

# JISC

## The e-Revolution and Post-Compulsory Education

Using e-business models to deliver quality education



Edited by  
Jos Boys and Peter Ford





# The e-Revolution and Post-Compulsory Education

The best practices of e-business are revolutionising not just technology itself but the whole process through which services are provided; and from which important lessons can be learnt by post-compulsory educational institutions. This book aims to move debates about ICT and higher education beyond a simple focus on e-learning by considering the provision of post-compulsory education as a whole.

*The e-Revolution and Post-Compulsory Education* considers what we mean by e-business, why e-business approaches are relevant to universities and colleges and the key issues this raises for post-secondary education. The book:

- examines emerging technologies and provides examples of what an e-institution for education might look like;
- explores in depth what can be learnt from e-business in redefining the relationships between enterprises and their users, and in developing processes to improve services and competitive advantage;
- considers how to improve administrative efficiency, implement faster access and response to information, enhance skills and knowledge development, and improve the student experience;
- examines technological innovation and integration and the associated risk assessment and cost-benefit type analyses;
- explores issues in redesigning existing organisational frameworks, techniques for overcoming barriers to, and successfully implementing, change.

In a highly competitive educational marketplace, institutions need to react to, and embrace, new technologies to provide rich and competitive learning environments for the students of tomorrow. The discussion and guidance in this book will be essential reading for all leaders, managers and heads of e-learning in higher and further education.

**Jos Boys** is an independent e-learning consultant, based in the UK.

**Peter Ford** is now an Emeritus Professor and was Pro-Vice-Chancellor at the University of Nottingham.



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In association with the Joint Information Systems Committee

JISC

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William Buller has 20 years of experience implementing and consulting in information technology. Earlier in his career William focused on design, development and deployment of large-scale systems and was a founder member of the Price Waterhouse Cooper (PWC) Change Management Practice. More recently, William's work has been focused on e-business strategy deployment and the use of Internet technology to realise the business vision.

At Cisco, William is responsible for innovation in B2E as part of the Internet Business Solutions Group. In this role he works with many of Cisco's top 800 global customers to help them develop and realise their online employee vision within the context of their overall intranet strategy. This involves the development of new ideas, proving innovation in practice with customers and scaling solutions across all sectors within EMEA.

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A Chartered management accountant by profession, Michael Coen has worked in the University's Information Resources Directorate, IT Services Department and Finance Office, in addition to the Scottish Funding Council and the National Health Service. In recent years he has led a number of national and international research and development projects focusing on the use of information and related technologies in higher education. His interests include the design and implementation of information systems and encouraging the innovative and effective use of IT in education.

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At various points in his career at the University Peter has held the posts of Director of Information Services, Head of the School of Computer Science and IT, Dean of Science, and Pro Vice-Chancellor. He continues to be Chairman of the National Computing Centre and EduServ Ltd, and is a non-executive director of a number of other companies concerned with education or ICT. He also acts as an ICT consultant for many organisations across the world.

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Graham Hill has been involved in developing, promoting and directing e-strategies (the virtual estate) within the university, resulting in significant new investments to complement the physical estates strategy. He chairs the University ICT Board and leads on administrative and academic information strategies. A past UCISA Chair of the Corporate Systems Group and an active member of UCISA committees, he is also involved in audit and consultancy relating to business systems implementation within UK higher education. He is an engineering graduate from Bristol University and has an MBA from the University of Bradford.

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Prior to that she was employed at De Montfort University, where she fulfilled several roles. From 1997 to 2000 she worked within a team leading a strategic institutional change management initiative. Before that she was DMU's first ICT in Teaching and Learning Manager and developed the institution's first ICT in Teaching and Learning strategy. She also managed the institutional Teaching and Learning Projects programme.

Daxa set up the University Eurostudy Centre and has been a partner in several national and European e-learning projects (EOUN, WIRE, SAVIE). She co-authored *The Virtual University: the Internet and resource-based learning*, published by Kogan Page.

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John Powell has taught economics at De Montfort University since 1988 and in recent years has developed courses and e-learning materials in the areas of technology, innovation and e-business. He is programme leader for the BA e-Business Management degree and departmental 'evangelist' for e-learning, under JISC's e-Learning Capital Investment funding. John also has administrative responsibility for undergraduate admissions into the Faculty of Business and Law.

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Les Watson is currently the lead consultant for the JISC Infonet project that produced the 'Developing Technology Rich Spaces for Learning' info-kit launched in March 2007. He was previously Pro-Vice-Chancellor (Learning and Information Services) at Glasgow Caledonian University. He held this post from 1999 to September 2006. During this time he was responsible for Library, C and IT Services, student services, e-learning, the Caledonian Degree and work-based learning, all of which were integrated into a university-wide Learning Service. At Caledonian Les led the development of the Learning Cafe, REAL@Caledonian, and the award-winning Saltire Centre.

Before this he was Dean of Learning and Information Services at the University of Gloucestershire where he previously held the post of Head of IT Services. Les started his career as a teacher of Biological Sciences in comprehensive schools in Hull and Gloucester before moving into higher education as a Senior Lecturer in Computers in Education at Cheltenham and Gloucester College of Higher Education (now the University of Gloucestershire).

## Preface

In 1996 a book was published entitled *Managing Change in Higher Education*. It sought to define a learning environment architecture that could be used to help universities manage the inevitable change towards e-learning. The introduction to that book stated:

*All providers of higher education today are faced with the challenge of building a system of higher education which will be equipped to meet the needs of society in the next century. The requirement to respond positively to change and to manage it effectively has never been so urgent. Universities and other institutions which provide higher education, are now subject to an unprecedented level of external scrutiny; the demands made of them have expanded, and the expectations have changed. Higher Education Institutions (HEIs) inhabit a more competitive world, where resources have become scarcer and where the impact of technology has never been so great or so unpredictable. They have entered global educational markets, while also forging local and regional links which are blurring the distinctions between study and employment and between different sectors of educational provision.*

**(Ford et al. 1996:1)**

Today these sentiments are still relevant; not just for higher education (HE) but for the whole of the post-compulsory education sector. The original book used a 'Learning Environment Architecture' to help with the implementation of change. This book aims to expand the horizons to embrace the whole spectrum of e-activities within the post-compulsory education sector across management, administration, learning support and teaching. With this wider scope the approach used before is not appropriate. Instead, the process by which this book has developed involved extensive dialogue with practitioners from HE and further education (FE) in the areas of pedagogy and support services, as well as management at many levels, and with key players from e-business. The intention is to explore whether

and how developments in e-business can inform current and future practices in post-compulsory education.

This book is *not* trying to suggest that the UK HE and FE sectors should operate more like a commercial business. It *is* saying that universities and colleges can respond constructively to the intense commercial and other pressures they are now facing by exploiting the opportunities (and recognising the threats) offered by new technologies – in particular, Web-enabled information transfer and communication. It should also be emphasised that the authors are not advocating an e-business approach just because it is becoming technically feasible to do so, or that the *only* way forward is wholesale change. The exploration of e-business approaches in a post-compulsory educational context enables readers to consider a range of options. These can be pursued or rejected according to their own perception of the need for, and speed of, change within their own institutions. Nevertheless, the authors remain convinced that movement towards, and a critical understanding of, e-business approaches is important to help meet the future challenges of post-compulsory education provision.

Today, the World Wide Web forms a window onto all educational processes. The portal is now regarded as a powerful tool to allow unified Web access to hitherto unrelated data repositories, providing staff and students with quick, easy and comprehensive access to the information they require. Finance staff and administrators routinely use e-business tools in their day-to-day activities, and the need to support e-payment transactions for fees, bills, as well as salaries and wages, is now inevitable.

Evolving in parallel with business and learning needs are the various technologies that support them. Modern networks support the convergence of voice and data, allow image capture and transmission, and support an increasingly powerful range of multimedia learning tools. The roll-out of broadband access and the potential of wireless connectivity now take self-paced study and lifelong learning into a new era. Information exchange and communications become ever more integrated, faster and secure. Educational institutions need to respond to, and embrace, these new options to provide a rich and competitive learning environment for the students of tomorrow. These students will expect their portable or hand-held devices to integrate with the learning and administrative processes of their study and, in a highly competitive educational marketplace, those institutions that are slow to exploit the full potential of such evolving devices will inevitably lose market share. Of course, this does not mean 'throwing the baby out with the bathwater'. Existing traditional approaches to teaching and learning have many strengths and the e-revolution should be seen as complementary to these and offering enhancement to them, not as an alternative that will replace them.

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At the same time, the emergence of the 'knowledge economy' will alter the profile and perceptions of the modern student as well as those of the teacher, researcher and administrator. The mobility of the student's studies through electronic credit transfer will become essential, with national and even international authenticated access to student data. Furthermore, the potential employability of the student will become increasingly tied in to the needs of the knowledge industry. All stakeholders (both within and outside the institution) will need to be very alive to the support needs, potential benefits and pitfalls that are associated with these issues.

These factors suggest that it is time to look beyond the mere automation of information (with administrative, academic and educational support functions still maintaining their separate functional silos) towards a more integrated and responsive system across a university's or college's processes, which rethinks what, where and how services are provided. This means both focusing more clearly on the institution's own core business and on building collaborations with others to share facilities, resources and services. There are many lessons to be learned here from the best of current e-business practices.

This book paints the picture of an e-institution from a variety of perspectives and charts a way forward from current situations. It was written by bringing together educational specialists from e-business, together with experts across HE and FE, from principals and pro-vice-chancellors, to academics and researchers, to senior administrators and learning support staff. Substantial contributions were made by staff from IBM and Cisco systems. Several group meetings were held across the country to plan the structure of the book. From this beginning, some contributors wrote specific chapters while others gave valuable advice and guidance on drafts. We thank all of those involved in this process for their time and effort.

This book is aimed at senior managers in the HE and FE sectors, mainly in the UK but also elsewhere. It is intended to provide an outline of current developments in the e-business world and to provide an assessment from different viewpoints as to the value of these to universities and colleges. It does not try to offer one particular solution but to capture the state of play across various educational institutions, to share these and to look at potential ways forward.

The authors and other participants recognise the desirability for national government involvement to help with implementation of the suggested approaches outlined here. This book was facilitated by the Joint Information Systems Committee (JISC), which provides expertise and guidance in relation to information and communications technology (ICT) and the post-compulsory educational sector. Their support is much appreciated, as is that of the many senior academics and managers who have given their time to help with this book. The work here is just a beginning, which we hope will inform the important

and continuing debate about how to manage post-compulsory education in an e-world.

Professor Peter Ford

Dr Jos Boys

December 2006

## **Bibliography**

Peter Ford *et al.* (1996) *Managing Change in Higher Education: a learning environment architecture*. Society for Research into Higher Education and Open University Press.

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