

Preface

The physical environment in which teaching and learning occurs is being replaced with an electronic classroom, but the process of teaching is very much the same. In the second phase, however, we will begin to use technology in new ways, to advance beyond what was possible in the classroom.(Downes, 2004)ⁱ

Successful use of appropriate innovative technologies by staff and students in education is not a mystical or ethereal goal. Real innovation is often driven by the passionate few, frequently developed in their own time and enthused by a real desire to make a difference to the learning of their students. This motivation is not unique, unusual, or perhaps unexpected. However, the real problem is in “mainstreaming” this innovatory practice or activity.

Technology has been used in education for some years now, yet it still appears not to be making any significant difference to areas of learning which students are exposed to, or the way in which we teach. For example, we still have serried ranks of often hundreds of students in lecture theatres, and we still assess their learning by sitting them in examination halls and asking them to regurgitate memorised information, rather than to apply knowledge.

Academics in the main are not anti-technology. They frequently use the computer to write, analyse, present, and communicate with colleagues and students. So why is it that it is considered sufficient to put online what works off-line and expect the same responses and acceptance from the learner? We would not expect to learn a practical activity solely online, would we? If I want to learn something about nature, I have to experience it. Simply transferring class-based notes into an online repository or virtual learning environment is insufficient if we are to equip our citizens of the 21st century to be able to evaluate, problem solve, criticise, and ultimately create new knowledge.

I will qualify this by suggesting that some of my colleagues feel that they have developed e-learning based courses by “allowing” students to submit assignments by e-mail. We can all identify with colleagues who now put their PowerPoint files online and “advise” students that the formal lecture is no longer required. If this is all there is to this e-learning phenomena, then there is very little to get excited about. It will have changed very little of what we do as educators and, in fact, in some cases, we have regressed into learner disengagement.

The barriers to the use of technology within education are often blamed on the more tangible assets (i.e., communication links, limited hardware, inappropriate software, etc.). This is understandable, but equally easily addressed. The “real” and more difficult issues are with the culture, nature, motivation, and resistance to change within institutions, establishments, and infrastructures and the staff within them.

The content of this book highlights the many areas in which practitioners are attempting to implement learning technologies and reflects themes of current topical interest. The book has three main sections: Infrastructural and Cultural Issues, Pedagogical Issues, and Technological Issues. The first section on infrastructure will consider aspects related to the major infrastructural, cultural, and organisational changes required, if innovation is going to effect any change in the institutional regime. It will focus on the role of the student and the tutor in the learning process. The section on pedagogical issues will present descriptions of the different ways in which practitioners have attempted to use learning technologies and give personal examples which illustrate both the potential and dangers of learning technologies. The section on technological issues will present descriptions of the “tools” that practitioners are using, outline their strengths and weaknesses, and highlight issues that need to be considered when planning to implement new learning technologies. The “tools” covered will include Web-based tools such as virtual learning environments and computer-mediated communication, as well as non Web-based tools such as videoconferencing.

While the chapters are located within a section, the nature of technological use cannot be so compartmentalised, so many of the studies and topics reported here cut across many boundaries, infrastructural and cultural, pedagogic and technological. The key issues that will be highlighted and discussed include widening access and participation, student-centred and collaborative learning, and the changing role of the tutor/pupil/student.

Chapter Descriptions

This book consists of 19 chapters, written by 37 authors, loosely grouped into three sections as follows.

Chapter I

This chapter introduces the issues, implications, and cultural upheavals posed for the staff in higher education by the advance of technology. It does so from the standpoint of someone who has been an innovative university teacher, but who is now retired and mainly serves as a grassroots teacher. It summarises the challenges he has been encountering recently, and concludes with questions which he hopes will feature in much imminent, and needed, action research.

Section I: Infrastructural and Cultural Issues

Chapter II

This chapter provides an overview of issues lecturers said they faced when using a virtual learning environment (VLE), such as WebCT or Blackboard, to support their face-to-face teaching. It draws on data collected for doctoral research that explored the reasons lecturers gave for their use of a VLE, the teaching approach supported, and the factors affecting this use. It concentrates on the latter and as such contributes to an under-researched area by reporting the subjective views of academics who have adopted information and communications technology (ICT) to support their teaching.

Chapter III

This chapter describes drivers which have influenced the adoption of e-learning within the UK HE sector and resulted in the increasing adoption of VLEs within institutions. It identifies a range of issues at the institutional and individual academic staff levels which need to be considered and addressed when designing and implementing a VLE within an HE institution. The authors draw on their personal experience in supporting a diverse range of academic staff to integrate e-learning and VLEs within their academic practice, and their experience in implementing VLEs in a range of institutions to develop a series of guidelines and lessons for institutions to consider.

Chapter IV

This chapter details research into the use of asynchronous computer conferencing (ACC) within a campus-based higher education (HE) environment. First, it will highlight some of the issues impacting implementation of the pedagogy. The findings are summarised from a piece of action research that was conducted over a period of five years with final-year undergraduates studying ethics/professional issues in computing. The main objective of this research was to investigate and subsequently develop Salmon's (2000) five-stage strategy for implementing ACC. Finally, the chapter will not only develop the Salmon (2000) model but will also challenge the necessity for e-moderating online discussions within a campus-based HE environment.

Chapter V

This chapter reports a study conducted in 2004 at The Chinese University of Hong Kong (CUHK) aimed at obtaining a much clearer picture about the use of e-learning at the university so as to develop new strategic directions on a firm evidence base. Multiple sources of data were collected, including: site logs, experts' review of selected active Web sites, and interviews with 26 teachers. The data illustrate that e-learning at CUHK is still largely in the "innovators" and "early adopters" stages (Rogers, 2003). There lies a "chasm" ahead inhibiting moving further into the "mainstream" area. The analysis of the data revealed that what the teachers *want* from the technology, what they actually *do*, and what they can have access to for *support* are

not totally aligned. The focus of the chapter is on how to improve this alignment so as to bridge the chasm.

Chapter VI

This chapter discusses the provision of continuing professional development (CPD) for allied healthcare professionals (AHPs) through e-learning. External pressures are increasing on AHPs to engage with CPD on a regular basis to improve the quality of care services and facilitate changes in working practice. E-learning has the potential to reach this group of diverse learners and integrate learning into their work schedule at a time and place convenient for them and their employers: eCPD. Ultimately the findings suggest that the solutions provided meet the needs of this specific group of learners and are potentially transferable for all e-learners.

Section II: Pedagogical Issues

Chapter VII

This chapter examines staff perceptions of information and learning technology (ILT) in the learning and skills sector in the UK. It is divided into two sections dealing in turn with pedagogic and cultural issues. The section on pedagogical issues explores the use of the VLE/intranet as an alternative teaching method, and asks why these modes of learning are comparatively rare in the learning and skills sector. This section is also concerned with perceptions of the impact of ILT on students' retention and attainment and explores the concept of variable use and variable impact by level and subject area. The cultural and infrastructure issues explored in the second section relate to staff development and training opportunities (such as the number and type of courses on offer) the additional help requested and the barriers to further uptake.

Chapter VIII

The authors discuss key findings from three focus group discussions held with practitioners in a higher education institution about their experiences of using learning technologies to support student learning. Focus groups were organised in March 2004 to further explore staff responses to a 2003 campus-wide survey, which gave a general overview of learning technology use among teaching staff. The chapter examines the key issues that staff raised during the focus group discussions, including the barriers to and implications of introducing and implementing learning technologies into different subject disciplines within a research-led institution. The question of whether or not the use of learning technologies enhances, or has the potential to enhance, the teaching and learning experience, and the lessons that staff have learnt from this use are also discussed.

Chapter IX

Professional development for academic staff in e-learning is currently a priority for higher education institutions in the Republic of Ireland, as lecturers experience increas-

ing demands to incorporate e-learning into their teaching practice. This chapter reports on the design and implementation of a blended module in e-learning for the continuous professional development of such lecturers. In it the co-authors (who designed and developed the module) discuss the effectiveness of exposing lecturers as online students in order to experience first-hand the advantages and disadvantages of e-learning. It argues that a constructivist, collaborative interaction can provide the scaffolding for lecturers' future journeys into e-learning and into constructivist practices within their own teaching. Important outcomes were achieved in terms of influencing lecturers' thinking and approaches to both their own and to their students' learning.

Chapter X

This chapter reports on an investigation into the institution-wide use of a virtual learning environment (VLE) in a UK University. The aim was to collect information on staff use of the VLE from the student perspective. It was used to evaluate, and reformulate, current e-learning strategic initiatives aimed at enhancing the VLE-based student experience. Three aspects were investigated. These were: (i) the amount, mode, and location of the use of the VLE; (ii) respondents' perceptions of the nature and value of their teachers' VLE support; and (iii) respondents' preferred uses of VLE-based learning. Analysis shows a predominantly information transmission mode of VLE use, with only some use of active learning. Respondents requested more VLE-based formative assessment opportunities. The chapter concludes with five considerations for strategic development of blended e-learning and with three for staff using VLEs.

Chapter XI

This chapter describes the experiences of the authors as lecturers in the development of a new approach to teaching large groups of first-year undergraduate students in psychology. Online material, with a strong emphasis on active engagement, is used to introduce students to the content before undertaking a more detailed reading of the key theoretical and research issues in the textbook. With this introduction to the material, lectures function as a "Review and Discussion" session rather than a didactic monologue. Outcomes of the mixed method suggest no adverse effects on student performance and staff and students evaluate the new approach favourably. The mixed model approach to teaching large groups is one that might be adapted for a range of disciplines and content.

Chapter XII

In this chapter, the authors contend that the encouragement of reflective writing within professional learning programmes is not new. They suggest that electronic technologies, however, afford exciting opportunities to develop this practice to support participative and collaborative learning beyond barriers of time and place. This chapter explores the value of asynchronous dialogue in creating and sustaining communities of practice, with particular emphasis on the role of the e-mentor.

Chapter XIII

This chapter provides a case study of a postgraduate course focused on network-based learning, which from its original design was based on constructivist learning principles. Over time, this course has evolved to incorporate increasing use of learning technology — particularly synchronous and asynchronous communication tools. This evolution has led to a reappraisal and less emphasis on face-to-face class meetings. The course has also increased its student base through distance and offshore offerings. These shifts have translated into changes in the way the course is resourced in both human and infrastructure terms.

Chapter XIV

The authors present research results and advice on the role of the online instructor in relation to a particular example of technology supported learning and teaching — the use of asynchronous discussion forums. Pedagogical issues and studies discussed are based on six years of designing, coordinating, and teaching into Swinburne Astronomy Online (SAO), an online international program. Implementation issues associated with the use of asynchronous forums and the induction of instructors are discussed, as well as the role of the online instructor as a “guide on the side.” As an example of issues involved in maintaining a constructive online learning environment, strategies are shared which are used to accommodate students with varying degrees of prior learning.

Section III: Technological Issues

Chapter XV

This chapter discusses the design, technical development, delivery, and evaluation of two online learning activities in environmental geography. A “blended” approach was adopted in order to best integrate the new materials within the existing unit. The primary aim of these online activities was to provide students with opportunities to develop and demonstrate valuable practical skills, while increasing their understanding of environmental management. A purpose-built system was created in order to overcome initial technological challenges. The online activities have already been delivered successfully to a large number of students over two academic years. Evaluation and staff reflection highlight the benefits and limitations of the new activities and the chapter concludes with recommendations for others wishing to adopt a similar approach.

Chapter XVI

This chapter examines the implementation of two learning management systems (LMS) in a university environment. Within the context of a case study and from the perspective of academic users, there is a review of the technological and organizational challenges that arise. There is an in-depth analysis of the implementation in terms of what went well and what should be done differently (i.e., lessons learned). Along with the macro-environmental factors that influence the global e-learning space, the related pedagogical issues, learning models, and technological toolsets are also explored. The authors hope that the experiences chronicled in the case study may act as a lesson to others contemplating such a project of the many technical and organizational issues

that need to be addressed, with an emphasis on understanding the importance of the viewpoint of academic users.

Chapter XVII

Synchronous computer conferencing, or “chat,” is an effective and versatile tool of online learning, providing users with opportunities for real-time communication. Chat can be used for a variety of educational purposes, including academic seminars, student tutorials, recruitment interviews, and student presentations. In this chapter, the authors argue that through practice, in a socially open learning environment, chat is a focused learning activity, providing a forum where identities emerge and activity is at its greatest. They demonstrate the diverse and growing uses of chat through reference to examples from the chat archives of online distance courses at the University of the Arts London.

Chapter XVIII

This chapter describes the development of software for teaching music and music technology at the University of Huddersfield in three projects spanning the last 12 years. The importance of engaging music students with sound itself and the potential of technology to facilitate this is a key feature of all three projects. The value of developing software that is adaptable and extensible is explained. The lessons that have been learnt in the development of these projects are described, and the chapter ends with a provocative vision for the future.

Chapter XIX

Streamed video is being increasingly introduced into higher education, allowing remote students to participate synchronously or asynchronously. This chapter reports the outcomes arising from three uses of asynchronously streamed video in undergraduate psychology modules. Student feedback and estimation of the impact of using streamed video on examination performance were obtained. The feedback was sufficiently positive and, with reservations, the impact on examination performance was sufficiently apparent for it to be concluded that streamed video offers tangible benefits for the student learning experience and may improve learning performance. Tutors have a flexible, accessible, and productive means of incorporating moving images into learning resources and institutions may need less teaching accommodation.

Conclusion

Computers, technology, and the Internet are a valuable resource, enriching the educational resources we provide already. The key is providing appropriate environments and then reinforcing the experiences with concrete activities. It is important that e-learning be recognised as a supplement to the personal interaction provided by lecturers, teachers, parents, and peers, not a replacement.

Technology provides opportunities never before available — such as remote global communication and file sharing, collaboration and exploration, simulation, and active independent individualised learning. Yet school, college, and university departments are in danger of sabotaging — through incomplete and, in some cases, detrimental implementation plans — the power of technology to transform the teaching and learning process.

The 19 chapters in this book were selected from a large number of submissions. They cover vastly different subjects, group sizes, and institutional types — music to geography, whole class to individual delivery and engagement, large universities to small departments. They are driven by the passion of the staff involved to “make a difference,” not by simply using technology, but by applying technology in an innovative way to enhance, enrich, and extend the learning in which our students are involved.

The book presents case studies, research findings, developments, and interventions which will provide guidelines and benchmarks with which the reader will be able to see how, why, and where their own implementation of e-learning and technology-supported learning is either struggling or “not making a difference.”

My fervent hope is that this book will make a difference to the many classrooms of computers and technology which increasingly pervade and saturate our educational institutions and the lack of “real” or meaningful learner engagement provided by this intrusion.

Endnote

- ¹ Downes, S. (2004). From classrooms to learning environments: A midrange projection of e-learning technologies. *College Quarterly*, 7(3).