

Students' Experiences of E-learning in Higher Education

The Ecology of Sustainable
Innovation

**Robert A. Ellis and
Peter Goodyear**



The Open and Flexible Learning Series

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Foreword

In the last 40 years or so, universities have had to contend with many changes, political, social, cultural, economic and technological. The most dramatic of these is technological. In that time, a succession of educational technologies have been visited upon them, being the digital equivalents of all the educational technologies ever invented over the entire course of the history of education. The digital equivalents of slate (word processor), chalk (mouse and keyboard), library (websites), blackboard (interactive whiteboard), classroom (online forum), printing press (internet) and so on, have forced us to rethink the way we do teaching and learning. In a digitally-connected world, the physical boundaries of the lecture theatre dissolve into a hinterland of social and academic networking and global information access behind every student. In such a context, what must the physically-situated learning experience of a university become?

The response of university communities has been to embrace all these technology challenges, in the sense that these and others can all be found in active use on every campus now. But that is not quite the same as harnessing the technology to the educational ends and the fundamental values of academic life. We risk being led inexorably by the technology in its own ever-changing directions, as we pursue each new and intriguing invention. If we take this piecemeal approach to adopting each new invention as it becomes available, without a clear sense of the part it plays in the overall system, then we lose the power of the holistic approach, which knows why we are taking on a new technology, and what it means for it to succeed, and what counts as failure and the need for revision. The affordances of a new technology are not sufficient to judge its value. For example, online forums afford flexible student interaction, but the history of their research and evaluation is full of disappointment. They play a particular role within the rich mix of formal and informal learning experiences of a student, but without an appreciation of that, they fail. The decontextualised online forum is the digital equivalent of telling students to go to a seminar room at a particular time to discuss this week's topic, and doing nothing else to guide or support them. In the pre-digital world we would not have done that. Digital technologies need the same understanding of their place if we are to use them well.

But how complex it is to think this through. To become fully aware of what it takes for a university community to deal with new technologies, it can sometimes help to imagine the introduction of now familiar technologies. Consider, for example, trying to advise a university on how to make best use of

the new technology of *paper*. We have the vantage point of our modern understanding of its multiple affordances, and the variety of ways it supports the process of teaching, learning, management and administration, and even with this we can see the difficulty of working out the optimal way to introduce it into the institution as a whole. And paper is just one of the conventional technologies that is mirrored in our digital world.

That is a thread that runs throughout this book: the importance of putting back together – conceptually, and in practice – what has been taken apart. The authors tackle the issue of how best to embrace digital technology by insisting that we must learn to understand its role, in all its complexity, in the internal relations within a university. Digital technology is sometimes described as ‘disruptive’, but education is one of the systems whose existing powerful ecology of conventional forces has most robustly resisted disruption of its working methods. It resists technology by compartmentalising it. Technology is made the responsibility of a department, a manager, a champion, an assistant, so that the rest of us do not have to worry about it. However, digital technology will not go away, and we cannot afford to separate it out. Its use in teaching and learning has to be woven into the fabric of the institution, manifested in every aspect of its activities, infrastructure and organisation, just as paper is. That is the most important message of this timely book, as we all try to face up to the onslaught of continual invention from the world of digital technology, learning as we go.

Diana Laurillard

London Knowledge Lab, Institute of Education

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Robert A. Ellis and Peter Goodyear

Sydney, December 2008.

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1

Introduction

Universities play a pivotal role in society. They are hubs of innovation. They attract and develop talent. They provide a free and critical voice. They create and share new knowledge and enrich the arts. They are crucial assets in many metropolitan and regional economies. They link the local and the global. They do all these things with varying degrees of commitment and success, depending, in part, on the political and financial contexts in which they find themselves. No other institution provides this array of social benefits and few have shown comparable ingenuity and determination to survive (Smith & Webster, 1997; Bowden & Marton, 1998; Florida, 1999, 2003; Barnett, 2005). Not everyone speaks about universities in this way. Universities are often chided for being complacent, elitist, self-serving and detached from reality.

There is more than a grain of truth in such criticisms. But there is no point in trying to arbitrate. There is very little value in saying or showing that universities are necessarily and essentially innovative or hidebound, useful or beyond use. Discourses of derision, just like complacency, obscure the view of what needs changing, and how it might be changed. And there is an emerging consensus, particularly visible in universities in the richer nations, about the necessity of certain kinds of change. Against a background of declining public funding and intensifying global competition for good staff and students, universities are asking how they can provide better support for the education of a growing, diversifying, time-poor student body. How can they enhance opportunities for *all* the students who might benefit from university education: helping to make wealth, class, gender and ethnicity irrelevant as predictors of educational attainment? How can they upgrade curricula, teaching methods, assessment regimes and course outcomes so that all students are equipped to meet the uncertain challenges of the 21st century? (Simons, Linden & Duffy, 2000; Barnett, 2007; Kalantzis & Cope, 2008).

New technology – especially information and communication technology (ICT) – plays a surprisingly important role in addressing these questions. ICT is intimately bound up with powerful processes of globalisation, as well as with re-engineering business processes, accelerating product cycles, breaking down the economics, practices and assumptions of mass production, shortening the distance between producer and consumer (cutting out intermediaries), etc. The influence of technology needs to be understood on two levels: it enables these changes to happen but it also affects people's expectations about what is normal and possible. For example, the use of ICT in higher education makes it *possible* for universities to offer students much more flexible access to learning resources, administrative services and academic staff, but it also encourages students to *expect* such flexibility.

Moreover, the use of ICT to increase educational flexibility raises fundamental questions about what is essential to a university. It raises questions about the value of having a physical campus. By allowing teaching to be casualised and outsourced, it raises questions about the links between research and teaching, and about who should be seen as core members of the academic body. Blurring the boundaries around distance-learning – what *is* the distance? – makes some universities footloose; less attached to place, they face huge questions about identity, brand, market, loyalty and competitive edge.

We have written this book to help sharpen thinking and discussion about technology and higher education. Like many people who research and write about this topic, we are fundamentally interested in the improvement of student learning through the enhancement of educational practice, including through better design and management of learning environments. But in tackling this we also raise questions about what 21st century students and teachers need and want, and about how universities should conceive of, and manage, their physical, digital and intellectual resources. ICT allows students and staff to change the ways they organise their activities in time and space. It is capable of supporting the development of new working relationships, from small groups to extensive learning networks and communities. Its management raises questions that are not merely technical: they go to the heart of what a university means to its students.

Two main themes are woven through the book. One is concerned with a richer conception of student learning; the other with part-whole relationships. We aim to help all those who are in a position to improve university education to discuss and co-ordinate their work, *based on a shared understanding* of good learning and of how it sits within a web of relationships – within an ecology of learning. It is neither practically useful nor intellectually defensible to see technology as separable from the normal, everyday activities of university students and staff. 'E-learning' is part of their workaday experience. It is also novel, complex, slippery and likely to present itself in surprising ways, as technological developments continue to accelerate.

Contemporary Pressures and Tensions

Most universities are finding it hard to protect the quality of students' learning experiences, especially when faced with worsening staff:student ratios and declining public sector investment. Yet defending the status quo is neither possible nor desirable. There are unacceptable differences in educational outcomes for students from different socio-economic backgrounds. The quality of educational provision, and outcome, varies substantially between universities that are notionally equal. Variations in provision and outcome can also be found between departments in the same university. But unacceptable variation in outcome, using traditional measures of attainment, is only part of the problem. Even if these various levels of performance were brought up to the standards set by the best, we would still have to recognise that higher education is rather poor at defining, teaching and testing skills and knowledge fit for the 21st century. There have been radical changes in the nature of graduate employment. Even if the scope and scale of the knowledge economy is hard to map (Blackler, 1995; Brown, Hesketh & Williams 2003; Fleming, Harley & Sewell, 2004; Kenway, 2006), it is clear that the ways of defining and assessing graduate capabilities that crystallised in the industrial age are obsolescent, at best (Bereiter, 2002).

Other powerful changes are at work. Student numbers have grown. Students' needs, expectations and demands have diversified. Students have become more assertive, especially when they see themselves as paying customers. They have less time available for study and they have become more savvy about technology, even if they are not sure how best to use it for learning purposes. Governments, through various agencies, have become more intimately involved in regulating the quality of educational provision and its intended outcomes.

In addition, academic work is changing. The processes of research, and knowledge-creation generally, have become more complex. University teachers, as researchers, perform on a global stage and engage, on a daily basis, with colleagues in other universities and other countries. Research for many academics, even in the humanities, is becoming more collaborative, team-based and dependent on technology. Disciplinary traditions have been challenged by society's demands for applicable knowledge that cuts across subject boundaries. Projects involving partnerships with non-academic users of research are becoming commonplace. Academics are under increasing pressure to carry out research that is judged to be of high intellectual quality *and* to be of demonstrable social or economic importance. Academic work is now more closely monitored and measured, and its pressures are more intense, than ever before. In the developed world, these pressures are being felt by an academic workforce whose average age has increased significantly in the last 30 years. It is becoming harder to attract good people into the academic