staff in real conversations about acknowledged problems, and meeting deadlines effectively through "high intensity participation" can be crucial (Werner, 2001). Cascading specialist skills and releasing specialist staff from mundane duties to enable concentrated e-development can free up overburdened staff and help the project succeed.

Barrier Five - Quality Problems

A major consideration in our thinking and development has been to ensure quality in e-provision. Quality is an overarching concept referring not only to materials provided but to all aspects of the learning experience, including student support, access to resources, technical back-up, and the match between pedagogical models, subject areas and students' entry abilities. Close attention to quality is important to safeguard the institution's reputation, although a cynic might suggest that the ultimate arbiter of quality will be the consumer. E-learning quality issues need to be monitored carefully: they are not the same as the quality issues in conventional learning. Just as pedagogical models do not necessarily transfer effectively from one mode of delivery to another, neither do quality assurance mechanisms. The focus has therefore been on the development of quality standards and protocols for materials design, technical and web page specification, registration, induction formats and other critical processes. According to a CVCP study into the implications of global borderless education.... "for some time to come, borderless developments are likely to add significant complexity to the task of quality management at institutional, national and international levels" (CVCP, 2000). Innovators of e-learning can perceive that bespoke remodelling of existing quality assurance processes is over-rigorous and unfair to them, but the aim is to provide clear quality assurance checks (QAA, 1999).

Key Barrier	Nature of problem	How to Unlock Barrier
1. Institutional Distractions	• Institutional distractions and lack of focus • Confusion about e-learning institutional vision	• Agree terms of focus clearly with senior managers, disseminate this throughout project, ensure other issues do not distract staff and keep your eye on the ball! • Conceptualise e-University within overall vision for learning: re-think learning in relation to electronic delivery, challenging existing perceptions of and prejudices against e-learning, disseminate vision widely • Brainstorm benefits and opportunities • Draw on ideas and knowledge of enthusiasts • Focus on small-scale effective results ; hold regular meetings timetabled with project staff
2. Perceptions of Leadership	• Perceived unclear leadership • Confused perceptions about decision-making • Feelings of not being informed • Perceptions of top-down management structures	• Clear leader(s) identified at a number of levels • Roles and reporting mechanisms and decision-making e.g. on finances clarified and disseminated • Disseminate information widely with messages from the observable leader, with feedback loop • Some leadership tasks devolved to sub-projects to maintain progress
3. Skills	• Lack of skills of staff involved • Staff with appropriate existing skills not identified • Models of learning selected inappropriate for e-learning programme being developed • New, unproven VLE introduced, whilst long-used, proven VLE sidelined	• Staff development • Identify and involve e-learning 'champions' • Identification of appropriate pedagogical models for implementation; staff development, mentoring and guidance in models of learning • Identification of all requirements for VLE, mapped against facilities from a range of platforms: maintain both platforms whilst full evaluation continues and compatibility issues explored
4. e-Critics and Communications problems	• e-University project perceived as a threat by some e-Critics or not considered at all by many	• Dissemination of information about project through individual discussions at School and subject group level. Use internal publicity mechanisms (newsletters etc) to market project Consider the views of e-Critics, engage staff, acknowledge problems, provide answers
Staff overload	• Staff involved already overloaded	• Delegation of tasks wherever possible • Cascading of specialist skills
5. Quality	• Risk of poor e-learning practice	• Attention to all aspects of quality assurance • No shortcuts in quality assurance processes and checks on e-delivery • Ongoing materials development to enhance e-learning quality

Table 2: Key Barrier Matrix for the e-University of Greenwich Development

Unlocking Barrier Five – Concentrate on Achieving Quality – No Shortcuts

The assurance of quality in content as well as in the general learning environment is essential for effective e-learning development. No shortcuts should be allowed in this process, or customers will vote with their feet. Therefore in achieving the opening up of the final barrier – quality – hard work by e-learning practitioners, in concentrating on effective quality assurance of all aspects of the e-learning programme, is vital.

Key Barrier Matrix for the Implementation of an e-University

The researchers jointly developed an "e-University Key Barrier Matrix" to identify and overcome difficulties encountered in implementing e-learning. This matrix (Tab. 2) summarises key barriers discovered locally in setting up the e-U project. Not a definitive list of all possible barriers, this is a local reflection of problems and solutions we encountered. We provide this matrix to share in developing good practice models for e-learning.

Conclusion

In this paper we have drawn upon the experiences of one institution in developing an e-University, to highlight key barriers to progress. Not all barriers have been identified and in this short paper we cannot reflect in full detail the factors that facilitated our progress. This paper only presents a part of the story. It will not be until this development project is completed and the e-University implemented that we will be able to reflect fully on our experiences and evaluate the outcomes. But to share with a wider audience this identification and unlocking of key barriers is to open up the path to e-learning, with the specific goal of learner achievement in mind.

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