NOTES ON CONTRIBUTORS

VERONICA ADAMSON is a co-director of Glenaffric Ltd, an independent consultancy specialising in the evaluation of large-scale innovation programmes in higher and further education. An archetypal lifelong learner, Veronica originally trained as a nurse in Edinburgh before completing a science degree and Masters in Education. She has lectured in applied computing and was responsible for the strategic coordination of learning resource developments in the early formation of the University of the Highlands and Islands. Her research interests focus mainly on systems thinking, emerging technology and the role of innovation in professional development.

IRENE ANDERSON is a Blended Learning Unit teacher at the University of Hertfordshire and has coordinated the CABLE projects since 2006. Irene has been involved in the University’s MLE development, particularly in encouraging staff use since 2001. She was a champion for blended learning in the Faculty of Health and Human Sciences where she is a Senior Lecturer in the School of Nursing. Irene is also a member of a workshop group promoting podcasting across the university.

ALEJANDRO ARMELLINI is Senior Learning Designer at the Beyond Distance Research Alliance, University of Leicester. He led on the ADELIE Pathfinder, CHEETAH and DUCKLING projects and is Principal Investigator on the ADDER and OTTER projects. He is lead Carpe Diem facilitator.

PAUL BACSICH has been active in all four phases of the UK universities benchmarking programme and has overseen activity in four of the five methodologies used as well as being in charge of the final phase in Wales. In addition, he developed the Pick&Mix methodology, was an international advisor to the Australian ACODE scheme, collaborated closely with the main New Zealand expert on eMM, is working with EU projects in this area and has analysed most other schemes world-wide for their relevance to the UK.

WAYNE BARRY is a learning technologist at Canterbury Christ Church University, where he is working with academic staff to develop their use of technology to enhance learning, teaching, assessment and research. Wayne has worked as a senior web developer and project manager specialising in e-portfolio systems for the Primary and Secondary Education sector and is a Chartered IT Professional with the British Computer Society.
CHERYL BROWN is a full time researcher on the Access and Use Research Project in the Centre for Educational Technology at the University of Cape Town. She previously worked at Griffith University in Brisbane as an Educational Designer. She is working on her PhD on discourses of ICT use.

PETER BULLEN is Ford Professor of Automotive Engineering and Director of the Blended Learning Unit, a Centre for Excellence in Teaching and Learning, at the University of Hertfordshire. Peter has been involved in blended and technology enhanced learning for over 15 years commencing with engineering education, and then University and sector wide. He has a wide experience of successfully influencing staff to develop their teaching and learning practice using the opportunities that technology provides.

ANDREW COMRIE has worked in the Further and Higher Education sectors for over 20 years holding academic, management and senior management posts. He was Director of the TESEP project and acted as a Critical Friend in the Pathfinder Programme. Andrew is currently working with Edinburgh Napier University to setup and direct a SFC-funded hub for the South East of Scotland to increase opportunities for college students to access degree study with advanced standing.

HEATHER CONBOY is e-Learning Co-ordinator for the Faculty of Humanities at De Montfort University, Leicester. She has worked on a range of nationally-funded e-learning projects, including the DMU Pathfinder Project, and a Higher Education Academy-funded project on transitions into higher education, called CoTIL. Her wider pedagogic research interests include student and staff peer-learning, online discourse and literacies.

THOMAS CONNOLLY is a Professor and Chair of the ICT in Education Research Group at the University of the West of Scotland and is Director of the Scottish Centre for Enabling Technologies and Director for the Centre of Excellence in Games-based Learning. His specialisms are online learning, games-based learning and database systems and he currently manages several large-scale research projects.

LAURA CZERNIEWICZ is the Director of the Centre for Educational Technology at the University of Cape Town with oversight of learning technologies, staff and curriculum development, research and the post-graduate programme in ICTs in Education. Her areas of interest include access and use, institutional change and the nature of the emergent field of educational technology.

STEVE DRAPER, followed a PhD in Artificial Intelligence by working as a post-doc with Don Norman where he entered the field of HCI (Human Computer Interaction), and co-edited the book “User Centered System Design”. He is currently at the University of Glasgow, where he has worked on the evaluation of applications of learning technology, and developed the method of “Integrative Evaluation”.

266
PHIL GRAVESTOCK is Head of Learning Enhancement & Technology Support at the University of Gloucestershire. Phil is a National Teaching Fellow, with an interest in inclusion and flexible learning. He was director of the ‘Enhancing Students’ Reflection through the use of Digital Storytelling’ Pathfinder project.

CHRISTINA HADJITHOMA-GARSTKA holds a PhD in technology policy implementation in primary education, from the University of Bristol. Christina has worked as a research assistant for Bristol’s benchmarking exercise, and as a postdoctoral researcher at the London Knowledge Lab, Institute of Education, exploring the relations between e-learning research, theory and practice.

RICHARD HALL is the e-Learning Co-ordinator for De Montfort University, Leicester, UK and a National Teaching Fellow. He is responsible for the academic implementation of e-learning with the aim of enhancing the student learning experience. He is currently project managing a Higher Education Academy-funded project on transitions into higher education, called CoTIL, and a JISC-funded project on supporting remote learners, called MoRSE. His research interests include the impact of new media on pedagogic practice, and upon learner-empowerment and participation.

DAVID HAWKRIDGE isEmeritus Professor of Educational Technology at the Open University and Visiting Professor at Beyond Distance at the University of Leicester.

MAGDALENA JARA is a Learning Technologies Fellow at the London Knowledge Lab, Institute of Education. Her professional work focuses on the pedagogical design of e-learning courses, evaluation of e-learning and her research centres on quality assurance for distance/online courses.

MARTIN JENKINS is Academic Manager of the Centre for Active Learning at the University of Gloucestershire. Martin is a National Teaching Fellow with an interest in the use of digital storytelling for student reflection and the use of learning design as a means of disseminating and sharing e-learning practice.

TERRY MAYES is an Emeritus Professor at Glasgow Caledonian University. He was the leader of the Evaluation and Dissemination Support Team for the Benchmarking and Pathfinder Programme. He is also acting as Critical Friend to a number of institutions involved in the Gwella and Enhancement Academy programmes. Terry has enjoyed a long academic career in the technology enhanced learning area, beginning during the era of teaching machines in the 1960s. In recent years he has acted in an advisory role for the Scottish QAA, the Scottish e-learning transformation programme, and JISC.
The higher education academy

JACQUIE MCDONALD is a Senior Lecturer and Learning & Teaching Designer, in the Learning and Teaching Support Unit, University of Southern Queensland. Her passion and practice includes working collaboratively with Faculty to support their professional development through communities of practice, fostering innovative and effective learning and teaching for on-campus and external students, and building interaction and engagement in online learning. She has co-authored book chapters and journal articles in this area.

HARVEY MELLAR is a Reader in Technology Enhanced Learning at the London Knowledge Lab, Institute of Education, University of London. At the IOE he leads the Learning Technologies Unit, supporting staff in their use of technology enhanced learning. He directed the IOE’s benchmarking project, the Pedagogic Research into Effective e-Learning Pathfinder project, and the Quality Assurance and Quality Enhancement in e-learning Pathfinder Network Project.

ANDREW MIDDLETON is a Senior Lecturer in Creative Development and works as an educational developer at Sheffield Hallam University in its Learning and Teaching Institute. His work involves the promotion of academic innovation in the context of technology-enhanced learning. He has presented and published on Digital Game-based Learning, Immersive Virtual Worlds, and audio-enhanced learning and its creative and effective curriculum integration.

DEREK MORRISON is Associate Head of e-Learning at the UK’s Higher Education Academy. He was the programme leader for the 2005–2008 Benchmarking and Pathfinder initiative which in turn influenced the design of two further enhancement programmes which Derek also leads: the Welsh HE sector’s Gwella Programme and the Higher Education Academy’s 2009–2010 Enhancement Academy Programme which is helping several UK HE institutions make strategic use of technology to enhance learning and teaching. Prior to his work with the Academy Derek was Director of the Centre for the Development of New Technologies in Learning (CDNTL) at the University of Bath. In 2004 Derek initiated, and is still is a very active author of, Auricle, one of the first UK HE blogs to use the technology to publicly reflect on the uses, and sometimes abuses, of technologies that impact learning.

JETHRO NEWTON is Dean of Learning and Teaching at the University of Chester. He led Chester’s e-learning Benchmarking and Pathfinder projects and also leads the UK PPP SIG (Podcasting for Pedagogic Purposes Special Interest Group), which he established in January 2008. His academic interests and publications are in the areas of higher education policy, including evaluation of policy and strategy implementation in learning and teaching. He is Executive Editor and Editorial Board member of the international journal, Quality in Higher Education.
DAVID NICOL is Professor of Higher Education in the Centre for Academic Practice and Learning Enhancement (CAPLE) at the University of Strathclyde. His research and publications are in the inter-related areas of assessment and feedback, online learning and change management in higher education, including cost-benefit analysis. Current work is on institutional support for curriculum design and on developing processes and tools to support assessment and feedback practices.

MARTIN OLIVER is a Reader in ICT in Education at the London Knowledge Lab, Institute of Education. He is seconded part-time to the Higher Education Academy, working on EvidenceNet. His research focuses on the use of technology in Higher Education, and he is co-editor of the journal, ‘Learning, Media and Technology’.

JANE PLENDERLEITH is a co-director of Glenaffric Ltd, an independent consultancy specialising in the evaluation of large-scale innovation programmes in higher and further education. She has taught languages, literature and civilisation at all levels in further and higher education and has held management posts in academic administration, quality and curriculum development. She has diverse research interests, and has published on German literature and philosophy, and on curriculum structures, technology-enhanced learning and quality frameworks.

GLEN POSTLE works in an honorary capacity in the Australian Digital Futures Institute at the University of Southern Queensland. Glen has had over 40 years experience in the Australian school and higher education sectors. He was closely involved in establishing flexible delivery initiatives at USQ and held the position of Associate Director (Academic) of the Distance Education Centre at USQ until his retirement in 2002. His interests in teaching and research in online education have continued through his work with marginalized youth and professional development consultancies.

SHIRLEY REUSHLE is a Senior Lecturer in online pedagogies and is currently on secondment to the University of Southern Queensland’s Australian Digital Futures Institute as the Manager of Technology-Enhanced Learning Projects. Shirley has worked in the Australian school and higher education sectors and has taught online at USQ for over ten years. Her doctoral research was in transformative approaches to professional development for online educators. Shirley’s teaching, research, publications and consulting work is in designing and facilitating online and flexible programmes and professional development experiences with a focus on transformative learning.

GILLY SALMON is Head of the Beyond Distance Research Alliance and the Media Zoos at the University of Leicester. Her book E-moderating is considered seminal in the field. Podcasting for Learning in Universities has recently been published.
RHONA SHARPE is principal lecturer in the Oxford Centre for Staff and Learning Development at Oxford Brookes University where she is responsible for the research and consultancy activities of the unit. Recently her research has focussed on learners' experiences of e-learning, managing projects funded by the JISC and Higher Education Academy. She also researches how professionals learn, develop and design for learning within an academic environment. She was one of the founder members of ELESIG (Evaluation of Learners' Experiences of e-learning Special Interest Group), is co-editor of ALT-J, Research in Learning Technology and is Fellow of the Staff and Educational Development Association.

KEITH SMYTH is a Senior Teaching Fellow and Senior Lecturer in Higher Education at Edinburgh Napier University. Keith is active in several areas relating to technology-enhanced learning and teaching, and with Andrew Comrie and Terry Mayes was centrally involved in the TESEP project. Keith leads Edinburgh Napier’s MSc in Blended and Online Education.

MARK STANSFIELD is a Senior Lecturer in the School of Computing at the University of the West of Scotland. He has published numerous papers in areas relating to e-learning, games based e-learning and virtual campuses. He was Project Coordinator and Principal Investigator of the European Commission co-financed project ‘Promoting Best Practice in Virtual Campuses (PBP-VC)’. Mark Stansfield and Thomas Connolly are editors of the book ‘Institutional Transformation through Best Practices in Virtual Campus Development: Advancing E-Learning Policies’.

SUSAN WESTERMAN leads the Learning Technology Team at Canterbury Christ Church University. Su primarily advises on and supports technology enhanced learning in health and social care education, and has over six years experience supporting the higher education and health sectors. She is particularly interested in issues surrounding staff development and digital literacy, learner support and the history of technologies in education.
The Higher Education Academy supports the sector in providing the best possible learning experience for all students. It does this by:

— providing national leadership in developing and disseminating evidence-informed practice about enhancing the student learning experience
— operating as an independent broker, enabling expertise to be shared across institutions and subject areas
— working at multiple levels, with individual academics, subject communities, departments, faculties and institutions
— working across all parts of the UK, recognising the distinctive policy contexts and priorities of the devolved administrations but also providing opportunities to share expertise among them.

The Academy is an independent organisation funded by grants from the four UK higher education funding bodies, subscriptions from higher education institutions, and grant and contract income for specific initiatives.
The application of technology-enhanced learning and the global Internet has stimulated some transformation of higher education in most Australian institutions. This change, however, is not evenly spread across the sector and tends toward pockets of innovation rather than widespread transformation. This chapter explores how the profile of higher education in Australia has changed to accommodate new influences and pressures and documents Australian government policies and initiatives, which provide the context for the implementation of technology-enhanced learning and teaching. The authors consider the concept of transformation of higher education through technology-enhanced learning and reflect on the evidence of transformation in one Australian university.

In over three decades, beginning in the Australian Labor Government’s Whitlam era in 1972–75, there has been a substantial increase in numbers of students accessing university education and a substantial change in the student profile of those entering universities. Supported by such changes as those contained in *A Fair Chance for All* (DEET, 1990), a government initiative to increase access, participation, retention and success in university programmes for a number of targeted disadvantaged groups, universities have opened their doors to a more diverse student group, thus legitimating flexible pathways for university entry.

Influences largely responsible for significant change in the culture of higher education are the growing legitimacy of flexible pathways for university entry, the expansion of teaching strategies available particularly through flexible delivery initiatives and the shrinking financial support from government leading to increasing trends toward ‘user pays’. This has placed growing demands on the university sector to find
ways to address the equity issues that arise from having to meet the educational needs of a more diverse student body. In many universities, particularly the newer ones, this focus has positioned equity as a central and strategic concern for learning and teaching within the institutions, and faculties have experienced greater pressure to do more with less. Such strategic concerns in some institutions have resulted in the adoption of learning and teaching models based on distance education.

Taylor (2001) provides a useful framework for understanding the rationale behind the expansion of teaching strategies available through distance education initiatives, particularly those involving technology. Taylor’s (2001) report provided information on how educational institutions should adapt to the fast-growing changes in technological knowledge, and highlighted the need for institutions to do things differently in their response to such changes. Distance education institutions tend to be well placed to adopt and adapt distance education models for the innovative application of technology, as is outlined in the institutional example later in this chapter.

The delivery generations described by Taylor (2001) are not necessarily linear, exclusive or discrete. Some universities, particularly those who by design or circumstances began to provide opportunities for non-traditional students, adopted distance education well before governments focused on access and equity initiatives. In such cases, they often operated across all four generations or across more than one generation at any given time. They were also in a much better position to be able to apply technology to learning and teaching in a manner that acknowledged the influences of such variables as “the type of subject matter, the specific objectives of the course … and not the least, the student target audience” (Taylor, 1996, p.2). Their initial involvement in distance education had much to do with responding to changing student populations and an increasing demand for lifelong learning opportunities. This time also coincided with advances in communicative technologies. The digital world has been embraced as one means to leverage the efficiency of higher education.
### Table 1: Models of distance education – A conceptual framework

<table>
<thead>
<tr>
<th>Models of distance education and associated delivery technologies</th>
<th>Characteristics of delivery technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flexibility</td>
</tr>
<tr>
<td></td>
<td>Time</td>
</tr>
<tr>
<td>FIRST GENERATION</td>
<td></td>
</tr>
<tr>
<td>The correspondence model</td>
<td></td>
</tr>
<tr>
<td>Print</td>
<td>Yes</td>
</tr>
<tr>
<td>SECOND GENERATION</td>
<td></td>
</tr>
<tr>
<td>The multimedia model</td>
<td></td>
</tr>
<tr>
<td>Print</td>
<td>Yes</td>
</tr>
<tr>
<td>Audiotape</td>
<td>Yes</td>
</tr>
<tr>
<td>Videotape</td>
<td>Yes</td>
</tr>
<tr>
<td>Computer-based learning (e.g. CML/CAL/IMM)</td>
<td>Yes</td>
</tr>
<tr>
<td>Interactive video (disk and tape)</td>
<td>Yes</td>
</tr>
<tr>
<td>THIRD GENERATION</td>
<td></td>
</tr>
<tr>
<td>The telelearning model</td>
<td></td>
</tr>
<tr>
<td>Audioteleconferencing</td>
<td>No</td>
</tr>
<tr>
<td>Videoconferencing</td>
<td>No</td>
</tr>
<tr>
<td>Audiographic communication</td>
<td>No</td>
</tr>
<tr>
<td>Broadcast TV/radio and audioteleconferencing</td>
<td>No</td>
</tr>
<tr>
<td>FOURTH GENERATION</td>
<td></td>
</tr>
<tr>
<td>The flexible learning model</td>
<td></td>
</tr>
<tr>
<td>Interactive multimedia (IMM) online</td>
<td>Yes</td>
</tr>
<tr>
<td>Internet-based access to WWW resources</td>
<td>Yes</td>
</tr>
<tr>
<td>Computer-mediated communication</td>
<td>Yes</td>
</tr>
<tr>
<td>FIFTH GENERATION</td>
<td></td>
</tr>
<tr>
<td>The intelligent flexible learning model</td>
<td></td>
</tr>
<tr>
<td>Interactive multimedia (IMM) online</td>
<td>Yes</td>
</tr>
<tr>
<td>Internet-based access to WWW resources</td>
<td>Yes</td>
</tr>
<tr>
<td>Computer-mediated communication, using automated response systems</td>
<td>Yes</td>
</tr>
<tr>
<td>Campus portal access to institutional processes and resources</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Taylor, J.C., 2001, p.3
Technology as a ‘Disruptive Influence’

Worldwide, the normally conservative higher education environment is under considerable pressure from society to change: to become more accountable, more efficient and effective, and more relevant and responsive, while providing greater and more equitable access. The move to mass higher education has been so dramatic as to place enormous strains on the resources available to support higher education, requiring universities to enter the commercial arena to supplement income. Mauch and Sabloff (1995) have noted that the concept of high quality, free public higher education is under threat worldwide because governments cannot allocate enough resources to address quality goals in the face of enrolment pressures. They note the trends towards increased user fees and strain on student support, the diversification of institutional financing, a shift of government resources from universities to lower cost institutions such as technical institutions and community colleges, and a tendency for growth in higher education to occur in the private sector, to such an extent that nations which previously prohibited private institutions now welcome them. The base of private providers is also broadening to include forces as diverse as professional organisations, large communication carriers and special educational units within large private corporations.

The shift in emphasis to lifelong learning has resulted in an alarming pattern of credentialism and a proliferation of short-term specialised professional training programs aimed at meeting present occupational needs. It is associated with the expansion of adult education and training, the growing importance of continuing education and an increase in the number of higher education students studying part-time. Student cohorts have also made further demands on universities for greater flexibility in the ways they are able to access programs and services. In addition, society now has at its disposal a growing range of more sophisticated information and communications technologies that can be utilised for educational purposes, impacting upon traditional distance education models and theory, and challenging the traditional roles of teachers and learners. The growing reliance on technology and flexible modes of learning is impacting on the nature of the curriculum, the way that courses are offered and the range of students who can access them.

Laurillard (2006, p. 2) argues that “e-learning could be a highly disruptive technology for education – if we allow it to be. We should do, because it serves the very paradigm shift that educators have been arguing for throughout the last century”. The agenda in Australia for university renewal driven by technology has followed trends elsewhere, although the influence of distance education as an accepted element of higher education took root in Australia much earlier than in many other countries.
Contemporary adult education literature strongly promotes the transition from transmissive to transformative approaches in education (Cranton, 2003; King, 2003). The transformative approach relates to learning that occurs when an individual is empowered to reflectively transform their meaning schemes with regard to their beliefs, attitudes, opinions and emotional reactions. Transformative learning is the process by which we call into question our taken-for-granted habits of mind or mindsets to make them more inclusive, discriminating, open and reflective in order to guide our actions. According to the tenets of transformative learning, adult learners need to be reflective, critical thinkers who are open to other perspectives and accepting of new ideas. Dialogue with others is crucial (Reushle, 2005).

This approach to learning and teaching is not new, so why is it attracting such renewed interest in the higher education arena? In the early 1900s, for example, the educational theorist John Dewey (1916) supported an approach to education that would transform schools, work organisations, and the society at large into more participative, democratic cultures (Gregson, 1995). Dickinson (1992, n.p.) stressed the importance of finding new ways of communicating and working together “to confront the problems that threaten the lives of human beings, countries, even the planet itself”. The attempted transition, however, is a relatively recent phenomenon in the higher education sector and has met with some opposition (Raschke, 2003, p. 110). What has hindered such ideas in the higher education ‘classroom’ setting? Raschke claims that higher education, unlike other “pillars of culture” or “sectors of the economy” has undergone little change over the last 80 years. He notes that despite significant cultural, social, economic, political and technological revolutions, the view of learning and teaching in higher education “does not look or function much differently from the way it did in the 1920s”. He believes that this resistance to new systems of knowledge creation and distribution is linked more to the desire to sustain a sense of privilege and aristocracy than to a fear of the loss of quality standards. He observes that much of higher education has refused to join the ‘information grid’ and that a good deal of institutional resistance to technological transformation stems from a belief that knowledge is nothing but “the transfer of information from one database or brain to another” (Talbot, 1999, as cited in Raschke, 2003, p.110).

This lack of transformation may not only follow from the reluctance of the academic community to change. The pressure of mass education and student diversity – more students, more fees, more marketing – emanates from a managerial perspective and to manage these numbers and process them (throughput, completion rates), there needs to be regulation that facilitates the mass education focus. The traditional classroom model allows large numbers (cohorts) to move through the system at the same pace in the same order providing a cost-effective means to do this. Technological advances and changing societal, economic and political expectations are, however, strongly influencing and encouraging the exploration of how educators
in higher education “can go beyond the acquisition of simple techniques to a deeper reflection on and understanding of their work” (Cranton, 1996, p. vii), suggesting that online settings can provide ‘friendly’ environments that will support learning contexts that are collaborative, interactive and community-based. These online environments can support and promote transformation in learning and teaching. Bonk (1999) observes that “online learning offers a chance for students to enter into dialogues about authentic problems, collaborate with peers, negotiate meaning, become apprenticed into their field of study, enter a community of experts and peers and generally be assisted in the learning process” (p. 410). When taking into account the literature on transformation theory and the characteristics of transformative learning, there is a strong indication that technology-enhanced educational settings offer an environment conducive to this type of learning and teaching.

AUSTRALIAN HIGHER EDUCATION POLICIES, PROJECTS, INITIATIVES AND TRENDS

Australian governance is multi-tiered, operating at local, state and federal levels. The federal government is responsible for higher education policy and funding. Higher education is managed by the Department of Education, Employment and Workplace Relations (DEEWR), while the six State and two Territory governments have their own education departments and education ministers. Australian higher education consists of 37 public universities, two private universities and 150 or so other providers of higher education (Bradley, Noonan, Nugent and Scales, 2008).

In the Australian system, policies that impact and frame the requirements and standards for teaching and judgments related to the effectiveness of teaching are distributed among specific bodies. Thus the National Protocols for Higher Education Approvals Processes establish standards and requirements, accreditation is shared between self-accrediting institutions, state regulatory bodies and professional organisations in the relevant fields. The Australian Universities Quality Agency (AUQA) conducts regular quality audits of institutions across their Australian and overseas campuses, and the Australian Learning and Teaching Council (ALTC) encourages, promotes and funds programmes to enhance learning and teaching excellence in higher education institutions. Across all this, the relevant Australian government department (presently DEEWR) and a collective universities body (Universities Australia) have key co-ordinating roles (Dow, 2008).

A 2006 study commissioned by the New Zealand Ministry of Education to consider the e-learning policy experiences of a number of countries identified consistent trends, themes and tensions. This report provides a useful framework to identify trends in the roll-out of policies and projects and identify landmarks in the implementation of technology-enhanced learning. The study analysed e-learning policy between 2000 and 2005 in Australia, Canada, Finland, Iceland, Korea,
Japan, Sweden, the United Kingdom and the United States. The analysis identified a discernible pattern to the development of e-learning policy. Stage one occurs as governments act to make e-learning possible, stage two is the integration of e-learning into the education system, and the third stage is a transformative role, with changes to views of learning and to the nature and operation of the tertiary institutions and the tertiary system (Brown, Anderson and Murray, 2007).

The Australian experience clearly illustrates the first two stages, with the provision of infrastructure (stage one) and a range of projects that fund and draw on the experience and expertise of early adopters technology (stage two). Brown, Anderson and Murray (2007, p.76) note that policy initiatives in the second and third stages include mainstreaming strategies to develop physical infrastructure, a focus on building and ensuring quality in e-learning and moves to create a system-wide approach to e-learning and a sector-wide embedding of e-learning.

In stage one, the Australian Government’s Creative Nation (1994) and Networked Nation (1995) policy statements funded infrastructure and the context for the establishment of Education Network Australia (EdNA), a collaborative network of stakeholders in government and non-government school education, vocational education and training, adult and community education and higher education. During stage two, the economic opportunities created by global networking to market Australian education online were recognised and education.au limited1, owned by all Australian Ministers of Education and Training, was established as a national company to develop and manage online educational services and products agreed to by the education and training stakeholders (White, 2004). The Australian Federal Government’s 2000 education and training action plan for the information economy, Learning for the Knowledge Society (DETYA, 2000), addressed all education levels across Australia. These action plans were developed collaboratively by all Australian government departments and agencies, including the Australian National Training Authority (ANTA) and the Australian Vice-Chancellors’ Committee (AV-CC) (White, 2004).

During the four years 1993 to 1996, the Committee for Advancement of University Teaching (CAUT) funded 448 National Teaching Development Grants to the value of AU$16.7 million, and expended AU$1.1 million over three years on the Clearing Houses. Following a review period and a change of government, a new Committee for University Teaching and Staff Development (CUTSD) operated through the three-year period 1997 to 1999 (Dow, 2008). Many educational technology projects were funded under the CAUT and CUTSD schemes.

During this current decade, the Australian government policies have reflected wider trends in higher education, such as embracing the knowledge society, and have reflected an increasing emphasis on student learning (rather than teacher focus), lifelong learning,
and access and equity issues. Other initiatives included *Our Universities: Backing Australia’s Future* 2003 policy that recognised the impact technology was having on education. The then Federal Minister for Education said that “globalisation, massification of higher education, a revolution in communications and the need for lifelong learning leave Australian universities nowhere to hide from the winds of change” (Nelson, 2003, n.p.).

While infrastructure and online content provide the necessary framework for technology-enhanced learning, recognition that transformation of learning and teaching practice will not change without concentrated support for educators and a focus on learning and teaching practice resulted in the establishment of the Carrick Institute for Learning and Teaching in Higher Education, now called the Australian Learning and Teaching Council (ALTC). The ALTC was established in 2004 as part of a Federal Government initiative to enhance learning and teaching in Australian universities. The ALTC receives approximately AU$27 million annually to support a range of programmes, such as grants in leadership for excellence in learning and teaching, priority projects, resources, awards, an exchange network (ALTC Exchange) and benchmarking.

The activities of ALTC provide national leadership in teaching, learning and the student experience, and offer an evidence-based policy voice through reports and research at government level. The ALTC Grants Scheme and the Discipline-Based Initiatives Scheme have enabled more projects and larger projects than had been usual in earlier programs (under CAUT and CUTSD particularly). Of particular interest here are the competitive grants that support innovation, research and development across more broadly based topics than those in the previous programmes. They provide funds of between AU$60,000 and AU$220,000 for projects of between one and two years. The identified priorities in 2006–08 were areas of emerging and ongoing importance – the teaching-research nexus, performance indicators for learning and teaching, student diversity, robust methods for identifying and rewarding teaching excellence, and innovations, particularly using new technologies (Dow, 2008). Project and grant information for this period indicated a range of technology-enhanced learning projects, such as ‘A new enabling technology for learning and teaching quantitative skills’, ‘Digital learning communities: Investigating the application of social software to support networked learning’ and ‘New technologies, new pedagogies: Using mobile technologies to develop new ways of teaching and learning’.

The ALTC competitive funding processes have created tension as people compete for limited funds, while the funding processes indicate that projects should include cross-institutional collaboration. Project member collaboration often includes international educators from the UK, US, New Zealand and Canada, with strong links with the UK Higher Education Academy. ALTC programs have given legitimacy to leaders at faculty as well as institutional level to take time to think and act strategically about future directions and future needs and priorities in their programme offerings (Dow, 2008). This process is important as the more recent focus on accountability and quality outcomes is considered by many to have a detrimental impact on transformative education.
The Australasian Council on Open, Distance and E-Learning (ACODE) is the peak organisation for universities engaged or interested in open, distance, flexible and e-learning. ACODE's mission is to enhance policy and practice in open, distance, flexible and e-learning in Australasian higher education and seeks to influence policy and practice at institutional, national and international levels through disseminating and sharing knowledge and expertise, supporting professional development, providing networking opportunities, investigating, developing and evaluating new approaches, advising and influencing key bodies in higher education and promoting best practice. ACODE works on a range of activities including strategic planning, communications strategies, policy development and the e-Maturity Model (eMM), which provides a means by which institutions can assess and compare their capability to develop sustainably, deploy and support e-learning. A joint project between ACODE and ALTC involved encouraging benchmarking in e-learning.

Innovative educational use of technology is fostered by the Australasian Society of Computers in Learning in Tertiary Education (ASCILITE). While founded by Australian educators, ASCILITE is now an international professional community of innovators, leaders and scholars engaged with the cutting-edge applications of technology to enhance teaching and learning in higher education. Activities including publication of a high quality electronic journal, circulation of a regular newsletter, programmes for campus representatives, community mentoring, an international awards scheme and an annual conference that showcases innovative application of educational technology.

In March 2008, the Government initiated a Review of Higher Education to examine the future direction of the higher education sector, its fitness for purpose in meeting the needs of the Australian community and economy, and the options for ongoing reform. The Review was conducted by an independent expert panel, led by Emeritus Professor Denise Bradley AC with the final report being provided to the Deputy Prime Minister at the end of 2008 (Bradley et al., 2008). In the introduction to the report, Bradley noted the need to act quickly to create an outstanding, internationally competitive higher education system to meet Australia’s future needs. Following the release of the May 2009 Federal budget, the Government announced in its response to the Bradley Review that it would provide an additional AU$5.4 billion to support higher education and research over the next four years through the project Transforming Australia’s Higher Education System (DEEWR, 2009). The quantum leap in resourcing is designed to support high quality teaching and learning, and to improve access and outcomes for students from low socio-economic backgrounds. It also aims to build new links between universities and disadvantaged schools, reward

---


institutions for meeting agreed quality and equity outcomes, improve resourcing for research and invest in world-class tertiary education infrastructure (DEEWR, 2009). Despite the Government not fully supporting the funding recommendations made by the Bradley Review, Lane and Trounson (2009, n.p.) reported Bradley as saying: “What you have seen is the Government committing itself to the importance of higher education teaching and research for the country’s productivity into the future and (acknowledging) that it can’t be done on a shoestring.”

In early 2009, the Australian Federal Government announced the establishment of a new company to build and operate a super fast National Broadband Network. This Network, built in partnership with the private sector, will be the single largest nation-building infrastructure project in Australian history. The Network promises to connect 90% of all Australian homes, schools and workplaces with broadband services with speeds up to 100 megabits per second – 100 times faster than those currently used by many households and businesses – and connect all other premises in Australia with next generation wireless and satellite technologies that will deliver broadband speeds of 12 megabits per second.

The emphasis in the 2009 Australian budget reflects the current economic climate, with initiatives to stimulate the Australian economy, such as AU$2.6 billion for new infrastructure for universities and the vocational sector over four years with an emphasis on university and science projects. However, much of that money will not be available until 2011–12 and 2013 (Trounson, 2009). This highlights another issue that has emerged in the release of the 2009 budget, which revealed no specific allocation for e-learning initiatives. Rather, the focus is on technology to support economic developments such as nanotechnology and biotechnology business applications (Australian Government, 2009). Does this reflect a government belief that e-learning in Australian higher education institutions has arrived and is now ‘business as usual’? This assumption is also reflected in the Australian Learning and Teaching Council’s (ALTC) move away from funding provision for technology-enhanced projects. However, it is the belief of the authors of this chapter that the transformation of Australian higher education through technology-enhanced learning is still a work in progress.

TECHNOLOGY-ENHANCED LEARNING – AN EXAMPLE OF AN AUSTRALIAN REGIONAL UNIVERSITY

Australian distance education evolved from an educational tradition based on an independent learner model. A small population spread over large geographic distances meant that traditional distance education experiences were historically based on self-contained and predominantly print-based learning packages. The distance education courses were designed as a stand-alone learning package, based on the presumption that remote learners would be unable to access other resources or have easy contact with peers or teachers. In the independent learner model, students worked independently
through course materials that were designed on the idea of a student/content interactive approach. They submitted assessment items and received feedback and grades, with minimum interaction with teachers and fellow students, unless an on-campus residential school was scheduled as part of the programme (McDonald and Mayes, 2007).

Brown, Anderson and Murray (2007, p.79) argue that a notable feature of most e-learning policy is “the disconnection with the rich and long tradition of distance education” meaning that research in distance learning and implementation of approaches to learning and teaching outside the classroom boundaries tend not to have informed the application of emerging technology. This however, has not been the case for the University of Southern Queensland, (USQ), an Australian regional university that has offered distance education for more than 30 years and has approximately 25,000 enrolments, including over 7,000 international students. USQ offers undergraduate and postgraduate programmes on campus, and nationally and internationally using flexible delivery. USQ’s 2020 vision “to be recognised as a world leader in open and flexible higher education” (USQ, 2009) is reflected in the institutional mission to enable broad participation in higher education.

USQ’s development as a flexible learning provider has evolved through a number of significant initiatives. USQ delivered its first course solely online in 1997, and then in 1999 a major online initiative called USQOnline was introduced, which enabled the delivery of multiple courses via the Internet to students worldwide. From this point on, USQ has moved through a number of technology-enhanced phases: hybrid, multimodal, blended learning, fleximode. USQ has also created the position of Principal Advisor, Learning and Teaching within the Division of ICT Services to bridge the gap between the academic community and the delivery of ICT services in the university. USQ has also entered the OpenCourseWare (OCW) arena with the aim of making a sustainable contribution to meeting the exponential demand for higher education. However, the OCW movement has the opportunity to expand its vision and operations to enable the OCW learners to have access to academic support, to have the opportunity to be assessed and to have the potential to gain credit towards recognised qualifications awarded by a credible accreditation agency. Taylor (2007) notes that “such innovation is not intended to threaten existing models of higher education provision, but to create a ‘parallel universe’ capable of ameliorating the apparently insurmountable problem of meeting the worldwide demand for higher education”. Yet another initiative at USQ has been the establishment of the Open Access College, which aims to reach a broader student base through technology-enhanced learning opportunities thus contributing to a social justice/equity agenda and Federal Government budget imperatives. The Centre for Research in Transformative Pedagogies (CRTP) promotes and supports research related to learning and teaching across multiple discipline areas with research conducted in a face-to-face classroom settings, flexible and online learning environments, workplaces and wider social settings. This diversity of membership encourages the formation of inter-disciplinary research teams and the application of varied perspectives.
The latest in USQ’s technology-enhanced learning initiatives is the establishment of the Australian Digital Futures Institute (ADFI). ADFI’s focus is on two areas of activity: e-research and e-learning. Included in the scope of the ADFI is the support of USQ teaching and learning technology requirements, fulfilling e-research requirements of USQ research centres and forming networks nationally and internationally with like-minded research and development groups and individuals. The strategic focus of ADFI is to identify, test and promote the application of new and emerging technologies with a view to transforming learning and teaching practice.

CONCLUSION

The pattern of development of Australian e-learning policy outlined in this chapter has noted a three-stage development: the first stage relates to governments acting to make e-learning possible, the second as they work to mainstream e-learning, and the third stage is a transformative role where the aim is to change views of learning and teaching and the nature and operation of tertiary institutions and the tertiary system. An astounding observation by Friesen (2009) in his reference to a paper by McLuhan and Leonard written in 1967 is the similarity of many arguments made today to those made 42 years ago: “that schools are as outmoded as the mass production model on which they are based, that the very nature of this age of new technology ... will [unavoidably] shape education’s future, that the walls between school and world will continue to blur and that future educators will value, not fear, fresh approaches, new solutions”. Are McLuhan’s statements, restated by Friesen, prescient, premature, preposterous, or all of these? What does this say about current predictions and current situations in the higher education sector?

Despite a strong indication by the Australian Government that Australian higher education has indeed ‘arrived’ and that technology-enhanced learning is now business as usual (demonstrated by the change in budgetary imperatives away from a focus on e-learning initiatives), this view must be challenged. Do the management and administrative structures and processes in Australian higher education institutions acknowledge the collaborative learning ideals of the post-industrial era or are they continuing to subscribe to management techniques that fit with the industrial era – that of the lockstep, independent learner constrained by administrative timelines and institutional processes? Are the assumptions about learning in the post-industrial era out of sync with the administrative and managerial models still applied vigorously in most higher education teaching and learning contexts? The authors propose that much of the application of technology-enhanced learning in Australian higher education is strategic but perhaps not transformative. As participants in the higher education arena, we need to engage in critical dialogue and challenge traditional mindsets about teaching and learning (and management models that enshrine them) in order to achieve the post-industrial ideals of transforming higher education through technology-enhanced learning.
REFERENCES


