

Introduction: ICT-driven change in higher education: Learning from e-learning

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Early in 2006, drawing greatly upon personal experience, we identified the need for the Higher Education (HE) community to identify and share much more transparently the growth pains of developing institutional e-learning cultures, with all the concomitant challenges of managing consequential organisational transformation. A proposal for a special issue was made to the editors of this journal, which was enthusiastically accepted. The following editorial sets the contemporary context and then identifies the unifying thread and different themes throughout the peer-reviewed contributions.

It is often stated that HE is key to creating and supporting the knowledge-based economies of the 21st century but also that the raised expectations are simultaneously under funded by governments (Evaline 2004). Ironically, however, while the sector specialises in creating and imparting knowledge, and while the prevailing expectation is that it must do more with less, our first-hand experience is that HE is often less agile and strategic than its industrial counterparts in applying knowledge or new technologies in response to threats and opportunities within its ecosystem (see Browne et al. 2006). In fact, as Duke (2002) shows, universities are often highly resistant to change. A complicating factor is that HE has a unique set of cultures (see Becher and Trowler 2001) – including the chasm between academic and academic-related staff – which makes it reluctant to learn from accounts set in other sectors. Moreover studying the sector from within is quite nuanced and problematic (see Watson and Maddison 2005). So while published examples of change management and organisational transformation in HE are not abundant, they have become increasingly necessary both to HE itself to and to those interested in studying change in unfamiliar cultures. The papers in this special issue share evidence of and reflections upon projects where universities have demonstrated themselves to be adaptable and responsive to the varied threats and opportunities presented by ICT in general and by e-learning in particular. These reflective case studies complement more prescriptive resources such as those available from the Higher Education Academy (HEA 2006) and Joint Information Systems Committee (JISC 2006). However, they also

demonstrate that academia is capable of application and extension of existing change management theory (although it is perhaps slightly less competent in innovation management).

E-learning can be defined as a family of approaches to education which range from enhancing face-to-face teaching through to independent resource-based learning and which are mediated and supported via ICT (see Freeman et al. 2000). The main technology products underpinning e-learning are managed and virtual learning environments. The term 'Managed Learning Environment (MLE)' refers to the whole range of information systems and processes of an institution (including its virtual learning environment if it has one) that contribute directly or indirectly to learning and the management of that learning' while the term 'Virtual Learning Environment (VLE)' refers to the component(s) within an MLE that provides the "online" interactions of various kinds which can take place between learners and tutors, including online learning' (Social Informatics Research Unit 2003: 14). A broad range of open source and proprietary MLEs and VLEs are available which run on the plethora of ICT platforms. Moreover, in-house development has been extremely popular (see Roach and Stiles 1998; Shurville and Williams 2005). As many universities are typically managed as loosely coupled federations styles (Weick, 1976) it is very common for there to be a bewildering range of configurations and implemented at different scales, for example from the lone-ranger individual up to the critical service for the whole university. This can result in a jungle of competing technical systems and business processes for e-learning. Thus e-learning necessarily brings change management issues into sharp focus, ranging from early adoption of technology and new approaches to teaching and learning through to consolidation of multiple local projects into an institution-wide service.

Despite the risks attached to adopting new technologies and work practices, there are manifold drivers for HE to adopt e-learning and associated ICTs. These include: accommodating increased student numbers, addressing environmental sustainability, building strategic alliances, exploiting new technologies, facing global competition, improving quality, opening access, personalising learning, reducing costs, responding to government initiatives, and supporting lifelong and work-based learners. From the students' perspective, e-learning can increase geographical access and enable part-time study. Some also argue that e-learning can, in principle, ameliorate issues such as gender bias (see Berman and Bruckman 2001) and equitable access to education for the disabled (DARE 2006) and those in developing nations (c.f. Fahamu 2007). Together, these drivers represent both disruptive and sustaining changes across the familiar triad of culture, people and processes that comprises each institution. This raft of internal and external drivers can nonetheless generate resistance from key stakeholders within the organisation (see Kotter and Schlesinger 1979). Ameliorating such resistance within educational environments requires careful and professional change management and transforming the structure

of an existing organisation to support new technologies, practices and processes requires similar sensitivity. This transformative flow may initially be bottom-up or top-down, but in either case the change agents should be reflexive and also informed by best practice across the extended fraternity of HE. Moreover, change agents need to be critical of the hype which abounds in the literatures of organisational change and transformation (Hughes 2006).

Our first sequence of papers explores top-down change programmes that have emerged from the upper echelons of the 'ivory tower'. In 'Technology Supported Learning – Tensions between Innovation, and Control', Stiles and Yorke apply the longitudinal perspective gained through early adoption of e-learning at Staffordshire University to explore ways to overcome the barriers of introducing new technologies and maintaining innovation thereafter. The paper should be required reading for anyone who is interested in taking e-learning from the project stage to a steady state of innovation and service. In 'Implementing Web-Assisted Learning and Engaging Academic Staff in the Change Process', Marek, Sibbald and Bagher present a change narrative based around the 'fast and forced' introduction of an MLE/VLE to facilitate blended learning at Napier University. The paper suggests refinements to the popular 4-E model for introducing e-learning (Collis and Moonmen 2001), which should offer tangible benefits to many change managers in HE. In 'Effecting Institutional Change Through E-Learning: An Implementation Model for VLE Deployment at the University of York', Beastall and Walker report a flexible approach to change management that varied in pace to suite the needs of individual staff, students and departments during the introduction of a VLE. Their paper argues that top-down strategy needs to be complemented with active involvement from the bottom-up.

Appropriately, then, the next two papers that explore bottom-up initiatives that emerged from what Evaline calls the 'ivory basement' (2004). In 'The Cultural Impact of an In-Depth Consultation on the University of Nottingham: A Bottom-Up Approach' Wilson, and Grimshaw focus upon the details of designing an effective consultation exercise with stakeholders in research at the University of Nottingham as a precursor to establishing a virtual research environment. This is groundbreaking work as research management is just beginning to experience the threats and opportunities that ICT has brought to teaching over the past decade. The authors have taken the need to design effective communication to ethically promote buy-in very seriously and the paper is a primer for those facing similar projects. The final narrative on this theme, 'Initiating E-Learning by Stealth, Participation and Consultation in a Late Majority Institution' by Luckin et al. recounts how a grass roots initiative was effectively transformed into a top down programme. It demonstrates that the chasm between academics and academic-related staff can be crossed successfully. The fact that all three authors have since moved on to more senior positions elsewhere hints at the threats and opportunities, which self-elected change agents experience.

We open the second volume of the special issue with two submissions which courageously explore change from the personal experience of the change manager and the change managed. In 'Facilitating Organisational Change: Some Sociocybernetic Principles', Scott reflects on the role of a senior learning technologist as change agent. The paper steps sideways into the discipline of sociocybernetics and brings back key insights which should inform all change agents. In 'When Faculties Merge: Communicating Change', Hughes brings his extensive subject knowledge of change management to bear in the context of his personal experience of a radical change to his faculty. He suggests that 'the storytelling approach may be regarded as an antidote to the often prescriptive/normative nature of the change literature' and provides us with a highly emotional worked example to back up the assertions in his recent text book (Hughes 2006), which is highly recommended. Although the paper is not about ICT per se, computer mediated communication plays a central role in the narrative and there is plenty for all of us to learn here about its effects.

Our final sequence of papers evaluates change projects in HE. In 'Laptops For Students: Understanding And Evaluating The Drivers For Change' Coen et al. apply the MIT90s Model for Institutional Change to evaluate a project to provide students at the University of Strathclyde with personal laptops. While the evaluation is fascinating in its own right, the paper also provides a valuable walkthrough of the MIT90s model, which should enable colleagues to apply it in their own institutional contexts. In 'Implementations, Change Management and Evaluation: A Case Study of the Centre for Excellence in Teaching and Learning in Reusable Learning Objects' Cook et al. evaluate a large scale project involving three institutions with very different organisational structures and cultures: the University of Cambridge (an ancient university), London Metropolitan University (a new university), and the University of Nottingham (a member of the Russell Group). The evaluation should interest those who seek to manage large amounts of knowledge effectively across organisational boundaries and cultures (see Baets and Van Der Linden 2006). In 'Technology at the planning table: Activity theory, Negotiation and Course Management Systems', Benson and Whitworth apply a blend of Cervero and Wilson's (1994) negotiation of power and interests model and activity theory to compare approaches to negotiation during innovation in HE in the United Kingdom and the United States. The paper demonstrates how academics can apply relevant academic theories to enrich the practice of change management. Finally, in 'Whither E-Learning? Conceptions of Change and Innovation in Higher Education' Rossiter widens her lens further to evaluate change management practices across the Australian HE system. Rossiter shows that substantial development of capabilities for change and innovation is still required across the sector.

We believe that the move from change to innovation management – which was central to the opening paper by Stiles and Yorke – is an appropriate topic with which to open and close this special issue. Although,

e-learning, MLEs and VLEs are starting to become ubiquitous in HE, the rhetoric of emerging web 2.0 technologies, such as personal learning environments (see CETIS 2007), and of the projected death of the VLE (see Stiles 2007), promises to shift the locus of control of e-learning from the institution to the individual. Realising such promises will certainly guarantee a future of innovative organisational transformation and social change within higher education.

Acknowledgements

While we are deeply indebted to the above authors, there are many others whose input was indispensable. First, we would like to thank our peer reviewers: Ken Fernstrom, Sue Greener, Martin Jenkins, Piers MacLean, Sarah Porter, Steve Reive, Asher Rospigliosi, Carol Shergold and Kevin Turner. We would also like to thank Nicky Hovell, Paul Iles, Julie Strudwick, Masoud Yazdani and Maurice Yolles. As always, we thank our wives Kathy Browne and Marian Whitaker for their support throughout the project.

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Suggested citation

- Shurville, S. & Browne, T. (2006), 'ICT-driven change in higher education: Learning from e-learning', *Journal of Organisational Transformation and Social Change* 3: 3, pp. 245–250, doi: 10.1386/jots.3.3.245/2

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