Planting the seeds of change and growing the fruits of transdisciplinary educational design

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Planting the seeds of change and growing the fruits of transdisciplinary educational design

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December, 2007
Abstract

The professional practice of educational design normally involves collaborating with a subject matter expert on a one-to-one basis and is only occasionally undertaken in teams. This thesis argues that a team-based approach to educational design is powerful and particularly so when transdisciplinary collaborations are facilitated. Transdisciplinary educational design is the process of standing outside one’s discipline to collaborate with colleagues from the technical sphere, the library and other disciplines. The common ground shared by the transdisciplinary teams in this research was student assessment.

The core data collection for this research was completed between July 2002 and June 2005. Using an overarching action research methodology, three cycles of data collection were completed by action learning sets. Suitable members of the sets were identified through a series of online staff development workshops that were designed and facilitated by the researcher. Two supplementary data collection activities were also undertaken. The first of these was a Web survey that broadly mapped design practices for online assessment in four Australian regional universities. Three rounds of telephone interviews then followed up on survey responses. The second supplementary data collection was undertaken between the second and third action learning cycles to contextualise the online assessment design activities at Southern Cross University within the broader framework provided by the other three regional universities in the original sample. It included focus groups with educational designers and face-to-face interviews with three academics at each of these universities. The entire series of data collection activities was reflectively managed to heighten its effectiveness. This management included screening of suitable participants, negotiation of manageable session times and duration, and establishment of ground rules for attendance and interactions, as well as drawing out a commitment to observe silences as creative spaces in the design process.

In keeping with the action research paradigm, an extensive examination of the literature not only provides a background for the research questions but also continues to be threaded throughout the thesis as data collection cycles directed further literature review. The thesis narrative is given an original form through the use of a gardening metaphor that serves to highlight the rewarding, delicate and transitional nature of this kind of educational design. Such transitional aspects of educational design allow for innovation and creativity not evident in the systems-based approaches to designing instruction.

This research also supports current initiatives in Australian higher education concerning the first year experience, embedding graduate attributes in the curriculum, and blending on-campus and off-campus learners into one class. The transdisciplinary approach to educational design explored through this research responds effectively to the varied issues in designing online assessment and developing innovative approaches by academic staff.
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Declaration

This thesis does not incorporate without acknowledgement any material which has been previously accepted for a degree or diploma by the University or any other institution, and to the best of my knowledge and belief, it contains no material previously published or written by another person except where due acknowledgement is made in the text of the thesis.

Signed

Margaret O’Reilly (Student No: 92018073)

Dated
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Furthermore, I wish to express my gratitude for the following financial support I received over the past 6 years. Initially I was able to apply for and receive funds allocated by the School of Social Sciences for its postgraduate students to cover expenses. Following an institutional restructure that resulted in the transfer of my principal supervisor to the School of Commerce and Management, I was then granted funds from the postgraduate budget in that school on application to the Centre for Enterprise Development and Research. I am also grateful for the support received from the Graduate Research College to attend two international conferences, one at commencement of my research and another at the end of my data collection period.

In addition, the latter chapters of this thesis report on case studies collected with the assistance of two small grants. For the first of these, I am grateful to have been successful in obtaining research funds in 2004 as part of the Internal Research Grant process at Southern Cross. For the second of these case study collections, I received a competitive grant from NextEd-ascilite in 2006, in collaboration with colleagues from the University of Wollongong and the Hong Kong Institute of Education. In each of these cases, the funds provided enabled the research to be completed, and for this I am sincerely grateful.

Finally, with the exception of the orchard depicted at the start of Chapter 6 that was obtained from the Internet (November 2007) and is attributed to Rolf Hicker, all the other photos included in this thesis were taken in my own organic garden.
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Editorial notes

A: Spelling and punctuation: As a general guide, all editorial conventions (including spelling, punctuation, hyphenation, capitalisation and italicisation) are in accordance with *The Style Guide* (John Wiley & Sons, 2002, 6th Edition). For consistency I have capitalised the term Web wherever it appears, including quotes from other sources. In all other cases shown within quotations marks, the original spelling has been preserved. However, for the sake of readability, data reported from recorded speech or email communications does not include original typographical errors or vacillations of speech, but otherwise, is as originally posted or transcribed in all other aspects.

B: Page numbers from electronic publications: Where direct quotes are drawn from electronic sources such as Web sites, page numbers are cited according to the page of the printed version of the document (A4) from which the quote was drawn. Where such quotes are drawn from electronic sources without a printed version for reference, the abbreviation ‘e.p.’ is used.

C: Reporting numbers in words and numerals: According to *The Style Guide* (2002), the cut-off for reporting numbers in words can be determined according to the need or convenience of the author. In this case I have chosen to report all numbers up to and including ‘twelve’ in words because the largest cluster of data I collected in terms of case studies was the twelve reported in Chapter 7. All other numbers are reported as numerals except where they begin a sentence. Chapter numbers are all written in numerals and cross-referenced as such.

D: Definitions: A wide range of terms are used in the context of education technology including e-learning, information and communication technologies (ICTs), Web-based learning and online learning. For the sake of simplicity I have adopted the terms ‘online teaching’, ‘online learning’, and ‘online assessment’. I have also provided more detailed definitions of these terms in the thesis itself. Quotations conform to their original source, thus some of the other terms also appear and have been used interchangeably.

E: Abbreviations:

ADFA: Australian Defence Force Academy
AL: Action Learning
AL1, AL2, AL3: Action Learning sets in this research
AR: Action Research
ascilite: Australasian Society for Computers in Learning in Higher Education
AUQA: Australian Universities Quality Agency
AusWeb: Australian World Wide Web Conference
Case studies: Eight case studies derived from a funded project (see Ch 8)
CSU: Charles Sturt University
Cycle 1, Cycle 2, Cycle 3: Action Learning cycles in this research
EdMedia: World Conference on Educational Multimedia, Hypermedia & Telecommunications
Hallmarks: Refers to the publication in press of twelve examples collected through funded research
ID: Instructional Design
iLO: interActive Learning Online staff development workshops
ISL 2001: Intelligent Systems Laboratory Conference
MCQ: Multiple choice quiz
OECD: Organisation for Economic Co-operation and Development
PAR: Participatory Action Research
Q&A: Question and answer (forum)
Round One, Round Two, Round Three: Interview rounds in this research
SCU: Southern Cross University, also referred to as Southern Cross
TED: Transdisciplinary Educational Design
UNE: University of New England
USQ: University of Southern Queensland
Preface

The following list provides details of the books, refereed journal articles, book chapters, and conference papers that were either solely authored or co-authored on the topics of relevance. These selected publications from my overall output are all related to the thesis, and span the lead-up to and the actual period of research. They are shown here in chronological order.

Preliminary to the research period, as the thematic concern was being identified, the following articles were published:


The series of publications which follow were completed during the data collection phase of the research:


The final series of publications was published during the thesis writing phase:


Chapter 1
Setting the scene

If you want a crop for one year, grow grain; if you want a crop for ten years, grow a tree; if you want a crop for a hundred years, grow farmers.

Chinese Proverb

At the garden gate
1.0 Setting the scene

This thesis reports on research into educational design practice and my role in initiating team-based approaches to designing student assessment in higher education. The link between assessment and educational design has not always been seen as a direct one, but since the widespread adoption of networked computer technologies throughout the global higher education context, design of assessment for online implementation has become a primary focus of educational design activities. The gate is now open to educational design practitioners and their influence on pedagogical effectiveness through the main driver of learning – assessment. What follows in this first chapter describes the issues at the start of my research – educational design, online teaching and learning, and assessment.

1.1 Professional practice context

The professional practice of educational design provides the context from which this research springs. I am one of three educational designers employed in the Teaching and Learning Centre at Southern Cross University located in the Northern Rivers region of NSW, Australia. Between us, we are responsible for providing educational design and academic staff development services to the university community as a whole. Our portfolios of responsibility have become gradually extended over time in response to both institutional and national agendas.

As a regional multi-campus University, Southern Cross University (hereafter referred to as Southern Cross) caters to a diverse student group of about 20,000, including school leavers, mature-aged students, those living in Lismore, the nearby region, around Australia and overseas. The University employs a core of teaching staff with a large number of sessional tutors. To date, the annual teaching and learning orientation for new staff has brought a fresh crop of nervous and largely inexperienced teachers with whom we, in the Teaching and Learning Centre, must engage. With the growing use of educational and communications technologies throughout the sector and at Southern Cross, such academic staff development sessions must provide a very broad orientation.

1.1.1 Current model of educational design at Southern Cross

The professional practice of educational design normally involves collaborating with a subject matter expert to prepare pedagogically sound learning materials that are supported by feasible teaching and learning experiences. Since my commencement as an educational designer at Southern Cross in 1992, the practice has always been a one-to-one encounter with either myself, or one of my colleagues, working alongside the academic (subject matter expert) to design their unit in terms of pedagogy. Typically, the only opportunities
for conducting educational design sessions within group contexts were through academic staff development events. In these sessions the focus might be to explore and develop skills in a particular pedagogical approach such as facilitating small groups, or the introduction of educational concepts such as that of constructive alignment (Biggs, 1999, p. 124). By the time the educational design functions were incorporated into the centrally run Teaching and Learning Centre at the University in 1997, staff development activities had become an integral part of the educational design role, reflecting the change in practice not only at Southern Cross but also in other universities (Bird, 2002; Boud, 1995b; Meacham, 1982; Ramsden, 1992).

The key point to note is that in terms of our educational design role, in which we support all academic staff to design and develop their teaching approaches for on-campus and off-campus modes, each of us takes a portfolio of Schools. We always make use of the online environment to support learning and teaching design to some degree, and primarily work through a one-to-one connection with academic staff.

1.1.2 My prior research

This doctoral research follows directly from an internally funded research project in 1998, in which I investigated the early adoption of online technologies through nine case studies from four countries – Australia, South Africa, Canada and United Kingdom. The case studies showed a range of new opportunities for the assessment of online interaction among learners in open and distance education (O’Reilly, 2000a; O’Reilly & Morgan, 1999). Since the completion of that investigation some of my colleagues and I have critically evaluated many more examples of a range of assessment methods and non-assessed learning activities in the online context (Morgan & O’Reilly, 1999, 2001; O’Reilly, 2002a, 2002b; O’Reilly & Newton, 2001, 2002).

At the start of the present research I was also an invited member of the steering committee from across education sectors for the National Centre for Vocational Education Research (NCVER). The project sought to investigate challenges, barriers and solutions for online assessment in the Vocational Education and Training (VET) sector (for further details see http://www.veac.org.au). My contribution to the steering committee was founded on the principles and practices that I had been able to synthesise through research, scholarship and professional practice in the lead-up to my own doctoral research.

1.1.3 Research support group

It is also important to note that during the time I was undertaking this doctoral research, data collection, analysis and reporting, I was also a member of a small research support group that met regularly to support each of its three members. For me personally, this
group provided a collegial context in which to reflect on my own research process as it unfolded, share ideas, exchange motivating energies and to be held accountable. Many of the principles that we adhered to in this support group came to be part of the structure that I was working with in each research cycle. Specifically:

- equal time shared amongst each member to discuss their own project
- focus person has full attention of the other members
- sessions are recorded for the potential to review
- constructive comments are provided by set members when called for.

(Phelps, Fisher & Ellis, 2007)

This support of having peers as critical friends, is also reported in the literature as an important factor in motivating academics to explore innovative ideas in online teaching. Furthermore, it was also seen as critical to motivation and success, when also supplemented with institutional support such as links to central policies, plans, and academic staff development (Bull et al., 2002). The organisational context at Southern Cross is an ever-changing and dynamic one, and if it weren’t for my critical friends as motivators outside the process of my research, my reflections throughout the process would not have been so fruitful nor served as inspiration to continue.

1.1.4 The higher education context in Australia

The landscape of higher education in Australia has been undergoing profound change over the past three decades. The major suite of reforms in Australian higher education in the 1980s resulted in a ‘unified national system’ of universities (Moses, n.d.). In the intervening period of deregulation, however, the sector became increasingly differentiated as each university sought to cast itself as distinct and competitive in the global educational marketplace. This competitive milieu is now a feature of Australian higher education, especially since the 1990s where an increase in full-fee undergraduate courses and conspicuous inroads into the Asian education market became evident across the board.

At the same time, the quality assurance framework in Australia’s higher education sector has made no distinction between modes of delivery such as on-campus, distance education or online. The Australian Qualifications Framework (established in 1995) serves to ensure that the awards of bachelor, graduate certificate, graduate diploma, masters and doctoral degrees meet the prescribed criteria and are therefore of a similar standard across all Australian higher education institutions (Gallagher, 2001). The mechanisms for quality assurance are thus the same no matter what level of award, degree of student autonomy, interaction or flexibility are designed. The main issues of concern for the Australian Universities Quality Agency (AUQA, established in March 2000) are the quality and appropriateness of the pedagogy, and the effective use of available technologies.
In a publication of the Australian Government (Nelson, 2003), incentives and rewards for excellence in teaching and learning were promised in the form of institutes for monitoring and benchmarking Australian higher education, centres of excellence for networking, researching and supporting collaboration across sectors, and awards for quality. These, together with a favourable context for industry-based partnerships in research, indicate a significant regard for ongoing improvement in a rapidly changing environment. Furthermore, 2004 saw the inception of the Carrick Institute for Learning and Teaching in Higher Education that has among its responsibilities the administration of a Learning and Teaching Performance Fund. This multi-million dollar fund (which has been increased over each consecutive year) is seen as part of a renewed focus on the quality of teaching and is aimed at fostering diversity within the sector via rewarding excellence in teaching performance (DEST, 2004).

At Southern Cross, these two national agendas of quality audit processes and performance-based funding play a central part in the strategic direction of the University’s teaching and learning management plan. In this current climate of explicit concern with quality, accountability and their associated rewards, the implication for academic staff development, curriculum development and educational design is that academics and management need to be more open to enhancing approaches to teaching and learning, and aligning mechanisms for design and evaluation of assessment in particular.

1.2 Student assessment

Assessment of learners at university has long been held as the hallowed ground on which the successful progress of undergraduates and the academic rigour of the institution are determined. Specifically, our assessment of students’ learning aims to fulfill several purposes for students themselves such as:

- providing feedback on ways to improve understanding and its expression
- providing opportunities to landmark and benchmark progress
- setting clear expectations
- supporting the learning process
- motivating to pursue further learning
- guiding decisions about future careers and study choices
- acknowledging competence in terms of professional practice.

In addition, assessment aims to benefit the academic assessor and the institution by:

- enabling the distinction between standards of achievement and allocating a grade
- demonstrating fitness for purpose when justifying our own assessment practices
- maintaining academic standards.
However, these lofty aims are not always reflected in assessment design and practice. As argued by Race (2003a), there is a plethora of reasons why things might go wrong in assessment ranging from questions of validity, reliability, transparency and authenticity. These problems, argues Race (2003a), stem in large part from the changing nature of higher education and diverse makeup of the student group. At Southern Cross, the student population is comprised of a very diverse range of ages (17–80, with more than 50% aged over 25), a variety of nationalities (studying in Australia or in their homes overseas), and with a rich array of life experiences (most are employed and have commitments to dependent family members). Against this background, Southern Cross students are typically focused on assessment to drive their learning and assure the proficient achievement of learning goals.

1.2.1 Online learning and assessment

The term ‘online’ is used throughout this thesis to refer to the environment provided by Internet-based technologies that support multi-way interactions – both synchronous and asynchronous, access to resources and databases, and the transfer between users of digital objects of various kinds.

Online learning, also referred to as e-learning, has become widely advocated as the means by which quality learning experiences might be provided to all learners who have access to Internet-based technologies. This level of access continues to increase across Australia as it does throughout the western world. As early as 2001 at an OECD presentation, Gallagher quoted rising levels of usage in Australia:

The move to e-learning has been assisted on the demand side by high access levels to computers and the Internet, with 66% of Australian adults having used a computer and 50% of adults having accessed the Internet in the twelve months to November 2000 (Australian Bureau of Statistics, 2001b). A private research firm claims that by February 2001, 67% of Australian Internet users had used the Internet regularly for about two years and that 83% used the Internet in the week prior to the survey (Red Sheriff, 2001; Centeno, 2001). University student access levels to technology appear to be even higher than for the general population, with a recent survey of tertiary students in Australia finding that over 95% of university students reported making regular use of information and communications technology (ICT) (Oliver and Towers, 2000) (Gallagher, 2001, p.3).

These comments are reinforced by more recent statistics that detail worldwide trends (GlobalReach, 2004). Although there is clearly an increase in usage with the passage of time, much of the literature concerned with online teaching and learning still speaks descriptively of the experimentation and reflections upon innovation. There are many small case studies that
consider the innovation trialled and the outcome for either students or staff within its specific context. In their evaluation of Information Technology projects funded by the Higher Education Committee for University Teaching and Staff Development, Alexander and McKenzie (1998) identified a range of factors which contributed to successful and unsuccessful learning outcomes. In relation to assessment issues they report unsuccessful projects:

- did not change the assessment of learning to reflect changes to learning outcomes
- overestimated students’ willingness to engage in higher-level learning activities, especially when they were not related to assessment.

Alexander and McKenzie (1998, p. 258) recommended that future participants in IT design and development proposals should:

- consider revising the method of assessment of student learning to reflect changes in the content and process of learning
- initiate activities which encourage students to reflect on their own learning in terms of content, process and the ways IT projects encourage an approach to learning which they might not have encountered before.

Kendle and Northcote (2000a, p. 532) argue for balance in the use of quantitative and qualitative online assessment tasks, asserting that ‘too often educational materials from face-to-face or distance education are translated into online courses without any supporting pedagogical transformation’. They support the view that assessment drives student learning and as such ‘assessment should be one of the first design considerations when preparing an online course, and be seamlessly integrated into the course, not “tacked on” as an afterthought’.

1.2.2 Online as lure for educational design

The introduction of online teaching and learning became an institutional mandate at Southern Cross in 2000 after a trial period over the two preceding years. This signaled an opportunity for the systematic inclusion of educational designers in the preparation of each new unit in each teaching period. Team-based design and development took on a staff development guise as educational designers worked with academic and technical staff to unpack the issues and concerns in online teaching and learning.

Prior to designing for online delivery, the staff development workshops and seminars that I had held on assessment issues were facilitated within the relatively ‘safe’ context of disciplinary-based groups of colleagues, but often seemed to reach a stalemate. Questions of improving assessment practices brought resistance and defensiveness from amongst the academics. My thoughts on how to effectively break down the resistance to change of assessment design were galvanised when I attended a regional academic developers’
meeting in Sydney and the term ‘Venus fly-trap’ was used to describe approaches to educational design (Housego, 2002). The term ‘Venus fly-trap’ refers to carnivorous plants of the same name that open the two flanges of their sticky flowers to attract insects. When insects land inside, the flowers snap shut and the insects are steadily devoured by the secretions of the plant. The reference in this case was to educational designers who were using the move into online that was happening across the sector at that time as the ‘sticky’ enticement for academic staff to seek their input. Once in discussion, the connection was made and a broader dialogue could then be opened up with academics on the details of their current practices. There was a sense of luring our colleagues into examining their teaching and assessment approaches after they may have initially sought to consult us only about adopting online technologies in their subject. In general it was agreed at the academic developers’ meeting, that we had little difficulty in persuading most academics that adoption of online technologies for teaching and learning needed to be informed first and foremost by pedagogical principles.

This holistic nature of educational design that is evident in the literature from its early origins in systems thinking (Dick & Carey, 1978; Romiszowski, 1981) is fortunately still apparent in current professional practice, where it is defined as the co-construction of knowledge with subject-matter experts (Duffy & Cunningham, 1996; Jonassen, 1994). Generally speaking, even in such cases where academics are lured into dialogue, the practice of educational design is acknowledged as collaborative in nature, broad in its network of collaborators and driven by pedagogical imperatives in many contexts of delivery.

1.3 Educational design for assessment

While it is clear that the global landscape of higher education is changing as the result of technology development and policy reforms, the notion that assessment practices are seen as ‘the engine that drives student learning’ (Cowan, 1998) is still considered as ‘evergreen’. It is thus the case that when designing assessment tasks, academics require a thorough understanding of why, what, how and when assessment should be taking place, and who is best placed to conduct it (Brown, 2003). In the professional field of educational design, a two-way consultation between academics and educational designers about design and implementation of assessment strategies provides a timely opportunity to focus on what works in effective assessment design and why, as well as reviewing where the problems and pitfalls may lie.

It is through this consultative process, fundamental to my professional practice as an educational designer, that I began to reflect on the reasons why some academics seek to engage with an educational designer one-to-one to review and redesign their assessment tasks, while others may only consider their ideas on teaching, learning and assessment
in the company of their disciplinary colleagues. Others still claim they have no need for review or consultation about approaches to teaching, learning and assessment, even in extreme cases where unit reviews reveal student dissatisfaction and difficulty in passing the subject. In an invited paper presented near the start of my research I raised similar questions and summarised my position about the educational design role in the context of technology development as follows:

… to reinvigorate the spirit of learning within staff and students is a fundamental focus of educational design in today’s online world. As such it represents a profession in which practitioners must bring an holistic approach and a balancing of individual needs with the need for group and social cohesion (O’Reilly, 2000b, p. 262).

My main point in this observation is the notion of working more collaboratively with teams of academics and support staff. Although in my presentation I determined that a social cohesion was needed, this was not the nature of my practice or that of my colleagues at Southern Cross at that time.

1.3.1 Development teams

Academics at Southern Cross benefited through 1998–2000 via the allocation of central funding for a number of special projects to develop several undergraduate programs for online delivery. In particular, the funding included support for the then School of Social and Workplace Development and involved a team approach to pilot the design and development of an entire undergraduate social sciences degree program that maximised the use of online technologies (Ellis & Phelps, 2000).

Having been part of this initiative, I saw how a change to the educational environment through adoption of Internet-based approaches can (and indeed, should) influence the design and implementation of assessment, as advised by Alexander and McKenzie (1998). Through this initiative it became clear to me that a staff development model and, more specifically, a collaborative approach to course design, had potential to yield better, more effective, sustainable and pedagogically sound assessment designs than a model based on individual consultations. It reminded me of a comment by Professor Fred Lockwood when he visited Southern Cross in 1998, on how stimulating and rewarding it was to work as part of a reflective design team (The Study Methods Research Group) at the Open University in the UK.

At the same time, the co-authoring and publication of a book on assessment involving a collection of exemplary case studies (Morgan & O’Reilly, 1999) afforded me wide-reaching exposure to online assessment practices by academics in several institutions both in Australia and overseas. A great deal of feedback I received on assessment case studies published in
this book highlighted readers’ appreciation for ideas stimulated by seeing what others had
designed. Since then other authors have also noted the importance of providing exemplars
when assisting academics to design teaching approaches for online (e.g. Samarawickrema &
Benson, 2004) and this point is further developed through the thesis.

As I continued supporting staff in their design, implementation and evaluation of
assessment, earlier questions continued in my mind – how can interested academics be
better supported to explore and design their assessment tasks for implementation in the
online context? I wanted to also explore how to balance individual and group needs in my
practice. It was from this initial springboard that my research focus began to appear – rather
than continuing to work one-to-one, I decided to invite academics to work collaboratively
within a team, together with other academics, technical support staff, and myself in the
educational design role, to design their assessment for the online context, and to make
explicit within the group what their design decisions were based upon.

1.4 Research question

In the four decades of exploring telecommunications innovation in higher education
(Candy, 2004), a number of studies have investigated how to make full use of the new
technologies and the opportunities they offer. However, when I commenced my research,
the contemporary literature on online teaching, learning and assessment (i.e. conference
proceedings of EdMedia2000, AusWeb01, ASCILITE01, ISL2001; International Journal
of Educational Telecommunication, Australian Journal of Educational Technology, for
example), suggested that academics who had experimented and reflected upon their
innovations had yet to express their insights in a coherent way which could add to an
appropriate theoretical framework. What seemed to be available in abundance were small
case studies and I found Mason’s (2002) suggestion an important one – that what was
needed was more critical research and that which provides a broader or more longitudinal
perspective than ‘what we’ve done at our place, and how it worked’. The question of
how we come up with our pedagogical designs was also of interest to me. The idea of
exploring the educational design process suggested an action research approach as a
potential methodology to pursue my questions of design processes and improved practices.
Therefore, the research reported in this thesis was driven by my own overarching question,
namely: how could I improve the online assessment practices of academic staff through
reflection and action research?

More recent reports of teaching, learning and assessment initiatives online are beginning
to explore what constitutes the foundations of excellence in online assessment and how
educational designers can assist academics to improve online teaching practices. Over time
we can expect to see a workable model of educational design that supports the development
of effective and sustainable online assessment practices across disciplines and institutions throughout the developed world, where access to the Internet is a common expectation. As the research progressed I was therefore led to a further question: *What is a contemporary approach for my educational design practice that supports the development of effective and sustainable online assessment practices across disciplinary contexts?*

### 1.4.1 Research cycles and associated activities

Having decided on an action research approach, Figure 1.1 shows the details of how this approach unfolded over time. It is a map of all the research cycles and supplementary activities, indicating in which chapters these discussions appear in the thesis.

The action research methodology used in this research is discussed in detail in Chapter 2. The Action Learning (AL) sets, that is the team of members in each cycle which will be described later, each worked through one research cycle. In all, the research was structured on three AL cycles and a number of supplementary data collection activities that occurred between 2002 and 2005. During this period, I was also responsible for conducting twice-yearly staff development workshops that introduced participants to the online environment as well as the principles of facilitating and sustaining meaningful interaction in this environment. It was from these workshops that I selected the majority of members of AL sets, and altogether nine academics from nine separate fields of education agreed to participate in the three AL cycles.

A Web survey was among the supplementary activities. This took place at the commencement of data collection in three other regional universities and at Southern Cross. The survey provided the baseline information that I sought to inform the first AL cycle. An additional three rounds of interviews were conducted as follow-up to the earlier Web survey. The first AL cycle, Cycle 1, took place in Winter 2002–Summer 2003, Cycle 2 in Winter 2003–Summer 2004 and Cycle 3 in Winter 2004–Summer 2005. In these three cycles academics worked in conjunction with library and technical staff to design, develop, implement and evaluate their assessment for online. Each of these cycles took place mainly in the latter half of the year when there was more lead time for activities in preparation for the following teaching year, and were finalised with implementation and evaluation phases in the subsequent semester.

Arising from the first two AL cycles (1 and 2), twelve examples were collected through interviews at four regional universities. This was made possible through the support of an internal research grant, allowing for personal visits to the three other regional universities in my original sample to conduct three interviews at each institution. Together with the interviews conducted at Southern Cross, this supplementary data collection produced detailed examples of practice across the sample of regional universities in eastern Australia.
<table>
<thead>
<tr>
<th>TIME</th>
<th>Workshops</th>
<th>Supplementary data collection</th>
<th>Action Learning cycles</th>
<th>Chapters</th>
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<tr>
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<td>Pilot</td>
<td>Preliminary publications</td>
<td>Action Learning Cycle 1</td>
<td>Chapter 1</td>
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<td>2001-2002</td>
<td>July 01</td>
<td>Research commences</td>
<td>July 02–June 03</td>
<td>Chapter 2</td>
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<td>#1</td>
<td>Web survey</td>
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<td>July 02</td>
<td>July–Sept 2002</td>
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<td>2003</td>
<td>#2</td>
<td>Round 1 interviews</td>
<td>Action Learning Cycle 1</td>
<td>Chapter 4</td>
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<td>February 03</td>
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<td>July 02–June 03</td>
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<td>#3</td>
<td>Round 2 interviews</td>
<td>Action Learning Cycle 2</td>
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<td>2004</td>
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<td>Hallmarks interviews</td>
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<td>Feb–June 2004</td>
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<td>#5</td>
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<td>Action Learning Cycle 3</td>
<td>Chapter 7</td>
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<td>Case studies</td>
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Figure 1.1: Research cycles and activities, thesis structure and timeline
1.4.2 Background to the research questions

With my intention to explore a new educational design approach, it was first important to acknowledge and reflect on the historical roots of the practice of educational design, and why perhaps the contemporary models did not seem to represent authentic and functional practice as I knew it.

Originally known as ‘instructional design’, early practices developed from the psychology of learning, and in particular from the behaviourist theories of Skinner (1954; 1965), and the cognitive theories of instruction (Bruner, 1966) and learning (Ausubel, 1968). While Montessori (1958; 1964) is attributed with having been the first to produce a complete model of instruction (Reigeluth, 1983), this work has not been taken up by mainstream educators. Instead, the development of theories of instruction in the latter half of the 20th century has taken root in the concepts of systems thinking and systems analysis.

Military research in the 1960s focused on individual differences in learning (Briggs, 1960), and was further developed through explorations within the context of the psychology of instruction (Glaser, 1965). Subsequent applied work by Gagné and Briggs (1974) in designing ‘events of instruction’ represented a diagnostic emphasis in the development of instructional design practice. A more holistic perspective on the practice then emerged in the formulation of a systems approach to designing instruction (Dick & Carey, 1978), and through the synthesis of theories and practices of the ‘instructional technologists’ of the day, in a systems approach to instructional design (Romiszowski, 1981).

Ironically, this era of systems-based professional practice was strongly influenced by a focus on the parts of the system rather than the whole. It was brought to prominence for instructional design practitioners through ‘programmed instruction’ with its emphasis on achievement of instructional objectives (Mager, 1984). In this way, programmed instruction was not only representative of a linear and segmented view of the sub-elements of practice, but it also served the educational technologists well as they explored the significance of learners’ capacity for information processing, instructors’ roles in providing feedback and reinforcement, and the instructional conversations that took place between them (Reigeluth, 1983).

Development of instructional design as a profession in Australia can be tracked through literature emerging in the 1980s and 1990s where a self-reflective tone pervades the consideration of roles and identities (Allen, 1996; Andresen, 1991; Inglis, 1996; Parer, 1989). These musings attempted to define a burgeoning profession within a sector that was also in the process of substantiating distance education alongside traditional classroom teaching, but the real impacts of the online environment were yet to be realised. The role of instructional designers was thus linked to particular institutional
contexts and affiliations of their leaders. The later period of technological development and massification of higher education at the turn of the century resulted in greater numbers and a wider diversity of students. Contemporary theories of learning have hence emerged, taking into account this diversity of learners and their need for engagement with study when life is full of other commitments.

The role of instructional designers has consequently also been reconceptualised (Bird, 2002). No longer viewed as fundamentally ‘designing instruction’, the professional practice became referred to as ‘educational design’ and is now in evidence world-wide across the higher education sector, with the exception of North America. The term instructional design continues to be used in North American literature though it now describes a role far richer than the term implies. This newly defined profession, educational design, brings with it an expanded role that commonly includes both curriculum development and a renewed emphasis on academic staff development (Allen, 1996; Bird, Morgan & O’Reilly, 2007). The theoretical foundations of contemporary educational design practice, however, have not been consolidated and appear now as eclectic as ever. Influences come from a multitude of disciplines including instructional psychology, cognitive theory, constructivist and social learning, phenomenography, critical theory, problem-based learning, experiential learning, multiple intelligences, learning styles, schema theory, constructive alignment, and a scholarship of teaching (Bird, 2002).

1.5 Changing models of practice

Although there has not specifically been a proliferation of theoretical explorations of models of educational design, nonetheless, recent literature provides some discussion of models of practice, based on the influence of constructivist learning theories and their implications for teaching. Schwier, Campbell and Kenny (2004) highlight that theoretical models of instructional design [sic] seemed not to be grounded in practice. Their research of instructional design practitioners in Canada found that this is a profession that is now self-aware while also continuing to define itself in terms of the wider educational community and more specifically its own community of practice. They suggest that as the struggle for identity has dwindled over time, the profession of instructional design is now facing a much deeper question of agency:

We see instructional designers struggling to identify their own tacit knowledge, and without systematic avenues for sharing their tacit knowledge with other designers. We find that instructional designers recognise that they have a role to play in the changes currently underway in education, but less understanding of how to express that role forcefully and demonstrate leadership (Schwier, Campbell & Kenny, 2004, p. 97).
Other authors have also attempted to distil educational design models from practice including Willis (1995, p. 5) who takes a view of ‘Instructional Design’ (ID) that critically contrasts with its behaviourist (‘objectivist, rational and empiricist or postempiricist’) roots. His proposition that an instructional design model founded on ‘social science theories from the constructivist family and on an interpretivist philosophy of science’ leads to a recursive and reflective practice model. In this case we should expect to find and learn to tolerate greater subjectivity, flexibility and fluidity in our educational designs. His recursive, reflective design and development model (R2D2), involves a non-linear approach to the task where issues and problems are considered and reconsidered over the course of the project, and where this reflective process requires that we devote our attention to a fluid and changing context of work.

Willis (1995, p. 12) also explores the question of whether educational design expertise can be achieved independently of disciplinary expertise. On this question he claims that ‘general ID experts don’t exist’ and instead refers to a ‘participatory design model’ (Schuler & Namioka, 1993 in Willis, 1995, p.13) which may involve the educational designer either becoming immersed in the discipline or conversely, taking a consultancy approach thus empowering subject-matter experts with ultimate responsibility for design of their learning materials.

With reference to the online context, Crawford (2004, p. 415) presents another iterative instructional design model that she calls an ‘eternal, synergistic design and development model’ because, she asserts, it ‘offers a continual, synergistic growth process, with a central emphasis on evaluation’.
Both these models go some way to representing a recursive and iterative process as I have come to understand from my own practice, but still seem to fall short of accurately reflecting the activities typically undertaken at Southern Cross. Of greatest concern to me was that these two models found in recent literature may represent a change in terms of being more dynamic than the linear models of the past, but still appeared to track a process repeatedly over the same terrain – a recursive but single-track path like being stuck in a groove. This sense of relentless repetition is a far cry from the findings of Schwier, Campbell and Kenny (2004, p. 91) who claimed they found ‘a clear message that there was a need for the types of social change that ID can provide, and evidence of the influence of ID generally on institutional policies and issues’. If what these authors suggest is true … that ‘[i]t isn’t enough to work quietly and effectively in the shadows, and hope that the profession is understood and appreciated’ (p. 94) … then no longer is there a need for a simple duality between ‘getting change or getting credit for it’ (Theobald, 1998 in O’Reilly, 2000, p. 263). Having reached this conclusion, I was now more stimulated to explore the development of a new model from my own practice – one which depicted a collaborative and recursive process and did not traverse the same ground over and over again.

1.5.1 Significance of the research

The significance of the research described in the following chapters is in the development of an educational design approach that serves to improve assessment practices for the online context and supports academics to engage in a collaborative process for critically reflecting upon and adapting their practices. Disciplinary paradigms are transgressed in the context of assessment (Nowotny, 2003). Reflective approaches to collaborative action research allow academics to focus on their own teaching, learning and assessment practices from a scholarly perspective. This in turn maximises the likelihood of scholarship and publication in a more formal and public arena. Through an educational design approach based on reflective action research, academics can benefit at three levels:
1. **At the professional scholarship level**: through investigating a range of online approaches to particular concerns regarding assessment in their disciplinary areas, and potentially producing articles for publication

2. **At the professional practice level**: through engaging with specific issues of their own professional practice and exploring the relationship of their experiences to the practices and reflections of colleagues, peers or associates

3. **At the personal level**: through a more inquiring attitude towards change and the possibilities for improvement of online assessment practices, and through consciously reflecting upon practices and research in the field.

I also expected the benefits to my own professional practice to occur at these levels. My own perspective, as both educational designer and principal action-researcher, is central to the thesis and its explication. In coordinating the activities of action research, collaboratively reflecting with participants and disseminating insights and outcomes of various phases of the project, I aimed to bring a critically reflective approach to my own research and to model this for participants as they brought issues and questions to our research meetings. Additional significance of the research was in its collaborative and reflective nature that enabled insights of value beyond the group of academics involved, through publication of journal articles and conference papers for a wide audience in higher education.

### 1.5.2 Towards reflective teaching practice online

Booth, Hartcher and Hyde (2002) summarise the challenges for those wishing to make the most of new opportunities for online teaching, learning and assessment. Based on the literature, academics need to:

- incorporate a broader, more diverse range of assessment methods to better cater for the ‘differences and complexities found within any modern challenging curriculum’ (Kendle & Northcote, 2000)
- design a seamless integration of learning and assessment (McLoughlin & Luca, 2001)
- understand the capacity for the media to construct authentic, valid and meaningful assessment of learning (Herrington et al., 2000a)
- create feedback processes that support learning (Laurillard, 1993).

These key recommendations amount to a series of steps towards change that should emerge from reflective teaching practice. But among the strategies reported in the literature on how academics might make appropriate changes to their assessment designs, there appears little to direct attention to reflective practices in this domain. The work of Southern Cross authors Ellis, O’Reilly, and Debreceny (1998); O’Reilly, Ellis and Newton (2000); Ellis and O’Reilly (2001); and O’Reilly and Brown (2001) represents sustained interest in staff development for online teaching and learning, but only foreshadows reflective practice
approaches for adapting to change in the online context. Kandlbinder (2000) agrees with the Southern Cross authors when he asserts that academic staff development for online teaching and learning needs to occur in the online environment in order to be authentic and effective. Lefoe (2000) and Litchfield (2000) also describe coordinated initiatives to foster staff development, but there is still no engagement at the level of reflective practice reported in their initiatives.

Where reports exist on academics’ reflective practice for online teaching (e.g. McShane, 2000a; 2000b) they are not also concerned with critical issues of assessment online. Literature abounds on reflective practice for teacher education (see for example Calderhead & Gates, 1993; Fullen, 1991; Russell, 1993) and more recent work includes explorations of cognitive apprenticeship (Bonk et al., 1998), action research for professional development (Auger & Wideman, 2000) and metacognitive approaches to teaching (Phelps & Ellis, 2002; Phelps, Ellis & Hase, 2001).

Of particular interest in my thesis is how these elements might fit together, with educational design practices at the heart of the investigation and using collaborative reflective practice processes within an action research framework to support improvements for online assessment.

1.5.3 Ethical considerations

The ethical principles fundamental to the conduct of this research were made explicit in the application to the Southern Cross Ethics Committee and in the informed consent form provided to all participants. These included confidentiality, anonymity and the obligation-free choice to participate. An important element in obtaining consent was the explanation of benefits. It was my wish that the research be of practical use to all who chose to be involved. This in turn helped to identify academics who were immediately ready for engagement in a design process. The invitation to participate (Appendix 1) included a full explanation of aims and anticipated benefits of the research as well as requirements of participants’ time. Initial ethics approval number is ECN-02-39, with renewal numbers ECN-04-65 and ECN-05-40.

1.5.3.1 Effective confidentiality among peers and the broader audience

While the intrinsic desire to respect mutual confidentiality was observed by members in the action learning sets (Lincoln & Guba, 2000), participants were routinely reminded at each meeting about the importance of preserving this confidentiality. Accuracy of transcripts of meetings was ensured through a timely member checking process and any changes that were requested were duly made. All reports published during the time of this research have made use of pseudonyms.
Data collected from Web surveys and supplementary case study interviews have been treated in accordance with the level of privacy consented to by respondents. Specifically, as case studies were detailed in pursuit of showcase exemplars, this subsequently published data includes some identifying information such as name of institution and name of subject being described.

1.5.3.2 Limitations of the research

It is important to be clear from the outset about the limitations of the research and what it did not as well as what it did set out to explore and the bounds within which it took place.

Although Perry (2002) warns against mentioning that time was a major delimitation of the research for fear of being criticised for inappropriate choice of project, the reality, as clearly indicated by Peshkin (2001, p. 13), is that research decisions are made as ‘they relate to the matter of time available’. So it was that the time I requested from participants was influenced by a desire to ask the minimum we might need for meeting together. In the course of the research it becomes clear that this was a constraint.

In inviting academics to participate I restricted my approach to those Schools in which I would normally be undertaking educational design responsibilities. In the first instance I invited those staff who had completed an online staff development workshop and who were also ready to design for facilitation of online assessment in the semester immediately following the participation in the AL cycle. I was also deliberate in selecting academics from across a number of disciplinary areas to ensure a cross-fertilisation of ideas. These sampling decisions were very pragmatically determined.

The description of ‘online’ assessment has always been fairly open in this research. The principal determinant in this sense is any learning activity that is facilitated through some online means and which can be either the focus of assessment or leads to the completion of an assessable task. I was thus open to a range of approaches academics may have wanted to take including online quizzes, graded discussions, group work, self-paced computer-assisted strategies, reflective portfolios and so on. Since the initial focus of the research was about improving staff approaches, I was also prepared to concede that some academics may not finish up with a design for online assessment at all.

As for the usefulness of research outcomes, in the past, action research and action learning were both criticised for their non-generalisability. This was attributed to the close connection of the inquiry to both its context and circumstance, as well as to the requisite involvement by (the inherently subjective) research participants. I see this as a delimitation of the research rather than a limitation. That is, the research has boundaries that are defined by my focus on both improving assessment design for online and developing a new model
of educational design practice. The aimed-for improvement is one important element of the research outcomes, and the development of a new professional practice model is another. Achieving a better understanding of this particular case has merit in itself and I argue it has some potential for further examination and adoption in other contexts.

A further delimitation of this research is in terms of the kind of action research that I have put into practice. Details are provided in Chapter 2 regarding the action research traditions considered, but suffice to say here that this research is best seen as practical action research with transformative and collaborative dimensions (Kemmis, 2001). Details of validity, reliability and trustworthiness are further discussed in Chapter 2 and other limitations of the research are discussed as they are identified in later sections.

1.6 Presentation kernels

In preparation for writing the thesis, I initially explored the structures representative of the academic norm and recommended by Züber-Skerritt and Perry (2001) and Perry (2002). It seemed that the five-chapter sequential presentation from introduction to explication of the research questions, literature review, methodology, analysis of data, conclusions and implications, followed by bibliography and appendices, was a common way of presenting a thesis. Struggling for many months to structure my thesis along those conventional lines, I was aware that I was not spending all my energies writing about the AL cycles as they were proceeding since I did not yet have the literature review in hand. Despite the urgings of my research support group, and despite my increasing experience of conducting ‘data-driven’ research, I continued to jot notes about the AL components of my research while attempting to ‘complete’ the literature review section of the thesis.

Before too long, I decided that since the methodology required an iterative approach to data collection and findings, I needed an iterative or recursive approach in thesis presentation. I needed to do justice to the action research methodology and note all outcomes in as much depth as possible in a timely fashion. The natural flow of my research work would have me returning to different elements of the literature as they continued to provide direction and supplementary ideas in the course of data collection. I found guidance in the comments of other doctoral candidates as reported in research by Phillips (1996, p. 200), that trying to encapsulate the literature review in a single chapter was not desirable, but rather that ‘the literature from a range of different areas should continue throughout the thesis’. I saw from the literature that this five-chapter structure was just one way of presenting the thesis (Fisher & Phelps, 2006; Winter, 1996).

My thesis is therefore structured in a chronological order as a truer reflection of the cycles of data collection, analysis and my consequent actions in both reviewing the activities and theories. The literature that influenced my thoughts and decisions along the way now
appears as much as possible in the context of each chapter and better represents how I engaged with it over time. In this unfolding structure of research question (plan), data collection (act), literature (observe) and reflection (reflect), what is reported in this thesis also reveals some of the uncertainties and unclear thinking which occurred along the way, what Cook (1998, p. 102) has referred to as ‘the messy bits’ and Bradbury and Reason (2001, p. 454) call the ‘emergent and messy work of each action research project’. Mindful of establishing trustworthiness in my approach, all sections of a conventional thesis have been retained, albeit in a way that is peculiar to this alternative structure and is essential to the spirit of action research.

Having made this decision, I further aligned my thesis with the dynamic process of action research. In accordance with the challenge to conventional thesis writing put forward by Fisher and Phelps (2006), I have also chosen to adopt other key features in this action research thesis – use of metaphor, telling the story of research events, using first person and returning to the literature on several occasions.

1.6.1 Metaphor

The chapters that follow are structured around one major metaphorical relationship – that of the garden and the researcher/education design practitioner as gardener. The title of this thesis refers to ‘planting the seeds of change’ and this key activity very accurately represents both the action and the research that took place and which will, I hope, continue throughout my professional practice.

Petrie (1979) suggests that it is through the vividness of metaphor and its non-linguistic nature that concepts can be more readily understood and anomalies viewed more clearly. For the purposes of this thesis, the gardening metaphor has been chosen to bring cohesion to a narrative that covers several cycles and a variety of concurrent activities. It also brings a more cogent understanding of the processes of change that occur slowly over time and result from the kind of rhythmic and benevolent attention that I give to the actual plants in my extensive organic garden, and which I can identify in myself as educational designer. To further reinforce the appropriateness of my metaphor I have included photos from my garden that also relate to the fruit trees I have chosen to use by way of pseudonyms.

The key to establishing and relying upon one major metaphor such as this is summed up by Ricoeur (1986, p. 62) who lists ‘realism, clarity, nobility, naturalness, [and] coherence’ as conditions for a good metaphor. Critics of the use of metaphor in educational contexts question its value as being merely ornamental, and even worse, as having the potential to mislead. However, in this case the garden is a good metaphor as it has universal appeal:
Almost everyone has had some experience with plants, even those living in frozen or desert regions. Most people understand the relationship between plants, water and sun, and the role that a gardener plays. Many people have personally worked with plants and appreciate the care they need to grow properly (Clarken, 1997, p. 4).

Schön (1979, p. 254) explains that metaphors are critical to ‘the task of accounting for our perspectives on the world’ and I, as researcher, saw myself very much as a gardener. My role involved planting the seeds for future change. As the changes established themselves within academics and their approaches to assessment design, I needed to water, fertilise and care for them through the phases of the research, so that they could grow to maturity as reflective educators and bear fruit by producing a sustainable and effective approach to assessment of their learners. In fact, the blossoming of academics is ultimately out of my hands and in this case, proved to be both rewarding and lamentable beyond expectations.

In this metaphorical sense, academics are like young plants and reflective awareness is to academics as rain is to plants. In the same manner, the image of the devoted gardener tending young plants gives rise to insight and inspiration for educational designers as they take on the challenging and crucial task of collaborating on design for teaching and learning with academics. For example, each different plant has needs and requirements to grow well. Some need special care and some are hardy. Others may need transplanting, support, lots of sun and water. The gardener knows how to supply the right conditions for healthy growth and development. Just as educational designers cannot claim expertise in many discipline areas in which they collaborate with academics, gardeners must not try to change the original nature of the plants, just give them the best conditions for growth. Some plants may need grafting, transplanting, thinning, support or other intervention to help them bear good fruit (Clarken, 1997).

Inexpressible meanings may be difficult to encode in language, whereas inferences can be made beyond the literal expression of the metaphor (Sticht, 1979). Through use of metaphor in the writing process, it has thus been possible to arrive at a deeper understanding of my own role as educational designer and to be clear metacognitively about the nature and extent of my responsibilities as I work with academics. I am sowing seeds and nurturing plants, but in each case I am not the plant itself. It has been in the telling of the tale through the imaginative language of metaphor that certain insights have come and I have considered that the power of educational design practice is reflected in John Greenleaf Whittier’s poem *A Song of Harvest*:

> Give fools their gold and knaves their power;
> Let fortune’s bubbles rise and fall;
> Who sows a field or trains a flower,
> Or plants a tree, is more than all.
Well … perhaps the poem goes a bit too far and I need to acknowledge that educational design is not ‘more than all’. However, it is a professional practice working across disciplinary boundaries and at Southern Cross it operates over all organisational levels. There is certainly power in such reach, and a constant challenge for the research was in encouraging participants as co-learners in the process through democratic dialogue and collaborative sense-making (Elden & Levin, 1991).

1.6.2 Story telling

As the cycles of research progressed in conjunction with teaching semesters, so emerged the reflective decisions of all members of the AL sets. This story of change is mostly presented here chronologically as a faithful representation of the events that occurred, the meaning made of them and the research/practice decisions that were taken as a result. This approach might be seen as unconventional in terms of the traditional (‘five chapter’) thesis which Perry (2002) advocates. Others such as Murray and Lawrence (2000) reinforce the virtues of journaling as a valuable artifact of reflection and insight, providing a source of data for the telling of the story, but paradoxically they also provide a template for the writing up of enquiry in applied educational research including action research.

Contrary to such traditional template approaches, this thesis is more in keeping with Dick’s (1993) claim in terms of writing about action research, that ‘[t]he final thesis won’t look much like a conventional thesis’. What follows is much more aligned with Heron and Reason’s (2001, p. 186) paradigm of cooperative inquiry where the ‘outcome of inquiries do not have to be confined to the traditional written report’ but rather will include various accounts of the cycles of practice and reflection. Also as Winter (1996) mentions, the accounts and the reflective critique of these accounts leads not to conclusions but rather to further questions and possibilities for exploration, and this once again resonates with the cyclic nature of action research itself.

Richardson (2000, p. 940) also speaks of ‘using writing as a method of knowing … nurturing the researcher’s voice … and serv[ing] the process of discovery’. Winter (1996) reinforces the importance of doing justice to the research process when writing up the report, stating that action researchers need to welcome change to writing conventions that allow for the expression of collaborative and action-oriented research processes. This is supported by Fisher and Phelps (2006).

1.6.3 Literature as laying the groundwork and providing support

Dick (2002b) explains that with data-driven action research, choices for focusing the literature review cannot be made in advance of data collection. Literature woven through each of the following chapters is thus indicative of the reading that was occurring at the time. The field
of educational technology is fast moving and new insights are continuously emerging from the literature, some of these more recent publications have been interwoven in the final writing of the thesis. Relevant literature is presented through each chapter as a way of laying the groundwork for the data and interpretations to follow. More importantly, the literature encountered after the reflective process has yielded insights from each cycle is reported in its temporal location in the thesis to illustrate and support these insights in the same way as additional sources of data might be used for triangulation (Phelps, 2004; Riley, 1990).

Included as a preface to the thesis is a substantial list of my scholarly works that have been published in the lead up to and in the course of this research. These articles are at times referred to and at other times included as extracts or provided in Appendices to accompany points made within the narrative, so as to step back from the labours in the garden and to note the insights cultivated at that time.

**1.6.4 First person**

Another feature of this thesis is its presentation in the first person. The story tells of research events and research participants including myself, the principal researcher. It was therefore important to put myself into the picture since much of the reflective process rests upon being self-critical and, to a considerable extent the findings arise through engaging in a level of self study throughout the process (Bullough & Pinnegar, 2001). The voice in this work therefore, is predominantly mine and while the whole story involves several players, the style I have adopted in its telling is akin to reflexive ethnography in which my own experience and reflections are incorporated into the narrative (Ellis & Bochner, 2000). This also illustrates my alignment with the statement by Bullough and Pinnegar (2001, p. 13) that ‘[w]ho the researcher is, is central to what the researcher does’.

**1.7 Budding assumptions**

I commenced my research with a number of personally held assumptions.

**1.7.1 Active learning and teaching**

Having experienced the majority of my university teaching in the context of distance education, I assumed that without the immediacy of classroom feedback, an academic would need several ways of obtaining information in order to inform reflection on practice. I assumed that informed reflection was critical for fine-tuning learning tasks and assessments and that an active engagement was needed by academics in designing and regularly revising assessment tasks. In order to keep students engaged actively with their learning while off campus, I assumed the critical importance of assessment to their learning. Use of student feedback, one’s own reflections on practice, as well as reading
the literature and attending professional conferences were all ways in which I assumed academics gained insights to improve their teaching and assessment designs.

### 1.7.2 Alignment with organisational values and aims

At the commencement of this research, Southern Cross was beginning operations under a reorganised structure with a revised vision and mission. The rewording of the vision and mission statements for the period 2000–2005 put greater emphasis upon our role in regional development, and stated an explicit commitment to innovation, resourcefulness and flexibility. My assumption was that the ‘region’ referred to is not only the east coast of Australia, but also in a global context refers to the Asia-Pacific and Australasian regions, and I assumed that my values for resourcefulness, adaptability and flexibility align well with those of the organisation. The University’s 2006–2010 plan affirms these values and aims, and can be found on the University’s Web site.

### 1.7.3 Change for improvement

I assumed that as I engaged my colleagues in an action research project, one of the major outcomes would be some kind of improvement in the quality of teaching practices and in the learning experience, and that this would constitute an intrinsic reward for those staff involved. Most specifically, I chose to focus this project upon the improvement of online assessment practices and to my educational design practices. I assumed that my professional practice would improve as a consequence of insights gained.

### 1.7.4 The practice of critical reflection

With academic workloads increasing in both scope and volume, it was my assumption that many members of staff were so busy responding to the day-to-day demands that they simply did not take the time to adequately reflect upon their teaching experiences or to share their reflections with colleagues. The more experienced staff who may have had practice over the years in reflecting critically upon their own professional teaching practices, may have established personal habits that allowed them to reflect in an almost ongoing and taken-for-granted manner, while staff with less practice in this reflective approach may have struggled to direct their thoughts in such an inward way. I assumed that taking an explicit approach to reflection would enhance the process for all, and that taking a critical questioning approach within a collegial atmosphere would serve to stimulate reflection on a personal/professional level.
1.7.5 Achievable goals

At the outset I needed a project that I could assume was doable. Since I worked full-time for the period of my studies, I felt my research needed to be closely associated with day-to-day professional practices. I aimed to adopt an action research approach, so as to enable me to build phases of planning, acting, observing and reflecting into ongoing educational design/staff development work. From my initial reading of the literature (Züber-Skerritt, 2001) it also seemed useful to consider the overarching action research project and my work with academics as the action learning aspect of the project.

1.8 Perennial Values

In addition to my assumptions listed above, I mention here the values I hold that have also had an impact on the integrity of my research. I do this in order to make clear two pertinent ideas, that:

(a) this practitioner-based research is completed from a values-based perspective, and
(b) as the primary reflexive researcher reporting on the research and its outcomes, my values underpin my own critical reflection.

I believe that learning is an essential ingredient to a conscious, vital and positive existence. It is therefore important for me to continue to learn through my professional practice and through my personal interests. The completion of a reflective action research project therefore fits well with this value. Inviting others to participate in reflective inquiry provides them with the same opportunity, and the features of this study that illustrate my valuing of lifelong learning include my encouragement of self-directedness and reflection on one’s experiences by each person involved.

Another fundamental raison d’être for me is being of service. In my work as an educational designer, I see that I can best be of service when I engage with academics to stimulate their reflexiveness and insight. When I can help staff to learn something on their own and develop their professional practices, then I am satisfied that I have been of service and seeded change. The principle of educational design as staff development and change lies at the heart of my explorations and is echoed in the synthesis offered by Webb (1996) of the visions of both Hegel and Marx, whose dialectics appealed to individuals finding life’s meaning through service to a cause greater than themselves.

In these times of rapid technological developments, I believe it is vital to keep up with evolving opportunities and to continuously adapt to change. Being flexible, adaptable and resourceful are values that I attempt to share with academic colleagues in order to successfully collaborate. My interest in moving assessment into the online context springs from the wish to be at the edge of pedagogical developments using technology in higher education.
The value of developing shared understandings is critical to the job of educational design. Without a shared conversation from which springs the agreement to design, develop, implement and evaluate our pedagogical ideas, there would be no place for educational designers. It is by nature a collaborative and change-oriented activity, providing the support and opportunity for academics to develop their ideas and themselves, and to share reflections and insights on teaching and learning experiences (Duffy & Cunningham, 1996; Jonassen, 1994). The importance of social constructivism in the context of online teaching, learning and assessment (Kanuka & Anderson, 1999b) is detailed in later sections.

The bonds that tend to form between myself as educational designer, and academics with whom I work to produce a pedagogical design outcome, are also seen to resonate in the relationships that began developing through the research process between myself as researcher, and the community of academics with whom I work. In keeping with Lincoln’s (2001) notion, a democratic valuing of interests was tangible from the outset.

1.9 Structure of the thesis

Chapter 1 establishes the context for my research, including the Australian higher education sector, my own professional practice context and that of my research questions. Furthermore, I describe how the thesis is presented using a narrative based upon a gardening metaphor, and elucidate the values and assumptions I carried from the outset.

Chapter 2 describes the background features of the various landscapes underlying the thesis, including the professional, theoretical, practical and methodological landscapes evident from the outset.

Chapter 3 begins the report of research activities, from initial Web surveys which demonstrated current activities in online assessment at four regional universities in Australia and the trends indicated in this small sample. In addition the workshops which served as glasshouses for the AL sets are described.

Chapter 4 gives an account of the first AL cycle and the preliminary staff development workshop, which became the format for selection of participants for each of the subsequent Action Learning cycles. Themes emerging from the AL cycle are discussed in light of the relevant literature.

Chapter 5 reports on the second AL cycle and the two staff development workshops that fed participants into the set. Issues emerging from this cycle reflect the impacts of organisational change.

Chapter 6 steps aside from the AL cycles and returns to the initial sample of four regional universities to take stock of current exemplary practice and initiatives. Twelve case studies
are referred to, and the hallmarks of excellence are discussed, including evidence of a scholarship of teaching.

Chapter 7 reports on the third and final AL cycle that brings together all lessons learned from the first two cycles as well as the findings from Chapter 6.

Chapter 8 provides a conclusion to the thesis, namely that effective assessment design results from reflective practice, which can be enhanced through transdisciplinary design teams. A scholarship of teaching can further sustain reflections on teaching for enhanced student learning.

Chapter 9 foreshadows development of the practice of transdisciplinary educational design for the researcher, and suggests future directions for research.

### 1.10 Viewing the scene from the garden bench

In this chapter I have briefly introduced the changing higher education domain, the professional context of educational design and the research questions to be explored. I have shared my values and assumptions and foreshadowed the structure of the thesis presentation, including the use of metaphor, and first person in the telling of the story. In setting out to both improve academics’ approaches to designing assessments for the online environment and transforming my own educational design practice, the scene before me is a vast landscape and it feels like I am beginning on a enormous undertaking.

I like the idea of establishing a garden bench, so that at end of each chapter there is a place to stop and reflect on progress and outcomes so far. I think it will give me the chance to understand the process and to share these reflections in a somewhat organised manner. I also hope that for the reader it provides a rhythm and routine, that comes along with a good day’s work in the garden and with the observances of change over time and through the seasons.
Chapter 2
A tour of the landscape

The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.

Marcel Proust (1871–1922)
2.0 **A tour of the landscape**

Chapter 2 begins by discussing some background features of the landscape underlying this thesis. It includes an introduction to pertinent literature regarding flexible learning, and online teaching and learning. Other features of the landscape discussed in this chapter are the professional, theoretical, practical and methodological bases from which this research commences. In terms of the gardening metaphor, we can see these features of the surrounding terrain as the growing medium into which the seeds are to be planted.

2.1 **Conditioning the soil**

My interest in this research area began to germinate from the time of my undergraduate degree in psychology (1973–1976). As indicated in my discussion of values, I have a strong sense of personal responsibility and a commitment to being of service and supporting processes of change. So, although I enrolled in a four-year honours course from the outset, I did not carry out research, preferring to spend the time in my final year in the service of clinical practice under the guidance of my clinical supervisor. Upon graduation, I entered into professional practice in two challenging areas: (a) in a community-based alternative to psychiatric hospitals and (b) in private practice that focused on family and relationship therapies. Both areas of work engendered major stresses in me as a recent graduate, aged 21. As a result, I chose to leave Sydney after just four years as a professional psychologist, for a less stressful lifestyle on the north coast of NSW, settling in a multiple occupancy community. There followed a 10-year period of stable family life when I married and we had three children whilst continuing to build our house and establishing an extensive organic garden.

As the children reached school age, I embarked upon a home-schooling program through the NSW Department of Education and together we discovered the joys of distance education (or correspondence school as it was then called). This richly rewarding time changed when all three children began to attend the local school and I decided to return to the work force. Assuming that my 10-year break from salaried employment would work against me in job applications, I first decided to return to study and instead of discarding my psychology degree, I found a meaningful way to build on it by enrolling in a Masters of Organisational Development and Training by distance education. Just a short six months later, and partially as a result of my range of experience in distance education, in 1992, I was accepted into an internship in educational design at Southern Cross University. When it came time to complete my Masters dissertation, I once again found a topic of practical interest and chose to explore the design features of distance education study guides. A major light bulb went on for me as a result of this project – I realised that the most important design feature of distance education study guides for students was the
assessment. Of course this is obvious now, but until that moment during my early years in the profession of educational design, I had always believed that the design of assessment was the responsibility of academics and that I had little or no role in it. The fact that the assessment tasks were the key to students’ learning was borne out so strongly through my Masters research that since that time I have felt it my duty to be involved first and foremost with the design of assessment and to ensure this is a major focus of our design discussions, if nothing else. It turned my educational design worldview around 180 degrees.

On completion of my Masters in 1995, assessment in distance education became my focus in both practice and research, leading to further investigations and publications. In parallel, my curiosity about computers and in particular computer-based communication was growing with the rapidly emerging technologies of the Australian Academic and Research Network (AARNet, which was sold to Telstra in 1995 and subsequently spawned BigPond), email and the Internet. To explore the combination of assessment and computer-based technology seemed like the ideal research area and I proceeded to research and write about questions in this practitioner field. My extensive selection of refereed publications relevant to this thesis is located in the preface to this thesis.

### 2.2 Examining the surrounding terrain

To consider the broader context for this research, it is important to investigate the expanding terrain of higher education and recent changes in terms of the trends and issues in online learning.

#### 2.2.1 Trends in online learning

In his presentation to the 7th OECD seminar in Japan about online learning in the post-secondary sector, Gallagher (2001) drew a comprehensive picture of the Australian setting in terms of trends, policies and issues. Due to Australia’s expansive geography and relatively small population, students can often find themselves at some distance from a higher education institution. It is not surprising therefore to find that distance education programs were first established in Australia in 1911 (DEET, 1993 in Gallagher, 2001, p. 3). Over time the demand for distance education has also become apparent from mature-aged metropolitan students, seeking to fit study around work and family commitments.

In more recent times, there is increasing evidence of students who could study on campus choosing to study by distance education for the flexibility it gives them in terms of time and access to resources (Evans, 1994; Morgan et al., 2004). Indeed at Southern Cross we are seeing a new type of student – studying some on campus and some distance education units as well as being engaged in part-time work. With increased availability of computers and
access to the Internet, 95% of enrolled students in Universities in Australia are reported to make regular use of information and communications technology (ICT) (Oliver & Towers, 2000). Evidence is also reported of an increasing proportion of students studying full-time while also being in full-time employment (Kirkwood & Price, 2005; Long & Hayden, 2001; McInnis, James & Hartley, 2000). In this case the need for flexibility in time, place and pace of study is most readily provided through distance education and commonly supplemented by online interactions between students and teaching staff.

The term ‘global educational marketplace’ is also being used more and more in discussions of online learning, but critics argue that this notion of global online learning is supply-driven rather than being a response to the needs of students. This argument contrasts with the described needs of the ‘earner-learner’ who wishes to continue studying while working and managing an already busy lifestyle, though the studies on ‘earner-learners’ have not yet been conducted outside Australia.

Taylor’s (2001) model of five generations of distance education describes the incremental move towards a flexible learning model with each associated introduction of delivery technologies. They are:

1. a print-based correspondence model
2. the use of multimedia – audio, video and computer-based learning packages
3. ‘telelearning’ model – audio-teleconferencing, videoconferencing, broadcast television and radio
4. interactive multimedia such as Internet-based applications, access to resources and communication
5. the fifth generation model subsumes all preceding models and adds automated response systems using Internet and campus portal applications.

The last two generations in Taylor’s model represent online learning through computer-based networks, and the fourth generation has by now become commonplace in its use throughout Australian higher education. Students in Australian universities who choose to be involved in online learning either by preference or necessity seem to be a growing number, though government statistics are still structured to distinguish between students enrolled as off-campus learners and those enrolled as on-campus learners. The number of students studying without on-campus attendance but through online connection remains unquantifiable.

What specifically defines online learning is still a little hazy. Gallagher (2001) provided three descriptors to be adopted by the Department of Education Training and Youth Affairs (DETYA), the last two of which represent the most common use of the term online learning. *Web supplemented* means that digital elements provided in the online
environment such as announcements, un-moderated discussions and additional resources, are used to supplement traditional delivery and it is optional for students to participate online. *Web dependent* indicates that a student is required to connect for access to content and resources as well as interacting with staff and other students, but that the on-campus component continues as the core contact. In distance education, Web dependent means that some activities, assessment tasks and resources are provided in alternative modes. In the *fully online* subject, there is no other mode in which content, interaction, activities and assessment are delivered. Academics, however, may decide to make contact by phone or teleconference to handle technical or learning issues as they arise, and some optional face-to-face workshops might be offered to students especially to those who are required to attend a certain number of hours’ face-to-face by virtue of their immigration criteria.

### 2.2.2 Issues in online learning

Issues arising from the emergence of online learning primarily concern access to technology, authenticating the identity of learners, possibilities for rapid turnaround and implications for workload.

#### 2.2.2.1 Access

While the statistics on access as already quoted paint a picture of rapid growth in home computers, and access to network technologies, the fact that 50% of Australians had *not* used a computer in the week prior to the study conducted in 2000 bears further consideration. The Australian Bureau of Statistics provides some more details about changing trends in usage:

> The percentage of Australian households with access to a computer at home has increased steadily from 44% in 1998 to 66% in 2003. The percentage of Australian households with access to the Internet at home has increased strongly, rising from 16% in 1998 to 53% in 2003… Australia’s household Internet access is comparable with proportions in Canada and Japan (49%), the United Kingdom (50%) and the United States of America (51%).

*(ABS, 2005)*

Internetworldstats.com reports indicate that as of 30/09/07 Internet usage in Australia was in 72.9 per cent of households. Even so, while computer usage in general continues to steadily increase, there remain some households, not just in Australia, where connection to the Internet is not yet available. It is therefore important to keep in mind that as we investigate the potential for online teaching and learning, and in particular as we examine the core activity of assessment, we can only be doing so in the case where all students enrolled in that subject do have access to the digital environment. While figures for connection to the Internet are significantly more for university students *(ABS, 2005)* full access cannot
yet be taken for granted. The additional issue that cannot be taken for granted in regional areas is the as yet patchy access to broadband versus dial-up Internet. The issue has now moved from actual connection to the speed of the connection. Design for online remains constrained by these limiting factors that concern both access and equity of provision to students.

2.2.2.2 Authenticating the identity of the online learner

Even when the student has access to a networked computer, potential for problems does not end there. Secure network systems are gradually being developed but when it comes to accreditation of a university award, the identity of end-users must be bona fide. In regards to use of online networks for assessment processes, the question of authenticating the identity of online learners is of critical importance. Furthermore, once the identity of students can be verified, assurances are still needed that they are submitting their own work.

2.2.2.3 Rapid turnaround and implications on workload

One of the major benefits of the online environment is the potential for rapid exchange of information and communication. Many opportunities flow from this speed of exchange – students can access electronic resources at the touch of a keypad, they can work on their submissions till the very last moment, they can receive automated acknowledgement of receipt of their submission, their peers can be among those who receive a copy of the submitted work and academics can provide tailored individual or whole-of-class feedback for quick delivery. Exams held online can be established to provide instant feedback in terms of scores as well as comments.

As can be inferred from the previous paragraph, the rapid turnaround features of online technologies also have the potential of escalating workloads for both academics and students. Without a careful delineation of expectations, the capability for instant feedback and reply can turn into a source of frustration when these expectations are not met. Due diligence is required in structuring any mandatory components of online education to ensure a sustainable and pedagogically sound process.

These issues in online learning appear later in this thesis as the concerns arise from academic staff themselves. The questions of authentication and workloads are of core concern to staff and may continue to be so for quite some time. The issue of access is more of an ideological than a practical one in the research, as I worked with staff who were either designing assessment within units that required online access, or who offered online assessment as one option amongst other offline options.
2.3 **The theoretical terrain**

The online landscape in which we have just taken our bearings also features several approaches to teaching and assessment practices that academics might pursue. The following approaches are introduced in this section: critical thinking and reflective practice, commitment to one’s professional development and a capacity for scholarship through a demonstrated teaching–research nexus.

2.3.1 **Critical thinking, critical reflection and reflective practice**

From early in the 20th century, critical theorists began to question how scientific theory had become the accepted benchmark for formulation of knowledge and ideas about society. In this lingering period of challenge as to why theory ought to have a basis in scientific rationality and objectivity, Habermas (1974) asserted that knowledge is produced not from the disinterested or ‘objective’ viewpoint of science, but rather from the interests of people and the practical processes of inquiry. These ‘knowledge-constitutive interests’ were defined by Habermas as being of three kinds – *technical interests* which represent the domain of science and control over the natural world, *practical interests* which are concerned with interpersonal understanding and interpretation, and *emancipatory interests* which are about awareness of learning processes (meta-learning) to enable transformation of one’s perspective and to break down taken-for-granted assumptions (Webb, 1996). Mezirow (1981) later adopted these interests into the educational domain and particularly explored emancipatory interests through his establishment of the notion of perspective transformation.

Self-understanding is another key feature informing the relationship of educational theory to practice. Critical theorists such as Habermas (1974) argued that self-understanding is an interpretive process, and that the principles and methods of critique are socially constrained and negotiated. As such, the practice of critical self-reflection does not prescribe action but rather gives a basis for considering past action in context, to judge what practical approaches can be taken in future actions (Carr & Kemmis, 1983).

A key originator of contemporary thinking about reflection is said to be Dewey (1933). In his view, individuals must learn to think well and to link ideas in an ordered way, to be capable of solving problems and resolving issues. Reflective individuals accept responsibility for their own views. Subsequent literature builds on Dewey’s ideas along two primary tracks, either (a) exploring general processes of adult learning (Boud & Walker, 1993; Mezirow, 1991), or (b) considering issues of reflection on action and reflective approaches to professional practice e.g. in teaching (Andresen, 1993; Brookfield, 1995), nursing (Miller & Babcock, 1996; Taylor, 2000), and social work (Fook, 2002). The following chapters are underpinned by these concepts of *reflection on action* and *reflective approaches to practice*. 
While the terms ‘critical thinking’ and ‘critical reflection’ are sometimes used interchangeably, they can be distinguished as follows. Critical thinking is the ability to reason and reveal assumptions derived from a context, but critical reflection is going beyond the process of reasoning to include an awareness of one’s own position, assumptions, values and beliefs (Fisher, 2003). Boud, Keogh and Walker (1985) assert that reflection is one of the essential keys to decision making and that without the ability to turn things over and evaluate them through reflection, our choices would lack meaning. ‘Critical self-reflection’ (Mezirow, 1991) is another term which indicates a willingness to change and take action as a result of examining our own position. Through a transformation of perspective, our values, beliefs and assumptions can be reformulated for a shift in stance such that we can proceed to take considered action.

Critical thinking, critical reflection and reflective practice are now widely recognised as being important to society as a whole (Boud, 2000; Brookfield, 1987; Saul, 1997; Theobald, 1997). In the context of higher education, learning to be critically reflective and critically self-reflective means developing an awareness of a diversity of perspectives and taking a questioning attitude to one’s learning. Not only is this expected of students, but there is also a tacit expectation that academics adopt a critical attitude in performance of academic tasks. Strong critique also suggests that reality does not reflect this rhetoric:

What a sad comment on modern educational systems that most learners neither value nor practice active critical reflection. They are too busy studying to stop and think. Sadder still, many educators don’t reflect either. They must be too busy ‘teaching’ (Hammond & Collins, 1991, p. 163).

Despite the primacy of Schön’s work (1983) and the extent to which it is cited in literature, it was apparent at the start of my research that academics were very short on ‘spare’ time, so I began by structuring time specifically for a ‘reflective conversation with the situation’ as an opportunity to engage in the complementary processes of thinking and doing in the course of our research together.

2.3.2 Propagating staff development

As use of online technologies has increased in higher education, approaches to academic staff development have also evolved. Following the growth of experiments in online teaching and learning in the early 1990s, staff development was conducted within universities just as it had always been. A study of Australian universities by Ellis, O’Reilly and Debreceny (1998) found that traditional types of staff development were most common, such as half-day classroom-based workshops or presentations by experts to a captive audience. It was also recognised that many academics had no personal experience of online learning (Ellis & Phelps, 2000; Littlejohn, 2000) and that while training could be, and usually was, provided
for academics to gain skills in online technologies, their typical view as teachers seemed to be that these technologies principally provided a new means for delivering course content (Hayden, Saenger & Parry, 1999; Littlejohn & Stefani, 1999). In Alexander’s (2000, p. xiii) words, ‘[m]uch of the potential for online learning is being lost … because too much of the pedagogy of online teaching has been a simple re-packaging of traditional teaching’. The mission of many academic staff development departments thus became one of challenging academics to think about students’ learning and developing frameworks or models of good practice for online teaching, rather than about technology for delivering lessons. Reports of strategies for introducing academics to online teaching at that time do so in terms of change management in a larger organisational change initiative (Mason, 2001; Schuck & Gonczi, 2001).

Professional development of staff to aid this move into more flexible approaches to teaching and learning has also come in a variety of forms. The national study carried out by Ellis, O’Reilly and Debreceny (1998) showed that accredited programs such as Graduate Certificates and Graduate Diplomas were quite uncommon at that time. But in a more recent investigation, Dunn (2003) found that a majority of Australian universities provided staff with opportunities in the form of accredited programs targeting contemporary issues of teaching and learning, including issues of online education.

A survey about online teaching conducted in USA of 222 college academics (Bonk, 2001) found that among these early adopters a key obstacle was the lack of time for professional development to meet the challenges of online teaching and learning. Bonk also found that rarely were Web tools used for assessment, but in cases where they were used, approximately 45% of academics were implementing online quizzes and exams. This tentativeness relates to findings by Robinson (in Latchem & Lockwood, 1998) who recommends time release both during and after professional development activities so that daily responsibilities do not obstruct the learning process or the application of new knowledge gained.

Brookfield’s (1993, p.21) notion of ‘helping teachers reframe their practice by encouraging them to analyse their visceral experiences as learners’ suggests that immersing academics in an online environment from a learners’ perspective could address the experience gap. Together with reflective approaches to their experience, a model of online staff development was thus developed at Southern Cross (O’Reilly & Brown, 2001; O’Reilly & Ellis, 2002) and was increasingly seen in the sector, though not without its critics. Some teacher education initiatives in the USA continued to propose that professional development activities provided in face-to-face classroom settings cannot and should not be replaced with online activities (Richardson, 2001), while others warned that online professional development requires participants to ‘assume more responsibility for their own learning’ (Brooks-Young, 2001, p. 23) due to the assumed reduction of ‘contact’ time with facilitators.
There seems scant information specifically on staff development for assessing learning online. As an issue within the online context, assessment seems to stand out as either a technical concern – running computer-based exams and tests, or a fundamental pedagogical concern without any emphasis on mode of delivery. These are the kinds of questions that are explored throughout this research, because my goal was to develop a shared understanding with academics of several areas, that is:

- how academics are adapting to the changing situation of education in the online context
- awareness of assessment possibilities offered by online approaches to teaching and learning
- whether and how academics reconceptualise and improve assessment practices for online, and
- how to support academics in authoring and publishing their own action learning activities in journal articles and conference papers.

### 2.3.3 The reflective practitioner

Australian universities now enrol a growing proportion of mature-aged students including a majority who are in paid employment whilst also studying (Krause et al., 2005; Long & Hayden, 2001). At the same time, possibilities of greater flexibility in time, place and pace of study have also improved enormously as a result of developments in online technologies. Flexible initiatives can be seen in almost all Australian universities, having started with dual-mode institutions in the early 1970s and flowing through more recently into the more traditional classroom-based institutions. In this context, the reflective practitioner is a welcome member of the higher education community – one who is able to continually consider their approaches to teaching and assessment as well as being publicly accountable for their practices. The academic who reflects upon their core business of teaching and is able to do so with a clear and defensible methodology is said to be demonstrating an example of reflective practice (Schön, 1983). Systematic reflective enquiry is thus not only productive for academics themselves, but is now also extremely important for Australian institutions within a global educational environment. This is another reason why the role of educational design can be seen to have many commonalities with the role of academic staff developers. The process of encouraging and supporting reflective pedagogical practice inherently leads to the convergence of these roles.

### 2.4 The methodological terrain

Having read some of the action research literature, I decided that it was the most appropriate approach to take in my research. Argyris and Schön (1991, p. 86) state ‘Action research takes its cues – its question, puzzles and problems – from the perceptions of practitioners
within particular, local practice contexts’. My decision was further reinforced by Winter (1996, p. 15) whose examples of an action researcher’s initial questions such as ‘What is happening already? What is the rationale for this? What am I trying to change? What are the possibilities?’ resonated with the questions I was asking myself. The aims of this inquiry clearly required an approach where the traditional educational design practice of working one-to-one could be transformed (with the aim of improvement) into that of working in a group, developing a community of reflective practitioners. Action research presented such a potential. These collaborative groups of academics could decide what was of importance to them in designing assessment and how they might work together to achieve their goals.

In making this decision, I was also conscious to heed the critical voice of Webb (1996, p. 149) who notes that while action research is gaining popularity in educational and staff development practice, the trap for action researchers in these situations is that they may be ‘led into denying their own partisan positions and claiming that their actions are for the good of all’. This call to awareness of the hermeneutic nature of engaging with others in a collaborative approach to educational design was critical from the outset.

2.4.1 Conceptualising educational design practice as action research

As Lincoln (2001) points out, there are many subtle differences in emphasis and application which make the various reported practices of action research quite different from each other. I needed to ascertain which type of action research approach would be best for my needs. I knew the action research I was embarking upon could most certainly be termed practical, cooperative inquiry with social dimensions, experiential and reflective professional development. I hoped it would also be transformative.

In many respects these descriptions can also be attributed to my practice as educational designer, and so I began this research with a sense of opportunity for improving my own practices whilst engaging in a cooperative and reflective activity of authentic meaning and immediate application. As explained, initial reading of the literature on adoption of online assessment practices by academics did not yield much in the way of theoretical guidelines or frameworks for practice.

Given that research questions must drive methodology, and given also that my emphasis was on practicality, a mixed method of survey and interview was chosen for data collection, within an overarching action research approach. The reasons for this were to:

- set a broad context of the changing educational environment in reference to online practices of assessment in nearby regional universities
- enable participants at Southern Cross to be engaged in reflections on their practice within their natural settings and in the course of their teaching semesters
• enable my active participation in the co-planning, observing and reflecting on outcomes as components of the action learning cycle
• further allow me to undertake the necessary reflections upon my own professional development within the action research project.

2.4.2 Thematic concern

Kemmis and McTaggart (1981, p. 9) explain the core focus of an action research project in terms of a thematic concern which ‘defines the substantive area in which the group decides to focus its improvement strategies’. Throughout this research, the focus, though delimited by my desire to better assist academics and to explore a contemporary model for my educational design practice, still needed to be of significance to the academics involved. While examples of educational design as staff development were to be found in the literature as already described, much has been written in light of the ‘Venus flytrap’ notion of leveraging the move to online for purposes of communication between academics and educational designers around the questions of assessment design. As the introduction of online teaching and learning also resulted in Southern Cross academics increasingly asking for advice from educational designers, it became our window of opportunity through this research to focus on the issues of effective, valid, reliable and sustainable assessment overall.

The thematic concern of each action learning set and each member of the three cycles was thus infused with this desire for understanding the online context for application in respect of some age-old beliefs and assumptions about assessment practices. Their goals centred around improving assessment design given the opportunities afforded by online technologies. Specific details of the focus would, however, emerge from the research cycles to be discussed in later chapters.

2.5 Choosing the action research paradigm

To begin by explicating what may be obvious, it is important to note that the two parallel and equally important components of action research are ‘action’ and ‘research’. Dick (2002b, p. 159) explains ‘I think of it as a family of research methodologies that pursue the dual outcomes of action and research’ (p.159). He goes on to describe the other defining characteristic of action research as the use of cyclical processes where the researcher alternates between action and reflection. Action research employs a reflective and cyclical approach to identify an issue of concern and work towards improvement. It is effective when the effort is driven by the values and interests of those who have ownership of the issue and who are also the ones to benefit from the process. Participation in this process combines practitioner and researcher inputs that are sometimes one and the same. Kemmis
(2001) also explains that in action research the practitioner is cast as both subject and object of the research, alternating between practitioner and critical or self-critical observer of their own practice. It is, Dick claims, very suitable for those who wish to improve their professional practice while completing postgraduate research.

Dick (2002b, p. 160) also differentiates between theory-driven and data-driven research, theory-driven research being that which most commonly seeks to explore existing literature and aims to contribute to this body of knowledge by ‘extending, refining or challenging it’. According to Dick (2002b), data-driven research is a more flexible approach where it is not possible to assess from the outset just where the data may lead you. This, in turn, means that it is not possible to know from the start exactly the scope and territory to be covered in the literature review. The choices to be made of methodological tools will also unfold in the course of data-driven research, being refined along the way.

Broadly speaking, action research can be seen as falling into the categories of ‘technical’, ‘practical’ and ‘emancipatory’ (Grundy, 1982; Kemmis, 2001). Briefly, technical action research is of an instrumental nature where the researcher instigates the inquiry and maintains responsibility for producing an outcome through facilitating a mutually-agreed process of action, observation and reflection. In this case, power resides with the facilitator/researcher. Practical action research seeks to improve practice through a process of shared action, observation and reflection, and through which the outcome arises from the process of critical reasoning. Power in this case co-resides in the individual researcher and practitioner. Emancipatory action research seeks to enlighten participants to their unquestioned habits and by becoming researchers in themselves, participants generate an awareness of their broader context and its influences on their current practices. Emancipatory action research is thus distinguished by seeing power vested in the group (Grundy, 1982). These types of action research were clearly aligned to the three domains of interest first identified by Habermas (1974) and later developed by Mezirow (1981).

The development of these theoretical distinctions led to a view that ‘the field of educational action research included all three kinds of research’ (Kemmis, 2001, p. 92). While stirred by Kemmis’s argument that changes to university teaching result from an increased awareness of the relationship between academics’ practices and their organisational context, thus indicating that an emancipatory action research approach would be ideal, I had nonetheless a more modest start in mind and one which heeded the urgings of McNiff to ‘start small’ (McNiff, 1988 in Schmuck, 1998, p. 145). For this same reason, the approach termed critical action research, in which a program of reform is undertaken with its emphasis on analysing injustices and working for social change, often within educational settings (Kemmis & McTaggart, 2000b), seemed far more ambitious than I could envision. I basically related very much to the practical type of action research where
informed and reasonable decisions could be made within the practical situations that were brought by participants as their focus for improvement.

Furthermore, each of these three types of action research, that is, technical, practical and emancipatory, were also collectively labeled as ‘strategic’ in that the goals of improvement and involvement of participants in the research process was a forward-looking focus (Grundy, 1982). Having said this, however, the process of action research is one built upon cycles that include the casting back of one’s thoughts in reflection on past actions. The strategic element of my project was thus conceived to be the involvement of participants in design of assessment for a future semester based on critique of past experiences plus shared reflections during the action learning cycle.

Webb’s (1996) discussion of action research as staff development also questions whether it is ever possible to have an emancipatory approach for staff development initiatives when this type of action research would suggest that the participants come together for a common goal in a collective approach to change. In reality, action research for staff development, such as the research in this case, is usually initiated by a staff developer or educational designer who has a broad understanding of the organisation, the issue of concern and perhaps some of the literature or methodology associated with it. This person as a consequence will hold a claim to power and hold a different role to other members of the research group. The level of each person’s participation in action research for staff development may therefore be variable and it is this question that I proceed to address now.

2.5.1 Participation and participatory action research

Dick (2002b) describes a continuum of participation from one extreme where practitioner is researcher, to the other where the researcher facilitates a process seeking emancipatory goals within situations of concern. In terms of what is known as participatory action research (PAR), practitioners are seen as ‘both subjects and co-researchers’ who seek to share information, reflect upon it and make choices or decisions about the results of their inquiry (Argyris & Schön, 1991). They investigate reality in order to change it and they simultaneously change reality in order to investigate it (Kemmis & Wilkinson, 1998).

PAR aims to bring about workplace reform through the learning partnership between researcher and participants/co-researchers. Actually, this dichotomy is not preferred in the literature on PAR, but rather participants are considered as having either an ‘insider’s’ or an ‘outsider’s’ perspective (Argyris & Schön, 1991). This thesis reports on events in which participants could be called insiders to the research and the university context, but outsiders to each other’s disciplinary domains. Throughout the research cycles, we were each able to work ‘at a partnership in which insiders become more theoretical about their practice and outsiders more practical about their theory’ (Elden & Levin, 1991, p. 133).
According to Kemmis and Wilkinson (1998), PAR has specific features in addition to the cyclical and reflective features of action research in general. However, while I thought my research could fit with the five features described as the social, participatory, critical, reflexive and practical, I hesitated to see my work as ‘emancipatory’ which the authors described all PAR to be. In my case, I did not think it would be possible in the time available to focus too deeply upon the constraints of the organisational structures within which we all were working. I decided that they would have to remain as a given for each cycle and for each member of the three developmental action learning sets.

### 2.5.2 Cooperative inquiry and cogenerative learning

Two other terms applied to participatory action research in the literature are that of ‘cooperative inquiry’ (Heron & Reason, 2001) and ‘cogenerative learning’ (Elden & Levin, 1991). Both these approaches can be described as process-driven and context-bound. While taking the role of ‘co-learner’ and not ‘expert in charge of change’ I could see myself operating as ‘insider’ to the organisation and ‘outsider’ to the disciplinary domains of academics participants (Elden & Levin, 1991). On the other hand, as an academic with an educational design role at Southern Cross, the scope of interests and practices that overlapped with others meant a good level of cooperative inquiry was likely. However, the research group was restricted in membership and not open for others to join. Through the cyclical processes of discussing and developing assessment designs, a level of cooperative and cogenerative participation of all research participants was the aim.

The ‘primacy of practical knowing’ and transforming practice needed to be at the heart of this inquiry process and as such it fitted the paradigm of cooperative inquiry as described by Heron and Reason (2001, p. 184) who explain that ‘[t]he emphasis in regard to research outcomes, shifts from the traditional emphasis on propositional knowledge and the written word to practical knowledge and the manifest deed’. Being a practical action research process, I anticipated the primary outcomes as being ‘practical knowing, the skills acquired, plus the situational changes and personal transformations they have brought about’ (Heron & Reason, 2001, p. 183). Though not strictly speaking emancipatory, it did seem that the practical action research I was embarking upon had potential to be transformative.

### 2.5.3 Action learning

Of the essential characteristics described in all literature on action research, the iterative nature of the cycles is most fundamental, and I was aware that what I planned would be cyclical for me as the principal researcher. I envisaged repeating my cycles of collaborating on assessment design with different academics as they became ready to prepare for each forthcoming semester. On the other hand, for each participant in my action research, there was no immediate prospect of returning to repeat the design cycle due to the nature of
the academics’ role and prescribed workload. It seemed I needed a way of engaging each participant in their own meaningful cycle.

Action learning is defined as a process of learning from experience based upon reflection and action, in order to improve practice. An action learning set is the small group of people who meet regularly to work together on their individual issues of common concern with the aim of learning from their experiences and moving forward in their practices:

At its best an action learning set is a learning community where the members want one another to succeed and challenge each other’s ideas and actions from their assessment of what will be most helpful at any particular moment (O’Hara et al., 1997, p. 91).

Though the theory of action learning was originally devised by Reg Revans as a management development tool (Revans, 1978), it has over time also become embraced as a method for reflective experiential learning in higher education (Bourner & Frost, 1996), as well as in a range of other disciplines including psychology, sociology, engineering, political science and anthropology (Marquardt & Waddill, 2004). The principal contrast between action learning and action research is the emphasis placed on the learning component (Dilworth & Willis, 2003). Conversely, action learning shares a few common concerns and claims with action research. Firstly, the importance of critical reflection on practice is of shared concern, as is the potential offered by these processes for transformation, both personal and practical. The creation of support networks is another factor in action learning that is said to be useful to adopt when undertaking action research (Dick, 2002b). I decided to invite participants to be members of an action learning set and thus established what I will describe in later sections as the ‘macro’ and ‘micro’ levels of this research.

The term ‘set leader’ is found in the literature only insofar as it is said there is no set leader, but rather the action learning set is a self-directed group that will usually have a set adviser whose role it may initially be to convene the set, help to create a framework for the set’s operation and, thereafter, act as facilitator only as appropriate (Dilworth & Willis, 2003). An optimal number of members for each set is suggested as being between four and six (Revans, 1978) with a maximum of eight (Marquardt & Waddill, 2004) as this allows for effective communication, though the impacts of the action learning may well affect several other colleagues of the members. The potential impact of the set is seen to ‘lie not in the brilliance of its individual members, but in the cross-fertilisation of its collective abilities’ (Revans in Marquardt & Waddill, 2004, p. 191).
2.6 Justification for the methodology

The more I read about action research, the more sense I gained that this style of research is not supposed to be an add-on or separate from practice. Literature of the practice resonates with words such as ‘emancipation’ and ‘transformation’, and I was coming to understand that action research is more than a methodology. It is also a fundamental set of principles that can be adopted to underpin one’s approach to inquiry and the search for continuous improvement (Brennan & Noffke, 1997; Schmuck, 1998). My commitment to action research principles therefore also arose through eschewing the disengagement seen in positivist research (Schwandt, 2000) and, by contrast, through my desire to rigorously, thoroughly and comprehensively gather new perceptions and context-based understandings of my own practice. The desire to improve my professional practice of educational design was a determining element that turned me towards action research methodology. It was not something I expected to do alone, but to work in collaboration with my academic colleagues in a reflexive process for change. This practical focus also meant that a revaluing of my actions, and those of the academics with whom I worked, needed to occur through a process of critical reflection that was temporally contextualised.

A self-skeptical approach as described by Grundy (1995, p. 6) where we examine our taken-for-granted values and engage in ‘rational, critical interpretation of evidence’ can be another result of critical reflection. In this way the revaluing of actions may lead to the formulation of new and practical actions in the process.

2.6.1 Background for selecting participants

As discussed earlier, it is my role to collaborate with academics on educational design of their units, especially assessment tasks, and also to conduct academic staff development programs. In adopting the Learning Management System (LMS) called Blackboard™ in 2000, academics were being urgently required to develop new skills in course design, facilitation of learning and assessment. Also around that time, as a way of finding out how other universities were approaching this emergent staff development issue, I was involved in conducting two research projects investigating staff development approaches to online teaching and learning in all Australian universities (Ellis, O’Reilly & Debreceny, 1998; O’Reilly, Ellis & Newton, 2000). Emerging from these studies, two key factors of concern were:

1. centrally funded staff development initiatives for flexible learning

Some more well-endowed universities were able to fund either a strategic approach to ‘diffuse’ staff development across the whole university (Litchfield, 2000) or a broad-based collaborative approach to academic staff development which involved specialised course development teams; learning development staff who attended to inclusion of generic skills
such as information literacy, teamwork and collaboration skills into course objectives; administrative staff to handle the online enrolment and cross-credit issues; information technology staff and library staff (Lefoe, 2000).

2. an under-utilisation of the online environment for conducting staff development activities

The two studies reported a universal lag between adoption of the online environment for teaching and adoption of it for academic staff development. A discussion piece in *Herdsa News* (Kandlbinder, 2000) raised this dichotomy for consideration within the sector. Review of a sample of Web sites in Australian universities clearly illustrated that without an authentic method for conducting staff development activities in the online environment, academic development centres were at risk of coming to ‘take pedagogy for granted and become[ing] unintentionally lured into more didactic modes of teaching and learning’ (Kandlbinder, 2000, p. 15).

As a result of these findings and with the help of an internal grant that provided funds for development of an online staff development resource, a program called *interActive Learning Online* (iLO) was prepared for Southern Cross academics. This became a resource for both stand-alone use and as an immersion activity conducted with the aid of one or two facilitators (O’Reilly & Brown, 2001). Chapter 3 outlines the link between these workshops, the action research and the action learning cycles.

2.6.2 Macro and micro levels of research

The research needed to operate at two levels – the macro and the micro level. On the macro level, the driving force for this research began with a question arising from my own professional practice, that is, improving the online assessment practices of academic staff through reflective action research. This level of inquiry would consistently determine the direction taken with each consecutive cycle.

At the micro level, within each of the action learning cycles all of the participants would need to undergo their own learning process, and as described by Winter (1996, p. 14) I wanted them to be involved in self-evaluation and professional development while ‘attempting to have new thoughts about familiar experiences’. All participants in these cycles would be encouraged to see themselves as being involved in action learning and would be provided with introductory readings about being a member of an action learning set (Beaty, Bourner & Frost, 1993; Grundy, 1982; Weinstein, 1995).
2.6.3 Validity, reliability and trustworthiness

In selecting an action research paradigm as the basis of this research and as a foundation of my educational design practice, I turn now to the questions of validity, reliability and trustworthiness. In order to be considered valid, action research and specifically this approach that I have asserted as being ‘practical action research with a transformative dimension’, needs to be as systematic as any research methodology. Rigour must be evident in both the methods of data collection and through ‘defensible reasoning’ in the interpretation of this data (Lincoln & Guba, 2000, p. 178).

In conducting iterative cycles as the process of action research, data collection represents ‘prolonged engagement’ (Lincoln & Guba, 2000) and the process of understanding is immediately required to inform simultaneous action. Just as Karlsen (1991) describes ‘pragmatic validation’, Dick (2002a, p. 4) also suggests testing emerging conclusions by applying assumptions immediately in the next cycle of action, that is, as soon as and as often as possible. He explains:

… several qualities of action research allow it to pursue rigorous understanding:
• Involvement of interested parties provides more information about the situation
• Critical reflection in each cycle provides many chances to correct errors. This is especially so when… the critical reflection is characterised by a vigorous search for disconfirming evidence
• Within each cycle the assumptions underlying the plans are tested in action.

Dick and Swepson (1994) point out that these assumptions need to be tested using multiple sources of information and perspectives on what is being studied. For example transcripts of AL meetings need to be validated internally through ‘member validation’ (Neuman, 1991, p. 364), also known as ‘consensus validation’ (Karlsen, 1991, p. 155). Data as emerging themes from each cycle also need to be validated by comparison with external sources such as the themes found in relevant literature, or another similar sample such as other AL cycles (Swepson, 2001). As mentioned, I was part of a three-member research support group throughout the research period. The other members (experienced in action research and critical reflection) assisted me in reflections on my own role (Schön, 1983) and either confirmed or disconfirmed my interpretations through their perspective as ‘devil’s advocates’ (Karlsen, 1991, p. 156).

Lincoln and Guba (2000) further provide an extensive discussion of validity in qualitative research and refer to validity as a construct with multiple dimensions. Three of these are ‘validity as authenticity’, ‘validity as resistance or transgression’ and ‘validity as ethical
relationship’. In terms of validity as authenticity, I set out in this research to ensure that all stakeholders had their awareness raised through involvement with research and I attempted to ensure that their views were accounted for with fairness and an affirmative approach to giving all a voice. Where validity can be seen as resistance, we can return to Dick’s (2002a) advice to vigorously search for, and self-reflect on disconfirming evidence; while validity as transgression is concerned with abandoning the common approach to ‘triangulation’ such as reported by Kember and Kelly (1993) as a flat, two-dimensional concept and instead superseding it with the concept of crystallisation – a multifaceted approach to determining validity. It is in this case that Richardson (in Lincoln & Guba, 2000) indicates that the more we know, the more we doubt what we know.

With respect to the third dimension of ‘validity as ethical relationship’, I have attempted throughout this research to acknowledge a reciprocity of relations with participants, engaging in a non-hierarchical and social manner to co-construct our inquiry into collaborative processes for assessment design. I felt very much in agreement with Anselm Strauss who ‘… knew much better than most that six heads are better than one when it comes to doing research’ (Lessor, 2000, e-page 9).

In the end, the authenticity of findings in my research could be measured through asking ‘are these findings sufficiently authentic … that I may trust myself in acting on their implications?’ – or more importantly, were they authentic in that participants in my research chose to act on them and live with the consequences in their own contexts? This, say Kemmis and McTaggart (2000a, p. 591), is ‘a very concrete “reality check” on the quality of their transformative work’.

### 2.7 The practical terrain

In keeping with the practical nature of my chosen methodological approach there are some additional considerations of a practical nature to present here as part of the general landscape of this research.

#### 2.7.1 Locating my garden within the landscape

Among the features of the landscape so far explored we have taken a brief tour around the questions of quality assurance in higher education and looked over the current trends and issues in online learning. For educational designers to successfully engage in this online world, some changes to our role have recently become inevitable. I have touched on the convergence of the educational designers’ role with that of academic staff developer, and this tendency is also evident at Southern Cross (Morgan, Bird & O’Reilly, 2007). My current role and that of my colleagues involves an iterative model which centres on the design of curriculum
and which in addition to the conventional attention to development of quality resources and design of appropriate teaching and assessment strategies, also includes considerations of student support, academic staff development, quality review and evaluation.

The possibilities for exploring a change in educational design practices were thus very ripe. Any method of working ‘smarter not harder’ or ‘doing more with less’ was going to appeal to both management and academic staff. For the sheer survival as an individual practitioner in a pressured environment, I saw it was opportune to explore collaborative design processes with a focus on assessment, rather than consulting with academics one-to-one as usual. I therefore approached the question of improving my practices as an opportunity for action research.

2.7.2 Educational design in an online world

With the changing nature of our role, educational designers as a profession within the higher education sector are also finding the imperative to respond to several pressures (Bird, 2002). Along with the introduction of online technologies into teaching, learning and assessment, universities are also seeing a changing profile of their learners. Over the past two decades the numbers of students who are enrolling has increased exponentially and with them they bring the burden of cost, as many are now working and studying at the same time. The range of ages, family circumstances, cultural and economic backgrounds of these students has stretched widely, making the decision on course design very difficult indeed to ensure that all students’ learning needs are catered for. The needs of younger technologically savvy students are significantly different from their older, less digitally literate peers – though not necessarily as one might expect. Studies reported by Oblinger and Oblinger describe the Net generation as having a preference for:

- working in teams – a peer-to-peer approach is highly valued
- structure rather than ambiguity – a focus on achieving their goals quickly
- interactive engagement to allow for discovery learning and inductive reasoning
- image-rich environments
- applying their effort to ‘things that matter’ in real-world activities such as responding to community or environmental concerns (Oblinger & Oblinger, 2005, in Bird, Morgan & O’Reilly, 2007, p. 30).

At the same time, mature-aged students and earner-learners are hoping for a trouble-free path to accreditation, without the need for social connections or the inclusion of graphical highlights. For these students, time is of the essence and our pedagogical designs must also acknowledge this strategic approach as a valid engagement with learning.
For the Net generation, the baby boomers and the generations in between who continue to come to university, there exists a range of needs for supportive pedagogies which optimally apply the features of online technologies. Without an exchange of perspectives with academics and technical staff it would be much more challenging to develop stimulating subjects in flexible modes of delivery. Thus, I argue that the notion of educational design as a collaborative, reflective and reasoned practice is a very practical approach in this online world (O’Reilly, 2000b).

### 2.7.3 Educational designer as gardener

With the introduction of performance-based funding into the landscape of Australian higher education, educational designers within a centrally funded centre such as in the Southern Cross model are pressed to engage with broad institutional agendas. Quality enhancement, disciplinary differences, graduate attributes and implications for pedagogical design brought about by the introduction of the online environment all play a part in our role as educational designer/academic staff developer. While the initial wave of academics engaging with online teaching tended to be leaders in innovation and thus, did not always approach educational designers in consultative collaborations (Ellis & Phelps, 2000), the necessity to learn about structuring and moderating online discussion (Ellis, O’Reilly & Debreceny, 1998) as well as the pressure to adopt many class management tools for the sake of greater efficiency, has left room for academics to make their approaches to educational design staff and collaborate on improving practice. The field of teaching and learning is thus primed and ready for sowing the seeds of change.

### 2.8 A view from the garden bench

In this chapter I have described the origins of my interest in the research question and taken an initial tour of the landscape of higher education, the trends and issues in online learning. I have explored the theoretical terrain, the methodological terrain and the practical terrain that lie at the base of this research.

The decision to adopt both an action research approach and an action learning system for cycles of change left me with both an excitement and a dread that the rhythm of data collection I had so anticipated was already showing signs of complexity. On the other hand the idea of bringing together groups from a diversity of disciplines suggested a nicely balanced approach with potential for creative input that was not exclusively reliant on the pairing of subject matter expert and myself. In my case, there were really six heads, just as Anselm Strauss had mused. It was indeed a case of looking at the landscape with different eyes in order to view the potential direction for this research.
Chapter 3
Understanding the seasons

Live in each season as it passes; breathe the air, drink the drink, taste the fruit, and resign yourself to the influences of each.

Henry David Thoreau (1817–1862)
3.0 Understanding the seasons

This chapter explores the preliminary data collection activity, building on initial explorations of the literature as described in Chapter 2. The story unfolding in this chapter relates to the planning, acting, observing and reflecting on a Web survey, follow-up interviews and the associated workshops from which the internal sample of Southern Cross staff was later drawn. It covers the activity which appears in Figure 1.1 as the first of the supplementary data collection activities.

3.1 Seeding the action learning cycles

Following the decision at Southern Cross to adopt an immersion model for online staff development and building on the momentum for incorporating online technologies into teaching and learning described by Taylor (2001), I decided to work with staff development procedures to identify academics who were already interested and willing to design curricula for online teaching. I did this by running online workshops with interested academics.

These staff development workshops (described in detail in later sections), focused on engaging staff as students in discussions in an online environment. While academics’ interest in engaging their own students was an important aim, these innovators were also asking what motivates students to interact with each other online if this activity is not assessed? In late 2001, members of the e-moderators list (see http://www.eModerators.com) debated whether giving credit is indeed the only way to ensure that students will engage in Web-based discussion. Earlier, Lockwood (1992) had already identified the costs and benefits for open and distance learners when it came to optional learning activities in print-based study packages. Lockwood’s findings were much the same as those reflected in comments among e-moderators: that students (be they open, distance or online learners) will weigh up what they can afford in terms of ‘course-focus’, ‘self-focus’ or ‘assignment-focus’. Their time and attention to study are allocated in the most pragmatic ways in order to satisfy both intrinsic and extrinsic requirements. Nevertheless, ‘assignment-focus’ remains ‘the engine that drives learning’ (Cowan, 1998).

For my purposes, I anticipated that those academics who had volunteered to learn more about engaging their students using online facilitation would also be the most likely to consider the next step of assessing students through online strategies. My reasoning was twofold: (a) since assessment drives student learning, online discussion would be among the learning tasks that would be stimulated by being prescribed as assessable, and (b) since academics were self-selecting to explore innovations in teaching online through commitment to the workshop, they might also be more ready than their colleagues to
explore assessment design for teaching online. I set out with the hope that on completion of the workshop, they might agree to further participate in one of my AL cycles to design online assessment.

3.1.1 A prototype and two pilot workshops

The question of how staff development was being carried out to enable academics to become familiar with the issues and practices of teaching online had already been the subject of a national research project (Ellis, O’Reilly & Debreceny, 1998). The findings of this project showed a yawning gap between the ways in which academics were expecting to teach online and the way they themselves were attempting to learn about online teaching, and were later summarised in the following way:

In surveying all Australian universities using Academic Staff Development Units (ASDU’s) as a starting point, it was found that much of the staff development focusing on online teaching and learning at that time was conducted in traditional ways. Workshops and seminars were the favoured formats for introducing staff to the online environment and its implications for pedagogy. It was rare to find online itself as a learning environment for staff development, though respondents often reported a considerable level of unmet training needs (O’Reilly & Ellis, 2002, p. 485).

In response to these ‘unmet training needs’ at Southern Cross I decided to design and deliver a staff development experience where immersion in the online environment would precipitate a better understanding of pedagogical possibilities within that context. Together with a colleague who was funded from 2000/2001 to assist, we designed a stand-alone Website that could be accessed from within the institutional learning management system, Blackboard™. We reasoned that some academics might prefer to access resources on their own, while others (not so familiar with the online environment) could be simultaneously learning about the features of Blackboard™ and the principles of engaging in online interaction through enrolment in a facilitated workshop (O’Reilly & Brown, 2001).

The initial prototype was reported in a colloquium-style presentation at the AusWeb01 conference (O’Reilly & Brown, 2001) and, with input from an audience of peers, the design elements and thematic focus areas were finalised. The subsequent development phase involved another two opportunities for piloting our design. The first took place in a two and a half-hour face-to-face workshop held at the ascilite conference in Melbourne, December 2001 (http://www.ascilite.org.au/conferences/melbourne01/workshops.html). Feedback from this workshop informed the final design by constraining the mandatory component of participants’ workload to more closely approximate a 25-hour commitment, since we agreed this was a reasonable commitment to professional development.
The second pilot workshop took place using the Southern Cross Intranet between Weeks 3 and 7 of the Autumn semester, 2002. Details of the two pilots and the first full workshop were subsequently published (O’Reilly & Ellis, 2002). The following extract shows that we reported this second pilot workshop as follows:

An invitation was posted by SCU staff email advising of the program, the anticipated time commitment, and that the workshop was to be conducted asynchronously online. Registration was invited from all interested staff both academic and non-academic. The external consultant and a TLC staff member co-facilitated this pilot workshop, spending two weeks each in the facilitation role.

Eighteen staff registered for the workshop, 12 from Lismore and 6 from the Coffs Harbour campus. Of these, all but three were academic teaching staff. Their disciplinary areas are shown in Table 1:

<table>
<thead>
<tr>
<th>Discipline areas</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Social Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Business</td>
<td>2</td>
</tr>
<tr>
<td>Health and Applied Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>Student support services</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Table 1: Disciplinary areas of participants in workshop March, 2002

The group’s previous experience of facilitating online discussion was generally very low. One staff member had two semesters’ experience, another had successfully facilitated an online discussion the previous semester, and three had trialled the feature but reported difficulties in engaging students in discussions. Most people introduced themselves as beginners in online facilitation and their expectation was that they would gain a better understanding, and some more in-depth experience of the discussion features and issues inherent in online facilitation.

The facilitators themselves were ‘advanced beginners’. The consultant had significant classroom, online teaching and some staff development experience. The TLC staff member had experience in online facilitation, extensive
background in staff development, design and development of teaching events. Co-facilitation role was familiar to both and they looked forward to the online activity (O’Reilly & Ellis, 2002, pp.487–488).

This four-week pilot workshop was completed and feedback was obtained through a debriefing in two face-to-face focus groups (one in Lismore and one in Coffs Harbour). In these sessions that were recorded and transcribed, participants considered their involvement in the pilot to be of value in evaluating the resource and the facilitation. They provided full and frank developmental feedback for the consultant facilitator in particular, whose minimal experience in staff development had led to some inflexibility in her approach. Misunderstandings arose – the kind where interpretation of instructions presented emotional challenges, difficult to handle when using the online medium, and especially difficult to resolve when it is the facilitator who was provoking dismay in the online community (Palloff & Pratt, 1999). As a consequence of this discord, participants who had already signed consent forms at the start of this pilot retracted their agreement to the use of their overall feedback as data for this research. Although a brief description of the workshop experience is found in O’Reilly and Ellis (2002), this is based entirely on my own observations and the online statistics. The lesson I learned in this experience was the importance in a staff development context of being immediately responsive to the needs of participants and how quickly frustration and antagonism can arise when busy staff, in a just-in-time mode for learning, are not directed to solutions of immediate relevance and application because of a predetermined course design.

### 3.1.2 Workshop 1

With all these lessons in mind, a rigorously tested online staff development workshop was launched in mid 2002. This time the workshop was timed to occur between teaching semesters, I was the sole facilitator and there were 13 staff enrolled. Being now quite familiar with the Web site resources, I was comfortable with taking a social constructivist approach in my facilitation and thus was able to model one of the beneficial features of online – potential for flexibility and tailored responsiveness.

Methods I used for engaging participants included broadcasting announcements on a frequent basis; routinely sending out an email to signal the start of a new activity; and regularly contributing to discussion forums to acknowledge postings by participants as well as to encourage conversation on issues arising. In addition, I guided participants through two 90-minute synchronous chat sessions and two asynchronous small group activities. I kept my own reflective notes privately both online and offline and chose to share some of these reflections with the group through broadcast announcements. Participants were also able to keep their own reflective notes online (private to self and facilitator) and to draw on these for evaluative comments.
During the third week, workshop participants gained an appreciation of possibilities for teaching online while themselves being remote from campus. This happened because at that time I was at a conference on the Sunshine Coast but I was able to stay in touch with participants and support their progression through the workshop activities. Even more enlivening was that I also provided participants with a link to a thought-provoking paper about online role-play (Ip, Linser & Jasinski, 2002) at precisely the same time as it was being discussed by conference delegates. This meant that the scheduled Southern Cross workshop role-play activities were both seeded and informed by the most current initiatives in the field.

At the conference I presented a poster session featuring the Web site created to collate resources and articles about online assessment. Incorporated into this Web site was the online survey that was to be used for preliminary data collection (described in a later section). Six conference delegates piloted this form to assist in clarity and aims of these survey questions. Feedback served to improve the survey form with respect to identifying limitations to ‘categories of discipline’ and the need to add a field for respondents’ ‘home institution’.

The feedback from this workshop was very positive and although there were some technical issues along the way, most gratifying was that the more responsive and constructivist approach I took to facilitation meant that most of the staff needs were met, as the following selection of comments shows:

I feel comfortable with the ‘looser’ structure than others seemed to be. Especially feel this was ok given the ‘exploratory’ nature of the unit for us all.

I got the sense that it was a ‘hands-off’ approach wrt the directions we took, whereas I think at times it could have benefited from clear directives (other than reflective practice and role play).

Liked the hands-off approach so that you (Meg) only entered to summarise key points or draw out common points and provided some gentle encouragement. Again, this is the style I try to employ, so it is familiar.

Excellent, even from the Sunshine Coast!!

3.1.3 Attention to online assessment in early workshops

During this period of creating, facilitating and piloting an online staff development workshop (see Figure 1.1 for for pilot workshop July 2001–February 2002), the question of assessment of online discussion activities was not directly explored. The initial workshop design included a session given over to discussing assessment of students online, but during
the prototype, the two pilot sessions and the first full workshop in July 2002, participants and facilitator/s felt there was insufficient time for these discussions as illustrated by some comments from the evaluation reports of the July workshop:

Once again, as I usually am, I was reminded that Time is of the essence and that there is never enough of it!

[Least enjoyable was] … lack of time – even during a supposed semester break.

I have also had to reflect on ‘assessment’ [online], which is something we don’t seem to have time (or inclination) to do. Perhaps we should, and possibly some of this new fangled stuff might be appropriate.

[Start of final week from facilitator]… although I’ve had some interest in finishing the workshop with an activity about assessment, it seems that quite a few folks will be away from the office and hoping to connect from cafés and home modems … while others are just returning from their week away and attempting to catch up on what they may have missed … with all this in mind … I thought I would let go of the peer review idea … [for] another time …

Despite being unable to explore how online discussions may be used as assessment during this workshop, activities that were completed by participants served to identify those academics who were proactively exploring ways to facilitate interaction with students online. The workshop design was later revised to allow more time to explore online assessment processes and issues. It is worth noting that the workshops were useful as ‘hothouses’ for identifying AL participants and did not in themselves constitute core activities for this research.

3.1.4 Selecting from the ‘hothouse’ and disciplinary milieux

While the online staff development workshop was open to both academics and professional staff from across all campuses and disciplinary areas of the university, I wanted to also use it as a population from which to select my AL participants. As explained earlier, my justification for this was that I saw those enrolling in online staff development as being most likely to be in Rogers’ (1995) terminology ‘early adopters’ of the technology, and therefore more ready to design online assessment than their colleagues who may have still been hesitant or skeptical about the merits of online technologies. Jacobsen’s (2000, p. 455) research also demonstrated a relationship between early adoption, motivation and excellent teaching such that early adopters in her study:
… seem to be constantly changing teaching and learning processes, reformulating and pushing the edges of the problem, creating and designing alternate solutions, and seem to be more content with risk-taking than the status quo.

Thus, I was seeking academics who were ready and willing to move forward with online technologies. However, it had been a mutually agreed principle among my colleagues that while our academic staff development activities may straddle across a number of Schools or indeed be structured as open sessions across the university, by contrast we focused our educational design activities strictly within the Schools in our own portfolios.

Prior to an institutional restructure in 2006, the Schools with which I worked included the then Schools of Commerce and Management; Environmental Science and Management; Exercise Science and Sport Management; Multimedia and Information Technology; Natural and Complementary Medicine; Nursing and Health Care Practices; and Social Sciences. While this has now changed, the thesis reports on my engagement with individuals under this previous structure and my actual sample of participants for this action research was drawn from academics only within those Schools in my brief and not from any of the other nine Schools in the University, at the time. For each cycle, I was deliberate in inviting academics from three different Schools.

From the total of 13 participants who completed Workshop 1, I thus invited one each from the areas of science, social sciences and business to join my first AL set. When the social sciences academic declined and there was not another from the workshop to invite instead, for disciplinary balance I invited another academic member from social sciences who I knew was exploring online discussion for assessment and needed to prepare new assessment for the forthcoming semester (see Round Two interviews).

### 3.2 Surveying the neighbouring gardens

At the same time as the online workshops commenced, I also needed an understanding of what online assessment activity might already be taking place at Southern Cross and other regional universities. I wanted to see what academics were exploring in terms of designing assessment for online, and what was driving it. The literature reported that in institutions where online technologies were being introduced as core responsibilities of teaching and learning, formative assessments were readily facilitated through use of auto-graded quizzes or intelligent object databases (Taylor, 2001) where student queries are answered by a search engine that is able to seek a match with pre-specified keywords. At this stage, a tutor will confirm the validity of the response and if appropriate, simply forward it to students. Model answers or collective feedback seemed also to be frequently broadcast to
the whole class (Booth, Hartcher & Hyde, 2002). Use of online methods for summative assessment was lagging behind the adoption of online teaching and was still being termed ‘the overlooked dimension of e-learning’ a full year after this data collection commenced (Howell & Hricko, 2003). The lack of attention to online assessment propelled me to conduct a survey of regional universities.

3.2.1 Web survey of four universities

As outlined in Chapter 1, Southern Cross University has been a significant provider of distance education programs. It has a high representation of mature aged students often returning to study after long absences and a comparatively small number of school leavers who represent approximately one quarter of the total student intake each year. These features have the potential to set Southern Cross apart from other Australian universities. So, it seemed important to identify universities with a number of similarities to Southern Cross and I decided to approach regional universities in eastern Australia for two reasons:

1. all regional universities share a background in distance education and thus the adoption of online was focused for both off-campus and on-campus purposes
2. the sample was confined geographically as a practical consideration, to allow for the possibility of traveling to each campus for follow-up data collection without costs being prohibitive.

3.2.1.1 Survey sample

The four universities surveyed – Charles Sturt University, the University of New England, Southern Cross University and the University of Southern Queensland – were selected for their similarity as dual-mode institutions in regional locations. Each of these universities is located outside the major metropolitan areas and all of them were historically providers of distance education courses. Of the four universities in my sample, Southern Cross has the most balanced mix of on-campus, off-campus and mixed-mode with the other three having only minimal on-campus offerings (Table 3.1). Given their experience with distance education, and given also their need to remain viable by attracting students not only from metropolitan areas but also from overseas, dual-mode regional universities as a whole became ‘early adopters’ of new online technologies in support of teaching. Taylor (2001) states that these universities have been at the forefront of adopting online technologies for education and training. It is to this sample of universities that I turned in order to explore their current initiatives in online student assessment.
Table 3.1: Description of four universities sampled in Web survey

<table>
<thead>
<tr>
<th>University</th>
<th>Location</th>
<th>Students⁸</th>
<th>DE†</th>
<th>MMΨ</th>
<th>F2FΩ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Sturt University (CSU)</td>
<td>3 campuses south-west NSW</td>
<td>38,365</td>
<td>72%</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>University of Southern Queensland (USQ)</td>
<td>1 campus west of Brisbane, QLD</td>
<td>24,956</td>
<td>75%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>University of New England (UNE)</td>
<td>1 campus, north-central NSW.</td>
<td>18,758</td>
<td>74%</td>
<td>8%</td>
<td>18%</td>
</tr>
<tr>
<td>Southern Cross University (SCU)</td>
<td>3 campuses northern coastline NSW</td>
<td>12,878</td>
<td>40%</td>
<td>14%</td>
<td>46%</td>
</tr>
</tbody>
</table>

⁸ number of students enrolled in 2003
† distance education students receive materials and support mainly in print format or via online network
Ψ multi-mode students receive a mix of face-to-face and external teaching formats
Ω students attend face-to-face classes, on-campus only

3.2.1.2 Method and ethics approvals

A Web survey was developed and piloted, initially with six colleagues at Southern Cross, and subsequently at the AusWeb’02 conference as a poster session, and finally through volunteers from the conference delegates who followed up afterwards (O’Reilly, 2002). Following these pilots, the survey was conducted using the email broadcast system to all staff of Southern Cross University and three other regional universities in eastern Australia, i.e. the University of Southern Queensland (Toowoomba campus), Charles Sturt University (Wagga Wagga and Bathurst campuses), and the University of New England (Armidale campus). Approval to conduct the research was obtained from Southern Cross University’s Ethics Committee at commencement of the research process, and was renewed annually during data collection. In addition, ethics approval to broadcast a link to the optional Web survey was obtained from:

- **University of Southern Queensland** – Professor Susan Bambrick, PVC (Academic) (email 7 August 2002)
- **Charles Sturt University** – Professor Ross Chambers DVC (Academic) (letter 9 September 2002) and Professor Paul Burnett, PVC (Research & Graduate Training) (letter 19 September)
- **University of New England** – Professor Brian Stoddart, PVC (Research & International) (email 20 September 2002).

At that time two other universities in Queensland were approached with the same request to survey academic staff and a refusal was received from:

- **Central Queensland University** – Professor Rhonda Jones, DVC (Academic & Research), (email 23 August 2002) and Dr J McConachie, Director of Teaching & Learning Services (letter 11 September 2002)
With announcements broadcast on staff email lists, respondents to the survey needed to actively click the URL provided and complete a Web form as displayed. Completion was voluntary, and the sample was therefore obtained through self-selection. Respondents were given the choice to complete the survey anonymously or to provide their name and contact details if they were prepared to consent to be followed up at a later date. Data was automatically downloaded to email for ease of analysis.

The plan was to collect data using this Web-based survey in order to lay down some foundations of contemporary practice. In addition to collecting descriptions of practice, I also planned to use data to define motivators for moving online as a way of gauging whether assessment was ‘on the radar’ along with the general move to teaching and learning online. Questions touched on the impact on academics of imperatives to move assessment online and the extent to which institutional support was provided.

Initial questions covered demographics and core survey questions were predicated on some form of online assessment being attempted. Thus, not everyone who accessed the survey may have been able to answer all questions, for example, several questions sought details of current practices and delved into the motivation for these – was it a management requirement that academics needed to comply with, or did they have their own pedagogically based reasons for trying online methods of assessment? Were they receiving any support for innovations? Did they have reflections on the impacts of technology upon assessment practices and on student responses to assessment tasks? Appendix 2 lists all questions in full.

3.2.2 Findings concerning online assessment

The data examined comprised a total of 29 responses, representing a low rate of response, ranging from one to eleven replies from each of the four institutions:

1. eleven from Southern Cross University
2. ten from Charles Sturt University
3. seven from the University of Southern Queensland
4. one from the University of New England.

Submissions from the online survey were fully automated, meaning that I received responses to the Web forms via anonymous emails. Apart from the voluntary nature of the survey and the requirement that those who were interested needed to also be actively considering online assessment, another likely reason for the low response rate may have been a result of poor timing where there was a delay in making the surveys available in two universities till the end of semester when marking loads were academics’ primary focus.
The survey data concerning online assessment is therefore only a snapshot of activity at that time. Twenty one of the 29 survey respondents agreed to be followed up after this survey, however only 18 respondents were able to describe their approaches to online assessment. Of these, five used the technology simply for assignment delivery. In brief, the online tasks described were:

- online quizzes for grades and formative MCQ tests
- graded discussion forums including engagement with scenario based topics
- ungraded discussion forums as support for assignments
- weekly submission of reflective journals
- negotiations of essay topics or choice of activity
- media-rich submissions
- Web site development and critique
- reflective discussion on practice.

Online marking was an additional feature described by some respondents, including screen-based marking of traditional text essays and marking of the new submission formats which used hypertext and multimedia presentations. Use of the broadcast facility to provide whole-of-class (generic) feedback was also described in one case. It was interesting to note the variation between academics’ use of online environment to support assessment. Table 3.2 illustrates these uses.

<table>
<thead>
<tr>
<th>Use of online to support assessment</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used the online system for receiving assignments and returning feedback</td>
<td>5</td>
</tr>
<tr>
<td>Dipping their toe (and their students’ toes) in by grading students’ contributions to discussion forums</td>
<td>5</td>
</tr>
<tr>
<td>Discovering the specific benefits afforded by the online environment i.e. new formats for submission, immediacy of feedback using online quizzes, unfolding scenarios, negotiating assessment contracts with remote students</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Table 3.2: Academics’ use of online environment to support assessment

### 3.2.3 Findings from Web survey

In consultation with the statistical modeller at Southern Cross, some analysis was performed on the data from the Web survey including frequencies, cross tabulations and a cluster analysis. In summary, regardless of which university, level of academic appointment, type of contract or disciplinary area, motivations for designing assessment for online were
predominantly to solve an existing pedagogical dilemma while at the same time being required by the institution (Q10). Overall, support from the institution for design and development of online assessment was considered to be ‘too little’ (Q11). Despite this perception of ‘too little support’, two orientations to support were identified by cluster analysis – technical and non-technical supports. Cross tabulations further indicated that the kind of support given most often was technical support in the form of both troubleshooting and training, while the least available kind of support was time release to enable academics to concentrate on assessment design for online. This provided further motivation for me to continue investigating educational design models for supporting academics when designing assessment for online.

Information collected from this survey provides an indication of how moves to online assessment in Australian regional dual-mode universities impacted on academics at that time. Much more information needed to be gathered to gain a complete picture. This meant a return to those 21 individuals who had agreed to follow-up from initial survey, in order to delve more fully into the details of their assessment design. Discussion of this follow-up data follows.

### 3.3 Samples from neighbours

The Web survey data showed a brief snapshot of details of the assessments being conducted using online methods across each of the four regional universities, but more details were needed to understand how these methods were being implemented. The following summary reports on the findings from the first round of telephone interviews that I conducted in all four regional universities in my study, to find out more about what assessment designs were being adopted and why.

#### 3.3.1 Round One interviews

The follow-up interviews that arose from the survey data were conducted by telephone approximately one year later. Interviews were attempted with all 18 respondents who had agreed to be followed-up but only 12 interviews were conducted as follows:
<table>
<thead>
<tr>
<th>University</th>
<th>Disciplines</th>
<th>Number of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Cross University</td>
<td>Social Sciences, Tourism (2), Education, Nursing</td>
<td>5</td>
</tr>
<tr>
<td>University of Southern Queensland</td>
<td>Maths, Education, IT</td>
<td>3</td>
</tr>
<tr>
<td>Charles Sturt University</td>
<td>Health (2), Nursing</td>
<td>3</td>
</tr>
<tr>
<td>University of New England</td>
<td>Law</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

Table 3.3 Round One interviews as follow-up to Web survey

From these interviews it became apparent that there was a qualitative difference between examples of online assessment. There were assessment schemes that were designed by reflective academics who sought to develop their ideas over time versus those who designed either by luck and happenstance or by academics following in the footsteps of their more innovative colleagues. The following are some examples of the more simple assessment designs reported in the phone interviews:

*Example 1* … the textbook that is prescribed for the course is written by one of my co-teachers and we do a chapter a week and at the end of every chapter in the textbook there is a series of questions and we address those questions during the online tutorial [formative]

*Example 2* … I put up a new thread for the week, I call it ‘week 1 thread’… or whatever it is. I put my question in, sometimes there are two questions, they click on the … posting that I send to keep the thread going and they can reply to themselves … some students use it very much as a discussion thing … some use it for information giving … others just go there in week 10 and answer all 15 questions [15% of final grade]

*Example 3* … use quizzes for formative purposes, to ensure understanding, don’t like discussion forums in my subject … [formative]

*Example 4* … students can email their assignments to me …

By contrast, several of the examples provided by interviewees showed a great deal of pedagogical innovation leveraging from online affordances. This term ‘affordances’ has become commonplace in the literature and indicates that the online environment affords the possibilities for a greater range of interactive and digital activities than offline learning. The following quotes provide some examples.
Example 5 [refers to the assessment of an optional online discussion] … offered internationally, so there are cohorts of students in Canada as well as Hong Kong, but largely Australian students participate … even though everybody tends to be country centred … a lot of issues that are faced really are common and generic … so talking about what works or hasn’t worked in one country compared to others … it’s a very fruitful discussion [15% grade, if this option is chosen]

Example 6 … by submitting progressive assignments you can give them feedback on where they are going and perhaps where they have got it right or where they have not got it right, or something they haven’t looked at. So to some extent you are shaping them to submit a better assignment [than the single submission opportunity for offline assignments] and that in one sense lifts the quality … you actually have a chance to give them some feedback along the way … [weighting not specified]

Example 7 … the main assignment is actually constructing their own Web site which would primarily be one that would involve them as educators and how they would facilitate their course through this Web … [45% of grade]

At this stage of the research, it seemed to me that the sample was limited and that it would be better to gain access to a broader range of interviewees. Because it was not obvious who else to approach in these four universities, I decided to use the snowball method of sampling (Neuman, 1991), whereby the initial interviewee identifies other possible interviewees and those in turn identify more interviewees. ‘Thus, the sample grows like a snowball’ (Roberts & Taylor, 1998, p. 32). Therefore, in accordance with the snowball method of sampling, one of the final questions in this round of telephone interviews asked for the interviewee to suggest a colleague to be included in this research for their innovative practices in online assessment. Some did not know of anyone to recommend, while in other cases the same person was recommended by more than one of the first-round interviewees. This led me to surmise that either the online activity in these universities was not extensive and so my sampling method was indeed the most comprehensive way of identifying academics who were designing online assessment, or that academics did not discuss their innovative practices within their own institution and were thus unaware of the activity of others.

3.3.2 Round Two – still looking for the prize exhibits

In this way, ten more colleagues were suggested as having exemplary assessment designs. Of these, one worked with international students through the marketing department, another was an educational designer and the third was not currently teaching. This meant that currently their involvement with assessment was indirect, so those three were not followed up.
As a result, seven academics were contacted and asked if they would be willing to provide a supplementary interview for this research that was now seeking more exemplary designs of online assessment in Round Two. Interviews were conducted with those who agreed. All interviews were fully or partially recorded using recording equipment connected to the telephone, however two of these recordings were insufficiently clear and thus reliance was made on my notes and the good will of my interviewees in providing further details by email. Table 3.4 shows details:

<table>
<thead>
<tr>
<th>University</th>
<th>Disciplines</th>
<th>Number of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Cross University</td>
<td>Social sciences</td>
<td>2</td>
</tr>
<tr>
<td>Charles Sturt University</td>
<td>IT</td>
<td>1</td>
</tr>
<tr>
<td>University of Southern Queensland</td>
<td>Engineering, Education (2)</td>
<td>3</td>
</tr>
<tr>
<td>University of New England</td>
<td>Law</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

Table 3.4 Round Two interviews as follow-up to Web survey

Round Two exemplars of assessment design were notably more sophisticated in their features and the activities required of students were demonstrably more authentic than those discovered in Round One. Five of these interviews were subsequently followed-up further and are reported as part of an additional component of this study in Chapter 6. These included one each from Southern Cross University, Charles Sturt University, the University of New England and two from the University of Southern Queensland.

### 3.3.3 Looking at examples on both sides of the fence

One example from Southern Cross University is from the social sciences and is called ‘simulated organisational communication’. Students in this third-year subject are assessed on their ability to perform as an organisation. Their communication skills are applied in the formation of a simulated organisation. All assessment activities focus on the effective collaboration on a group project. The majority of students’ communication and document exchange occurs online.

A second example from Southern Cross University is also from the social sciences and in this case includes a series of progressive online quizzes and group presentations that are prepared and delivered in text via the online environment. Students’ comments on their peers’ presentations must be submitted every fortnight, and must also include reference to the literature.
The example, from Charles Sturt, involves the development of a Web-based information system in accordance with incremental tasks that match the marking criteria, very similar to an authentic workplace situation in the IT field.

At the University of New England, one of the subjects in the law degree provides students with the opportunity to use the online discussion areas for both group work and individual contributions to the forum. Since all resources for this subject are provided to students via the online environment, the level of activity in these optional discussion tasks is quite high. Twenty-five per cent of students elect this assessment option, normally resulting in more than 5000 postings to the forum by the end of semester.

One of the University of Southern Queensland examples is in the field of engineering where a problem-based approach is taken to a first-year subject. Students must engage with the process of solving a problem in teams. Their submission of a personal e-portfolios containing reflections on their learning provides an individual supplement to their team-based marks.

The other example from the University of Southern Queensland is in a postgraduate education degree where students learn about online learning. With an emphasis on reflection, this unit provides opportunities for students to engage as users, teachers and critics of the medium as it is used in educational contexts. Students are also required to engage with the concept of ‘netiquette’ for their own teaching contexts.

A third example from the University of Southern Queensland (in which the recording failed for the first 30 minutes of the interview), was provided by an academic who subsequently validated the notes I took. In one subject the assessment involved approximately 30 off-campus students participating in a simulated conference. They developed a long abstract that was reviewed by two peers who then provided anonymous feedback. The assessor graded both the proposal and the student peer reviews. Students then hosted a discussion on their paper presentation online and obtained a 10% grade for self-assessment of participation. In a second subject students were required to create Web pages that incorporated multimedia applications.

In summary, as well as the list of assessment methods derived from the Web survey, details of Round One interview data have already been reported. The assessment designs that were identified in Round Two from across four regional universities included:

- teams using group forum space for communication
- team projects and reflective portfolio
- students post progress reports to the class forum
- write/submit abstract and peer review
- simulated conference online
• development of principles of netiquette
• development of Web-based information systems
• Web page and multimedia development.

The interviews conducted in Round Two that yielded the examples briefly described above also provided referrals to a further three academics to follow up.

### 3.3.4 Where are the gardeners?

From these examples identified in Round Two, I began to wonder about the role of educational designers, since apart from Southern Cross staff with whom I had worked myself, only minimal reference had been made to collaborating with educational designers. The exception from the University of Southern Queensland was the case where the academic interviewed had previously worked as an educational designer themselves and thus continued to collaborate with colleagues familiar to them.

I began to wonder what was the usual role of educational designers in cultivating appropriate designs of online assessment in other cases? Perhaps I was not hearing of educational designers because academics who managed to develop online assessment designs on their own were self-sufficient as reflective practitioners and required no additional support from educational design colleagues. I began a Round Three of interviews in order to pursue these issues with the three remaining interviewees that had been referred to me. Not only was I interested in probing into the educational design support provided, but also whether assessment design had occurred within development teams and whether academics were engaged in a scholarship of teaching, as a way of signifying their reflective practice. Questions asked of the three academics are provided in Appendix 3.

The three interviews were conducted by phone and confirmed by email. The reason that a fourth interview was not conducted was that the University of New England academic from Round Two was only able to refer me to a colleague at an institution that was non-regional and outside my sample, so not suitable for follow-up.

<table>
<thead>
<tr>
<th>University</th>
<th>Number of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Cross University</td>
<td>1</td>
</tr>
<tr>
<td>Charles Sturt University</td>
<td>1</td>
</tr>
<tr>
<td>University of Southern Queensland</td>
<td>1</td>
</tr>
<tr>
<td>University of New England</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

Table 3.5 Round Three interviews as follow-up to Web survey
These interviews indicated that in each of the three cases, academic staff had a certain way of consulting on their assessment design, either with an educational designer, with other colleagues in course development teams or with a colleague as co-teacher. In each case these three academics reported initiating these consultations themselves and they shared an appreciation of the benefits of having a ‘critical friend’ when working towards improving teaching and assessment practices. They each reported their own praxis in publishing insights on their innovations in teaching principally through conference papers where a dynamic exchange can occur with an audience of professional peers. Details of these three case studies are reported in O’Reilly (2004). Examples from Round Three interviews are presented in more detail in Chapter 6.

One enigma I faced from the completion of the previous round (Round Two) was that one of the four universities in my sample was not yielding as many examples as the others, though I knew from my own experience that work was occurring there in designing assessment for online. Additionally, following my reflections on my sampling processes, when I wondered how many academics know what their colleagues are up to, I realised that my colleagues in educational design would be the best reference point for finding further examples of online assessment. As a result, part of Round Three also included a series of four focus group interviews with educational designers across all four institutions. The questions that were asked of educational designers pertained to their model of practice and are provided in Appendix 4. The roles and perspectives portrayed by educational designers depict models of professional practice in current use (O’Reilly, 2004) and for reference the article has been included in full as Appendix 5.

3.4 Data collection and analysis

In addition to recording and transcribing the telephone interviews, in all cases notes were kept of each session as the back-up data. These notes and/or transcripts were always sent to participants for checking, and corrections made on request. Follow-up communication with interviewees was particularly extensive where data was written up for publication.

After the phone interviews, in most cases follow-up email exchanges occurred with interviewees, who had agreed to provided details of their assessment schemes as communicated to students, or who validated the notes that were typed following an interview. As data-driven research (Dick, 2002b), analysis of interview data was performed by recursive thematic analysis both informally to gain initial impressions of the data and later more formally with the aid of qualitative data analysis software. The total of 22 interviews that were conducted in three rounds, provided details of assessment designs of which three were showcased in O’Reilly (2004) (see also Appendix 5) and twelve became
the case studies demonstrating ‘hallmarks of excellence in online assessment’ (O’Reilly & Hayden, 2007) (see also Chapter 6). Of these twelve cases, one appeared in both the 2004 and 2007 publications.

The data obtained through focus groups with educational designers illustrated that current models of practice in all four regional universities had not changed in recent years from that of the objectives-based approach described in Chapter 1. All four examples of educational design practice were based on the model of working one-to-one with subject matter experts. Group activities were generally reserved for the purposes of academic staff development. On the question of cross-disciplinary engagement, examples given were cases of collaborative design of tertiary teaching preparation courses for new academic staff or information literacy programs for students. In these cases the generic skills components were also tailored for disciplinary contexts. Overall, educational designers (whether appointed as academic or professional staff) did not feel it appropriate to be convening cross-disciplinary teams or indeed course development teams of any kind.

As a result of findings from three rounds of interviews, and in particular after speaking with my own professional colleagues across four institutions, I became much more interested in examining the impact of working in teams and across disciplines to achieve pedagogically sound designs of online assessment.

3.4.1 Seasonal conditions

To this point there proved to be no problems caused by having commenced data collection by Web-based survey, at the same time as running the first series of online staff development workshops (which thus became a useful way to identify potential participants in my research). Data I had collected concerning the online assessment and educational design activities within the four universities, together with details of the emerging issues for academics as they developed skills and experience in the iLO workshop at Southern Cross, proved to be a fertile combination to germinate my understanding of how to support assessment design for online. The following section of Chapter 3 integrates these findings with evidence from the literature.

3.5 Transplanting assessment to online

The range of assessment activities identified by interviewees echoed what was also to be found in the literature regarding online assessment practices and experiences. In this section, I report my reading of the literature on teaching and assessing online as it relates to the examples from interview data. In this section Southern Cross is referred to as SCU to correspond with the references to other universities.
3.5.1 Types of online assessment

Firstly, to establish which types of online assessment I should specifically consider from the literature, Table 3.6 provides a brief summary of cases collected in the three rounds of phone interviews.

<table>
<thead>
<tr>
<th>Num</th>
<th>Uni</th>
<th>Round</th>
<th>Assessment</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USQ</td>
<td>1</td>
<td>None</td>
<td>IT</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>1</td>
<td>14 self-regulated quizzes</td>
<td>Maths</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>1</td>
<td>Create and critique Web sites</td>
<td>Education</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>2</td>
<td>PBL teams and reflective portfolios</td>
<td>Engineering</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>2</td>
<td>Web pages with MM; Simulated conference</td>
<td>Education</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>2</td>
<td>Critical reflection, critical incident, netiquette</td>
<td>Education</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>3</td>
<td>PBL</td>
<td>Engineering</td>
</tr>
<tr>
<td>8</td>
<td>UNE</td>
<td>1</td>
<td>Discussion forums</td>
<td>Law</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2</td>
<td>Discussion forums, individual and group marks</td>
<td>Law</td>
</tr>
<tr>
<td>10</td>
<td>CSU</td>
<td>1</td>
<td>Self-assess quiz for formative support</td>
<td>Health</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>1</td>
<td>Discussion forums (theory–practice nexus)</td>
<td>Health</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>1</td>
<td>Reflective journal, discussion forums</td>
<td>Health</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>2</td>
<td>Web-based tasks as per workplace</td>
<td>IT</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>3</td>
<td>Collaborate with and critique software tools</td>
<td>Education</td>
</tr>
<tr>
<td>15</td>
<td>SCU</td>
<td>1</td>
<td>Online submission</td>
<td>Tourism</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>1</td>
<td>Negotiated contract, media-rich iterative</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>1</td>
<td>Constructivist discussion forums</td>
<td>Education</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>1</td>
<td>5 quizzes for flexible time management</td>
<td>Health</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>1</td>
<td>Discussion forums</td>
<td>Tourism</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>2</td>
<td>Simulated organisation, comm/doc exchange</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>2</td>
<td>Quizzes, online groups prepare and present</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>3</td>
<td>Optional Q&amp;A forums with alumni</td>
<td>Auditing</td>
</tr>
</tbody>
</table>

Table 3.6 Summary of 22 interviews conducted and assessment designs identified

Although these examples are represented in Table 3.6 according to my system of gathering them, another useful way to categorise these assessment methods is in five clusters: quizzes; discussion; authentic tasks (including self assessment, simulations and workplace-based
tasks); reflective journals; and group work or team work (including peer assessment). These clusters are not, however, mutually exclusive and the examples provided above contain several cases where one method may pertain to more than one cluster, e.g. group work might also count as an authentic task, depending on the context.

3.2.1.3 Quizzes

Auto-graded quizzes and timed online tests were emerging in the literature as methods of assessment wherever local infrastructure could support these approaches (Bull et al., 2002; Whittington, Bull & Danson, 2000). Students who access such online and formative mechanisms commonly report an appreciation of the immediate confirmation of their understanding or misconceptions and the rapid availability of test results (Dalziel & Gazzard, 1999; Frosini, Lazzerini & Marcelloni, 1998; Kerka et al., 2000). The potential difficulties of these methods are encountered in cases where the online infrastructure is not robust enough or extensive enough to service all students reliably and equally well. Concerns are also raised by some authors in regard to authenticating the identity of the student sitting an online test (Bostock, 2000; White & Davis, 2000) and ensuring security of data (Shepherd et al., 2003).

Examples of online quizzes were reported from three of the four universities in my study and in more than one case they were being used as formative tasks to reinforce understanding prior to a summative exam (USQ and CSU). The issues of authenticating students’ identities online and guarding against cheating are important considerations but are not so critical if the intention is for students to use quizzes as learning tools. Once technical and learning robustness are thus addressed, use of auto-graded or self-assessment quizzes represents an excellent benefit of the features available in the online medium.

3.2.1.4 Discussion

The use of the online environment to facilitate student interaction was also being seen as an enormous benefit to the distance education students who had long suffered the strictures of studying in isolation (Newton & Ledgerwood, 2001; O’Reilly, 2002b; Thorpe, 1998). The use of online discussion as a method of assessing student participation is another feature of online learning which makes the most of the technological features by equally giving both on-campus and off-campus students an opportunity to contribute. Attention can then be devoted to designing the discussion for its most cogent purpose. For example the UNE, CSU and SCU discussion-based assessments shown in Table 3.6 are each structured differently – the law and social sciences forums include group debates on issues (in an informal sense), the health forums require reflective contributions and the forum in the field of education develops from students’ determining their priorities of focus within a constructivist model of learning.
With the range of designs and intentions for assessing discussion online, the explication of relevant marking criteria for assessing contributions to discussion is vital not only for students’ understanding of what is being required of them but also to ensure valid and reliable marking. Models for the analysing, assessing and marking of discussions include some that are founded on principles of textual analysis, such as Henri’s (1992) attention to critical thinking skills and Gunawardena, Lowe and Anderson’s (1997) considerations of interaction. Sringam and Greer (2000) synthesised these two approaches and suggested a model for assessing higher-order reasoning and critical thinking through analysis of discussion contributions and the level of student engagement in interaction with their peers.

The facility for interaction also allows students to negotiate their assessment projects with the academic and to provide draft or staged elements of work in order to receive formative guidance prior to final submission. Though not a discussion with the other members in class, this ability for students to stay in contact with the academic has been shown as a workable model in postgraduate studies (SCU).

The same easy access to discussion archives in the online environment that enables academics to be thorough in their marking of discussion contributions also places students in a good position to undertake self and peer assessment through the application of agreed and established criteria. McLoughlin and Luca (2001) present a model for peer assessment in authentic learning contexts as a way of achieving a deep approach to learning. This includes extending the students’ problem-solving approaches so that they can compare their own approach with the given criteria, and in this way improve their capacity to judge another’s work. Reflective assessment with peers can be readily achieved through a well-articulated set of instructions, criteria and the development of a learning climate within the cohort that clearly values cooperation and learning together (Boud, Cohen & Sampson, 1999; Falchikov & Goldfinch, 2000; Stefani, 1998). Some disadvantages of peer assessment are also reported, such as the varied extent to which students share an understanding of the marking criteria even when they are involved in its derivation, and a motivation to impress their peers by too stringent an interpretation of the criteria (Hanrahan & Isaacs, 2001).

From the findings in the literature and the examples identified in my research, it follows that discussion-based assessments need to be designed with the disciplinary context and pedagogical purpose in mind. When a peer assessment is to be considered, detailed preparation of students in terms of understanding and applying the marking criteria will definitely be required.
3.2.1.5 Reflective journals

The process of reflective journaling is described in the literature on reflective practice (Brookfield, 1995; Schön, 1987) as being one key strategy to taking the time needed for becoming aware, turning things over and finding interpretations, meanings and indications for future practice. Boud, Keogh and Walker (1985, p. 19) also describe reflection in terms of an exploration of experiences in order to come to ‘new understandings and appreciations’. Hatton and Smith (1995) assert that the purpose of deliberate reflection on one’s actions is for improvement. The specific elements of reflection including the questioning of one’s own beliefs, values and assumptions are further discussed by Fisher (2003) in a report where she elucidates her adoption of reflective journaling as an assessment task for an undergraduate level unit. In this case, the development of detailed assessment criteria pertaining to reflection was the lynchpin for teaching students how to engage in critical reflection. Woodward (1998) implemented reflective journals and portfolios as a continuous and integrated process of assessment through a teacher education program. She characterises this assessment scheme as having profound benefits to students in gaining valuable knowledge of themselves and their learning processes. The capstone unit in the postgraduate program described by Herrington and Oliver (2002) requires not only a series of tasks such as keeping a reflective journal and contributing to online discussion whilst completing a professional project, but it also requires that students produce an article of publishable standard. In this way students’ personal reflections are reframed as professional reflections on action.

The examples in my current collection include one first-year reflective portfolio in an engineering area and the reflective work to be developed in a postgraduate unit in education. Given these polar opposites in terms of the level of student experience, it is interesting to note that the first-year reflective portfolio was intended as an induction into the skills of critical thinking and working in a problem-based paradigm. As such it was marked for students’ identification of personal issues around group work and the learning approach. The postgraduate subject was entirely founded on a critically reflective approach and thus required students not only to apply the skills of critical reflection, but also to continue to do so with each assessment task. Both these examples (Case 12 first year and Case 11 postgraduate) are included in the article in Appendix 5. Again the literature provides a clear indication that explicit marking criteria are required for students to understand how to complete the requirements for reflective journals portfolios (Bowie et al., 2000; Land & Zembal-Saul, 2003).
3.2.1.6 Authentic tasks

Herrington, Oliver and Reeves (2003) detail ten characteristics of authentic learning. The literature on authentic learning defines the term to mean tasks which are practical, realistic and challenging and those which ‘students might actually carry out in the real world’ (Lajoie, 1991 in Herrington & Herrington, 1998, p. 307) and goes on to confirm not only that authentic assessment can be used effectively in the online environment, but also that online learning is enhanced through incorporation of authentic assessment tasks (Herrington & Herrington, 1998; Kendle & Northcote, 2000). The context and purpose of assessment provide some guide to drawing out the authenticity of tasks. Particular attention to the meaning of ‘authentic’ is needed where the student cohort is diverse in their backgrounds, entry-level abilities, language and cultural capital.

Stein, Isaacs and Andrews (2004) also discuss authentic curricula and illustrate that authenticity needs to be evident on a discipline and social context level. The authors suggest a theoretical model of elements to consider when designing authentic curricula, referring to three underpinning factors: the nature of learners and learning; the nature of the discipline; and the nature of learning in the discipline. Their single case study illustrates an attempt to bridge the gap between university study and the world of business management through (a) group interactions that are required of students; (b) projects or learning experiences with real-world relevance; and (c) reflective tasks. Assessment forms one component of this model which assumes the disciplinary context of learning tasks.

Examples in the collection identified in Table 3.6 include a range of authentic tasks such as the application of typical professional criteria as incremental targets in the completion of a detailed Web-based information systems project (CSU), the ‘reality check’ through engagement with alumni in a final year auditing subject (SCU), and the requirement for education students to develop Web sites and learn to critique the features of other Web sites (USQ). The latter example is arguably authentic in the case where teacher education students are preparing to work in schools with technology in the classroom. Simulated activities such as the orchestration of a simulated conference, also in the field of Education (USQ), the development of a simulated organisation and the conduct of communication in this context for the completion of a group project (SCU) and the forums based on constructivist principles and focused on the student-determined priority needs in a postgraduate education degree (SCU) represent tasks that the students would expect to be undertaking as professionals in those fields.
3.2.1.7 Group work or team work

From my work with the iLO workshops, I noticed the terms ‘communities of learning’ and ‘communities of practice’ being used. The work of Wenger (1998) underscores the concept of ‘a community of practice’ as being a structure that can assume responsibility for developing and sharing knowledge. Building on this, Palloff and Pratt (1999) go on to describe the communities of learners that can emerge within the online learning environment. Indeed, the authors encourage the establishment of online learning communities as a means to enhance the potential for learning where students may be remote from the classroom and from their peers. Such development of learning communities is also a foundation for effective group- or team-work online (Hedberg & Corrent-Agostinho, 2000; Lefoe, Gunn & Hedberg, 2002; Salmon, 2000). Assessment of groups and teams comes with its share of challenges, just as it might within an on-campus context (LTSN, 2001; Schechtman, 1992). Fisher, Phelps and Ellis (2000) suggest that there are some aspects to group work and its assessment that may be peculiar to the online environment, such as having to allow more time for negotiation of group norms, and guidelines, as well as the need for staff and students to have the skills for dealing with any conflicts or misunderstandings that may arise.

In the examples of group and team assessment tasks provided to me, the group activities were generally established in terms of the authentic contexts such as the first-year teams in engineering working on their problem-solving task (USQ), the collaborative projects that were required in education as part of discovering and evaluating the relevant software tools (CSU), the organisational communication activities in which groups shared this component of the mark (SCU), and the law group work on a question of ethics conducted within a protected environment, separate from the class forum (UNE). While the potential was there for tensions to arise in a challenging area such as ethics, it was again the detailed marking criteria provided to students in this case in the form of a rubric for successful group work that ensured a relatively streamlined approach to marking.

3.5.2 Flexible assessment

The examples collected through interviews and the literature referred to so far depict an online environment which lends itself to a number of flexibilities such as tailored assessment processes, a variety of formats for resources and interaction, and a selection of delivery options for learners and academics. The facility to handle a blended class of both on-campus and off-campus students through a single interface for information and interaction was also proving to be one of the strengths of teaching and learning online as indicated in many of the examples. Postle et al. (1999) also link flexibility with inclusivity, encouraging consideration of who our learners may be and what models of delivery are accessible for them. Online assessment and the flexibility it may offer are thus predicated on the need for reliable access to the components of appropriate technology. Our assessment designs
need to be fully informed as to the student profile, their locations and their situation with respect to the online learning environment. Technical support needs to be organised in advance and it is important to prepare a non-technical contingency for assessment (Harvey & Mogey, 1999). The one example provided by an SCU academic in which he was simply enabling students to submit their essays online was an example of working within one’s own and the students’ limits.

Cook (2001) developed an assessment scheme that gave students the choice of how to comprise their overall grade from a selection of interim tasks and tests, with the result that they gained a sense of control over their learning. In addition, this approach resulted in no increase in administration, an overall improvement of marks and a reduction in cheating. Though not at the same level of choice as to how a student’s overall grade could be comprised, some of the examples I collected nevertheless provided the online assessment tasks as options in themselves, for example the law discussion group at UNE and the engagement with auditing alumni at SCU.

In many ways the choice of pace and place for learning that is provided by online education is just as flexible as it had been for open and distance learners, but the array of flexibilities that comes with the use of hypertext and network-based assessment is unique to the online environment (Kirschenbaum, 2000; Leask, 1999; Morgan & O’Reilly, 1999). Through document links to a vast array of resources, shared workspace with fellow students and academics, as well as access to specialist subject expertise from anywhere in the world, the opportunities for designing meaningful and authentic online assessment seemed to be enormous. One such example of the flexibility of being able to negotiate assessment tasks and gain regular feedback on progress has previously been mentioned (SCU case).

While the asynchronous nature of most discussion forums allows students the flexibility to log on at a time and place that suits them best, the kinds of flexibilities in assessment reported in the literature includes flexibility by staff in granting extensions to assignment (McAlpine & Higgison, 2000), which does not seem particular to the online environment. This emphasis on the ‘person culture’ is another of Postle et al.’s. (1999) assertions. If we are to be more flexible in our teaching and assessment, it seems there would need to be a ‘team culture’. This assertion was one of particular interest in my preparations to work with development teams.

### 3.6 Watching the seasons

My examination of online assessment has so far introduced a few innovative ideas that relate to the particular affordances provided by the online environment, for example the blending of formative (supporting achievement) and summative (evaluating achievement) assessment tasks. I will discuss the distinctions between these in the following section, but
before I do, it is equally of note that many details of the online assessments considered to this point are as enduring as the turning of the seasons. In particular, the notion that assessment is the driver of student learning, means that the principles of good assessment are integral to the learning process regardless of the mode of study. In keeping with this, the literature and the assessment examples reported in this chapter have revealed that students need to be clearly advised of the assessment requirements and marking criteria in advance. This also means that the intentions of assessment, as provided in the stated learning objectives, need to be explicitly aligned with the curriculum and the actual assessment tasks, and this is known as constructive alignment (Biggs, 1999). The following discussion will focus on these principles, which endure through all seasons – formative assessment, summative assessment and constructive alignment.

### 3.6.1 Formative assessment

Formative assessment tasks are of the kind where students are given the opportunity and sufficient feedback to improve their performance on the same tasks, ultimately impacting on their grades without loss of marks in the meantime. Where formative assessment is not based on peer review, the communication of feedback occurs from academic to student. As has been mentioned earlier, the communication between academic and student can now be supported by technology. In institutions where online technologies have been introduced as core responsibilities of teaching and learning, formative assessments can be readily facilitated through use of auto-graded quizzes or intelligent object databases (Taylor, 2001) and model answers or collective feedback can be broadcast to the whole class (Booth, Hatcher & Hyde, 2002). Sadler (1998) questions whether students know what to do with the feedback they receive, but in the cases of online quizzes that we have seen in the examples identified so far (USQ, CSU and SCU), academics have made the purpose of the quiz explicit in that students are allowed repeated attempts to ensure that they improve their understanding and enhance their success in the final exam. The postgraduate example given at SCU where assessment is negotiated also involves iterative submissions to guide students in their final project submission. Development of effective communication between teacher and student, whether through automated or negotiated processes, is thus a basic premise of supporting students through formative tasks (Brown, 2003).

In his paper on sustainable assessment, Boud (2000) argues that students need preparation for an increasingly uncertain and complex future and that in terms of our assessment practices, it is the functions of formative assessment that are of primary importance for this. The design and implementation of formative assessment techniques can serve to relieve students’ anxieties, especially where online study may seem more remote from the immediacy of support received in class (Buchanan, 1998–99; Cassady et al., 2001; Greer, 2001).
The ability to take the online test at a personally suitable time and thus having the time and the facility to interpret the feedback has a clear potential for enhancing learning. Here, Boud’s (1995a, p. 42) insight is of note, that good assessment is ‘that which both closely reflects desired learning outcomes and in which the process of assessment has a directly beneficial influence on the learning process’.

In order for academics to have the time to support students in learning through feedback, as well as provide sufficient opportunities for students to practise their understanding and skills, self- and peer-assessment can be utilised, particularly for formative purposes (Boud, 1995a). In this case, Sadler’s (1998, p. 84) cautions should be borne in mind that ‘formative feedback does make a difference, and it is the quality, not just the quantity, of feedback that merits our closest attention’. Sadler’s assertion is that if students are to be effectively engaged in self- and peer-assessment, it is incumbent upon academics to build the development of these skills into the curriculum. The examples of self-assessment collected (USQ and CSU) were simply quiz-style tasks, where students could determine the correctness of their answer as well as self-diagnosing a lack of knowledge in areas requiring further study.

Synchronous (real-time) systems of interaction can also provide timely feedback and clarification in support of assessment processes. This is sometimes developed into a cognitive apprentice model of teaching and learning, and is referred to in the literature on intelligent tutoring systems (Patel, Russell & Kinshuk, 1999). In cases where academics engage with students through a synchronous feature of the online environment, students have the opportunity to derive immediate benefit from timely feedback. This was the case in the SCU example where final year students were able to interview alumni through synchronous forums (having earlier posted their questions first to the academic for moderation). This allowed a semi-structured discussion (for best use of time) while also being lively in its authenticity.

Online, the facility is also now available for providing student support of a more motivational and pastoral nature, and encouragement of student peers to engage in a supportive network that can further serve to develop a formative and reflective focus on learning and ultimately on their assessment tasks (O’Reilly & Newton, 2001a, 2002). A study based on a total of 90 student responses to two surveys conducted in 2000 and 2001 in the School of Social Sciences at Southern Cross found that:

… students appreciate the dynamic features of learning online. Without the formal demands of assessment, students who are already comfortable online, have told us that their sense of isolation is minimised, their understanding and emotional responses to learning can be supported in a safe context, and they
are easily able to benchmark their progress in relation to their peers (O’Reilly & Newton, 2001, p. 75).

3.6.2 Summative assessment

Summative assessment results in the students’ performance being evaluated or measured in terms of their success in achieving the given criteria. This is the point at which marks or grades are allocated to the student work. Ideally, summative assessments come at the end of a series of formative tasks that allow students the opportunity to test their own knowledge and capabilities before submitting or sitting a final (summative) assessment. The relationship between formative and summative tasks needs to be borne in mind by academics, so that students are receiving a kind of scaffolding that encourages metacognitive and reflective processes that enhance learning (Biggs, 1990; Naidu, Keppell & Kennedy, 2000). It would seem that interweaving of formative tasks with summative assessments is much more manageable in the online context where feedback on students’ performance can be provided without delay, sometimes through an automated feedback process built into the online task itself.

In these early explorations of online assessment, the examples gathered in this study included only two where the students were expected to complete their assessments entirely online (SCU Social Sciences and USQ Education) and thus the summative assessment was part of this overall approach. Most commonly though, the online components were either (a) used simply for submission (SCU Tourism), (b) offered as optional activities (UNE Law, SCU Auditing), and/or (c) formed a relatively minor component of the overall grade (USQ Maths, SCU Health, SCU Auditing). The notion of significant weighting for online assessment had not yet become evident.

3.6.3 Constructive alignment

Boud (1995a, p. 37) reinforces Rowntree’s (1987, p. 1) earlier remarks that ‘[t]he spirit and style of student assessment defines the de facto curriculum’ when he mentions that:

There are always unintended consequences in assessment. Students will learn to adopt surface approaches to study in some circumstances and will adopt deep or strategic approaches in others. In so doing they will be prompted partly by the forms and nature of assessment tasks.

In order to minimise the unintended consequences of assessment, Biggs (1999) explains that assessment should be designed to align with the entire unit of study in terms of the learning objectives, the teaching and learning activities and indeed the syllabus itself. This alignment has become known as ‘constructive alignment’ for the relationship it bears to constructivist approaches to learning, where it is what the student does that results in
learning. The alignment of all elements ‘on the basis of what students should be doing is likely to be more fruitful than focusing only on what teachers and administrators do’ (Biggs, 1999, p. 74). It was heartening to see that the examples of online assessment provided to me from across four universities demonstrated an alignment of learning objectives, activities and assessment. In each interview, academic staff explained their rationale for designing their assessments as a means of addressing issues such as improving the engagement of students and doing this in a coherent way regardless of the student’s mode of study, and providing assessment tasks that supported the achievement of learning objectives. One example among many comments I received in this context is:

It’s assumed [among my academic colleagues] that the transition [to critical thinking using a reflective journal] is painless. My beliefs are that it’s quite difficult and so what I am attempting to do is to support them [students, through online interaction] … rather than toss them a bunch of theory, expect them to absorb and be able to apply, I’m trying to facilitate the application of it in a way that’s meaningful to them rather than a way that is meaningful to me (Round 1, interviewee).

3.7 Reviewing the seasons from the garden bench

In this chapter I have described the online staff development workshops that occurred at a time when Southern Cross staff were beginning to learn about the institutionally supported Learning Management System. The recently appointed, as well as the not so recently appointed, staff were thus equally likely to enroll in these workshops. This provided an opportunity to identify academics interested in developing their online skills and who, as early adopters, could agree to explore the design of online assessment. So began a series of workshops I hoped to continue over the next few semesters, at least until there was a general upskilling of academic staff in their engagement with the online environment.

Meanwhile, the questions on my mind concerned what was happening in universities similar to Southern Cross, and I embarked upon the collection of 22 interviews from all four universities to find out about current practices. These proved to be of interest on a number of levels. Examples provided by academics in Round One were varied in terms of innovation. All respondents had attempted some online assessment activities even if it was just assignment submission, but several had been more adventurous and only one did not care to provide details. A referral to colleagues for interview Rounds Two and Three yielded examples with a greater level of innovation. A decision to also interview my professional peers provided data on the design process at each institution, including the infrequency with which cross-disciplinary and team-based approaches were applied to the practice of educational design.
I found that some of the well-worn questions of assessment – formative, summative and constructively aligned, were of central relevance in the online context, and that my research questions were well worth asking, specifically, how could I work with academic staff to improve their design of online assessment and what educational design approach might be appropriate for this. I was indeed able to surrender to the influences of each season well aware of the issues to be faced, and emerge ready to commence Cycle 1.
Chapter 4
Cultivating the first crop – Cycle 1

One generation plants the trees, another gets the shade

Chinese proverb

Lychee tree
4.0 Cultivating the first crop – Cycle 1

This chapter reports on the first Action Learning (AL) cycle (see Figure 1.1), building on the preparatory work as detailed in Chapter 3. The chapter moves through the processes of planning, acting, observing and reflecting in the first AL cycle, which I refer to as Cycle 1. I begin the discussion by explaining the derivation of the sample for Cycle 1 as the start of a system for sampling throughout the research. I also provide details of the activities undertaken in this cycle and an analysis of emerging themes. Reflections on how to take these themes forward to inform the next cycle complete this chapter.

4.1 Selecting and preparing the seeds

As detailed earlier, I used the iLO workshop as a source from which to invite participants to join Cycle 1. Two of the three academics I invited agreed to participate – one from a science area (exercise science) known from here on as Peach, and one from business (auditing) I shall call Lychee. In the interests of expanding to a small multi-disciplinary team, I invited a third academic from social science (sociology), Nectarine. To support an informed approach in the design of assessment for the online environment, I invited a member of the online technical support team. This participant, whom I shall call Macadamia, brought with her a wealth of technical knowledge as well as experience with staff development in the roll-out of the Learning Management System, Blackboard™.

Together the five of us became an action learning set (the AL1 set) and had our first meeting in September 2002 in which I explained the principles of action learning to those who were less familiar (only the sociologist, Nectarine had some previous experience of this method). We agreed on a schedule of six meetings in order to complete individual assessment design in time for first semester the following year (February). A seventh meeting was planned for immediately prior to the semester and the final (eighth) one was to take place after Week 10 when student feedback is routinely collected. Figure 4.1 shows the planned cycle of activities.

At the first meeting, Lychee suggested we invite a reference librarian into this multi-disciplinary AL1 set. His rationale came about through the realisation that the librarian in the online staff development workshop had expressed a wish to be included at earlier stages of assessment design and not to be forgotten until the eleventh hour when students sought help to successfully interpret and complete their assignment. The liaison librarian for the field of business had enrolled in the online staff-development workshop to get a better understanding of what staff were trying to do with their students online. Thus with agreement from the AL1 set, this librarian (Grapefruit) joined us from the second session.
As both educational designer and AL1 adviser, I performed two roles in Cycle 1. As AL1 adviser, my role included coordinating all meetings and keeping records of these, maintaining focus on the specific design issues for each member, encouraging and modelling critical reflection and supporting the development of individual action plans (O’Hara et al., 1997). I set out to routinely email prompts to participants between meetings and, through my own personal reflective notes, to explore ideas for developing and improving educational design of online assessment with this multi-disciplinary group of academic staff.

4.1.1 Ground rules

Once the AL1 set was formed, some ground rules needed to be established in order to create the best environment for reflection and participation. Initially, to orient set members to the principles and practices of action research, I provided an explanation regarding the two principal aims of my research as taken from Grundy (1982) – ‘improvement’ and ‘involvement’. These features apply to my perspective through the cycles, in that ‘[t]he intention of action research is to give persons the power to act to bring about change (action) by generating knowledge through rational reflection on personal experience (research)’ (Grundy, 1982, p. 25). Set members acknowledged an understanding of the overarching research and were animated to know that we were to commence the very first cycle.
By going through an extract from Weinstein’s (1995) work with set members, I further explained the features of action learning that we would be embarking upon. Fundamentally, the idea I conveyed is that the action learning process is based on ‘recognised ignorance’ (Revans in Weinstein, 1995, p. 41) which thus establishes an openness to the limits of one’s own knowledge and experiences. Action learning is a reflective process that happens in the company of other people and is enhanced by having another perspective on your own reflections. In this way set members are not just reflecting on their practices or the outcomes of an implementation, but they are sharing those reflections and getting each others’ perspectives on them as well. Thus collaboration produces a kind of multiplier effect.

Each set member in Cycle 1 thus agreed to use the proposed series of meetings to participate in a collegial process for designing assessment tasks, whilst being the final arbiter of their own design. They saw this as a way of not only considering the issue in terms of the online environment but also improving their assessment through talking with unfamiliar colleagues outside their own disciplines and exchanging perspectives on something of shared importance, effective design of assessment.

4.1.52 Set members as fruit trees

Before continuing, I should explain in a bit more detail who these set members are and why they are called after fruit trees. In terms of the latter point, the choice of fruit trees for pseudonyms came about through my connection with my own garden that is extensive and includes many fruit trees as well as vegetables and flowers. I selected fruit tree names not only as part of my overall gardening metaphor and to reflect my enduring evolving relationships with the academics with whom I work, but also on the basis of characteristics of the set members that I will now expand upon.

Lychee is an academic who teaches later-year auditing subjects in the Bachelor of Business. Like the tree in my garden he is robust in his disciplinary knowledge and in his blossoming enthusiasm about teaching. This generosity of attitude draws interest from colleagues like bees to the prolific flowers that always present themselves over an extended season.

Nectarine teaches later-year subjects in the social science degree. My nectarine tree is well-established, but it nevertheless is not a regular producer of fruit, and when not adequately nurtured is vulnerable to fruitfly attack. In the same way Nectarine, a well-established member of staff, seemed to me to be sporadic in his innovations, dependent very much on organisational and other (seasonal) factors.

Peach was named after the unusual white-fleshed fruit tree I had for a while in my garden. It tended to set so much fruit that if I was not quick to thin these buds out, it would produce huge amounts of extremely delicious but small fruit in season. The academic Peach, was
also bursting with ideas and I realised quickly that they needed to be ‘thinned out’ to ensure the maturation of a few very good ones.

My grapefruit tree surprised all who were enticed to try its fruit. Many visitors who claimed they didn’t like grapefruit would soon reassess their pre-conceived ideas once they tried the fruit from my tree, so juicy and sweet. At the University, Grapefruit had a reputation as one of the more pedantic and sour liaison librarians by disposition, but what she brought to the AL1 set was a pleasant tang that kept us all enlivened.

Macadamia, from the technical support staff was named for a number of her qualities, namely her slowness in germinating and the hardness of her shell. As will become apparent, Macadamia stayed in my research through each of the three cycles and it was in the final cycle that I truly came to see her engaging from a personally meaningful perspective. Her contribution was most nourishing in the end.

4.1.3 Cross-fertilisation

From the outset, my instigation of a cross-disciplinary approach to assessment design was met with curious anticipation by set members. It was something different from the norm and added an expectation of change over and above the simple factor that we were going to be working as a team. These academics had previously not crossed paths in their usual course of practice, and even though they had each consulted with the technical staff, they had not yet worked closely or in a sustained way with Macadamia or any of her team members. Overall, the opportunity for cross-disciplinary interaction promised to be a very fertile experience.

When it came to understanding the importance of a disciplinary paradigm, Becher’s (1989) analysis of ‘academic tribes and territories’, their distinctions, boundaries and insularities, served as something of a benchmark. Becher’s description of a spectrum of knowledge from ‘hard’ to ‘soft’ disciplinary domains, and their ‘pure’ and ‘applied’ modes of research, provided a clear foundation for my explorations of how the disciplinary paradigms and rhetorics may impact upon cross-disciplinary activity and the learning that we were commencing. In order to explore how we might dialogue across disciplinary divides, I found Jantsch’s framework (from Jantsch in Apostel et al., 1970, p. 106) of distinctions between terms, of interest at this stage:

- **Multi-disciplinarity**: a variety of disciplines in play without explicit relationships or benefits being made between them
- **Pluri-disciplinarity**: juxtaposition of various disciplines so as to enhance relationships between
- **Cross-disciplinarity**: assumptions of one discipline imposed upon another with rigid control being exerted from one disciplinary goal
Inter-disciplinarity: purpose between disciplines is coordinated from a higher level and for mutual enhancement and ‘inter-fecundation’ of epistemologies

Trans-disciplinarity: reciprocal, multi-level, multi-goal coordination of all disciplines and interdisciplines in the education/innovation system on the basis of generalised assumptions and an emerging epistemological pattern, resulting in mutual enrichment.

Though I was initially drawn to the term ‘inter-fecundation’ as it aligned with my sense of cross-fertilisation of ideas, I reserved my judgement about whether or not this would mean an ‘inter-disciplinary’ focus, as I was first keen to observe for myself how the relationships among the disciplinary viewpoints in the AL1 set might play out over the course of the cycle. However, on first glance it did not seem that we would have a cross-disciplinary outcome if we took Jantsch’s (in Apostel et al., 1970, p. 107) definition to heart in terms of an imposition of one disciplinary conception upon another with ‘brute force’. I neither expected nor desired such an approach in our AL cycle.

4.1.4 Critical reflection/critical self-reflection

Given the previous discussion on the potential importance of critical reflection as a contributing factor to effective teaching and learning as discussed in Chapter 2, I now wanted to discuss with set members, the processes of reflection that we would need to undertake in order to take full advantage of our time together through this cycle. In addition, I very much agreed with the academic from CSU (example provided in Chapter 2) who mentioned that an assumption about students’ capacity to develop critical reflection skills was not a fair one if we did not also prepare them appropriately for such a sophisticated intellectual activity. The pressures on students today was mentioned in Chapter 1, and these ever-increasing pressures from a financial perspective, together with the sense of ‘limitless information’ in the digital age, have both led to an unfortunate situation where the tendency to expect students to somehow learn to critically reflect did not always match the rhetoric about the value of this (Fisher, 2003; Hammond & Collins, 1991).

For academics, formal opportunities to critically reflect on practice are typically found during structured unit reviews and course reviews, where input on teaching and assessment practices is sought from a range of sources including student feedback, independent assessment of teaching approaches by central units such as Teaching and Learning Centres, cross-institutional blind peer reviews and the less formal dialogue which takes place with colleagues. These are mostly externally created opportunities and are not always timed to address emergent issues in teaching and learning, nor are they conducive to creative reconceptualisation on a scale appropriate to the identified concerns of academics. As noted in one of my articles published during this research:
This challenge to reconceptualise teaching, learning and assessment with the e-learning environment in mind, might be less intimidating if linked with a process of consultation with a ‘critical friend’. Having a colleague or group of colleagues with whom to discuss and share reflections facilitates the process of enquiry. Another person’s perspective on your taken-for-granted values, assumptions and beliefs makes possible the self-reflection that leads to perspective transformation and considered action (O’Reilly & Ellis, 2005, p. 4925).

In an attempt to create opportunities for critical reflection and particularly critical self-reflection during Cycle 1, I suggested a few options to set members and in particular I requested they keep a personal reflective journal such as their own paper-based notes; email to self, group or set advisor; use of private area within the current teaching site online, for example. The journal was to be their private document that I did not propose to view, but I did expect that they would refer to these reflections within the context of set meetings. The proposition that reflection leads to perspective transformation and considered action had already been developed by Schön (1983) in the applied contexts of reflection-on-practice and reflection-in-action, and while I hoped that participants would engage in reflection through journaling, I fundamentally saw that set meetings would be our time for formal reflection individually and together.

One member of the AL1 set actively recorded reflections between meetings in personal notes, emails and through phone contact. He used the opportunity to further explore the possible design of assessment for best use of the opportunities afforded online. Here is an example of how he embraced the process:

*Lychee:* You might recall I had to leave in a hurry at the end of last session and that annoyed me a little bit, but unfortunately I had class. That night I spent a bit of time thinking over what we’d discussed and next morning I came in very early and sat down and managed to unravel a lot of thoughts in my head, they’d been going round for some time. And when I finished jotting down some ideas I rang Meg and we talked for about half an hour maybe, through the ideas that I had and one or two things were modified but essentially the format that I’d come up with sounded pretty good … that was really good … I finally had something down on paper to work around, to start with and put some flesh on.

The processes in the set were aimed to support participants to focus on both their actions and their learning (Weinstein, 1995). The initial expectations of the set were simply to work collaboratively to design assessment for the online environment and to be of mutual
assistance in this process. The basic structure of the meetings was to attend to one person at a time and allow them the chance to put forward a flow of descriptions, reflections and insights. With an explicit assurance of confidentiality and dedicated time for largely uninterrupted reflection on their ideas, each academic was given the chance to focus on developing new ideas and considering possible solutions.

4.1.45 Silence and interruptions

Another of the ground rules I explained at our first meeting was that in order to allow for a reflective space, silences would need to be respected and all judgements reserved. In this structured context of Cycle 1, allowing the time for participants to conduct a ‘reflective conversation with the situation’ (Schön, 1983, p. 76) was an important opportunity for the complementary processes of thinking and doing. Of course it is not really possible to report examples of the silences, so there is little mention of them here, though in later cycles comments of appreciation were directed at this feature (see Chapter 7).

Probing questions by each member of the set were the key to challenging and clarifying – and were intended to result in insights, ideas and discussion on suggestions. It was accepted that interruptions should be kept to a minimum as each set member would take their turn to speak. The benefit of such an opportunity for an almost contemplative review was that it allowed for assumptions about what we know from our academic experience and research to come to light. The group context also revealed to us how these assumptions can at times limit the scope and depth of our reflections. Having agreed on reflection as an explicit goal of the research, and providing a structured space for the process to occur for each set member, meant that we built in a level of transparency and trust from the start of the Cycle 1.

There exists a wealth of examples in the transcripts where set members respectfully prompted each other to reflect more deeply on their own assumptions:

Lychee: That’s coming through loud and clear … that whole process works well for students … you’re quite right in what you’re thinking …

Nectarine: A few ideas popped up for me while you were talking … going back to the idea [you mentioned] … you might be able to get that interaction between two or three of those groups … that’s just one idea …

Peach: I like that idea … I’d like to try that …

Grapefruit: … thanks for reminding me, I’m probably being a bit negative and it’s quite a while since I did it … I think a couple of students suggested improvements …

Macadamia: … can I suggest that you do your refresher course …
4.2 Formulating and solving problems within a supportive group

From the establishment of the AL1 set, each set member approached the task at hand on the basis of having an issue to resolve, whether it be a pedagogical or a class management issue. I referred to these initial considerations of the AL1 set in a publication:

Questions identified by the group for its consideration included: whether to design an online component of assessment and why; how to design assessment for the subject given the opportunities available online; how authentic would such assessment approaches be in view of the specific learning objectives of each subject; and how might students respond to these online assessments given that some groups were studying on-campus and some off-campus (O’Reilly, 2003: p. 377).

The benefit of working with a multi-disciplinary team was again important to the questions of what works best off-line versus what might be enhanced through a design for online implementation, as these are key issues that must be considered along with the academic’s own contextual issues based within the discipline. What may be relevant and suitable for a science-based discipline e.g. online multiple choice quizzes, may be inappropriate in the field of say, cultural studies or sociology. I anticipated that these would be the sorts of discussion that would come about through the cross-disciplinary approach we were taking.

4.2.1 Case details of AL1

The following is an extended extract from O’Reilly (2003: pp.378–382) depicting brief details of each case within Cycle 1. These accounts summarise each academic’s pedagogical issue to be resolved and their eventual solution through assessment design. Once again the reference to the University is as SCU and only the participants’ pseudonyms used in the original have been altered here in keeping with references throughout this thesis (the full account of these cases as published can be found in O’Reilly, 2003a):

Lychee and Grapefruit

Lychee, the academic in this case, enrolled in an online staff development workshop early in 2002 during which he decided to adopt a suggestion by library staff that they be more integrated into the teaching session with off-campus students via the online environment (O’Reilly & Ellis, 2002b). In addition to this idea of including a reference librarian, Lychee completed the workshop with plans to use the virtual classroom (part of the Blackboard environment that uses synchronous technology) as a replacement for telephone tutorials.
The unit Lychee teaches is a later-year subject that challenges students to apply relevant principles and standards of corporate accounting from a critical viewpoint, and to exercise their emerging skills of professional judgement. It is an elective in both the Bachelor of Business and the Bachelor of Accounting programs and has till now been taught exclusively on campus. One unique feature of its assessment scheme has been that students are assumed to start with a High Distinction and need to commit to maintaining that level of achievement or decide to accept a lesser level as they experience their own constraints to progress.

As a result of a recent decision to externalise the unit, it was necessary to redesign what had been a very successful assessment task, the oral exam. During the action learning cycle, the format of this assessment task was revised to be a semester-long discussion forum into which students would be required to contribute their findings from a literature review and to comment upon the contribution of others around key questions of earnings management. This assessment design was aimed at facilitating an exchange of views and a critique of accounting principles across cultures and genres of expression, however arrangements to link SCU students with a group from a UK University for collaborative literature searches and shared comments were unsuccessful [...] The idea will be followed up later since the benefits of transcultural discussions (Rimmington et al., 2003), are considered as extremely valuable in this subject.

By coincidence, SCU was visited by the AUQA team during the teaching of this unit, and instead of providing the team with paper-based descriptions of the teaching innovation, Lychee checked with the students to see if they may enjoy being part of a quality audit process as they studied various forms of audits in their accounting subject. With the students’ consent, Lychee opened up access to the unit for an online quality review to occur during its live teaching phase.

Meanwhile, the types of sources students were required to investigate included professional magazines, journals, books and a range of international sources. A reference librarian, Grapefruit, was involved within the synchronous chat sessions to advance students’ research skills development and to link them to comprehensive library support services. Markland (2003) confirms that such a collaborative approach has potential to enhance the experience for learners, especially if librarians or information literacy professionals, skilled in accessing and managing information, offer support to academic staff by training and interacting with students in the online teaching environment.
After implementation of this assessment strategy, it was found that the chat sessions conducted in the virtual classroom worked extremely well for the specific purpose they were designed. These real-time sessions were useful for immediate resolution of queries among students, prompt interaction between the class and the reference librarian on two scheduled occasions, and as a presentation option (instead of carrying out oral presentations on the phone). The latter was carried out in a private area online so that students could be marked for their live performance, and archives were available to staff to verify these marks. Some difficulty was encountered in finding a single time for the virtual classroom sessions to suit all students at once, and it was necessary to implement a technical ‘work-around’ when the University’s firewall prevented live chat from directly accessing the library databases …

… A follow-up interview with Grapefruit, the reference librarian, has also confirmed the value of this online role in real time. In the same way that chat sessions in the unit replicated the best of classroom teaching, Grapefruit confirmed the benefits of online consultations as they enhanced the information literacy of remote students using a non-threatening and friendly approach. The ability to observe and encourage students as they hunted for useful information using the range of library databases proved to be extremely rewarding for both students and staff and resulted in more follow-up by students as they referred to the library to complete their assignment activity. The matter of keyboard skills during live chat was of concern to the librarian but has not deterred her from organising an online consultation time this semester. ‘Ask the librarian’ live sessions will be trialled for one hour a week in two school-wide online areas for all students whether on-campus or off-campus. Evaluation will reveal their success, though current indications show a very low volume of traffic in these sessions. Plans to incorporate librarian assistance for particular tasks within specified units are seen as more likely to be effective in engaging students.

Nectarine

… The unit, Sociology of Deviance, is an elective in the Bachelor of Social Science and Bachelor of Laws, as well as being available as an elective for students located overseas. It is taught in alternating modes – one semester on-campus and the next semester in a combination of off-campus and online modes. It generally attracts an enrolment of approximately 30–45 students.

During the action learning process, Nectarine as unit assessor decided to explore strategies for utilising the online mode for an integrated approach to assessing all student cohorts. He explored the possibilities of setting up an asynchronous dialogue among students involving the application of sociological theories to
their views and experiences of deviance. This approach to online facilitation of assessment processes for both on-campus and off-campus students had emerged from student feedback as well as Nectarine’s ongoing collaboration with Teaching and Learning Centre staff through several cycles of reflective quality enhancement. In response to earlier feedback, design of the forum for discussion this time aimed to go beyond the readings, providing an avenue for expression and exploration of multiple perspectives on issues in the syllabus. It was thought that reflective dialogue among students from diverse disciplinary and cultural backgrounds might enrich their understanding of sociological views on deviance in society.

It was not until the unit was evaluated at end of semester 1, 2003 that the action learning set became aware of what actually occurred. It was discovered that unlike other study periods, the enrolment numbers were affected by the process of structural change within the School and in this instance the reduced numbers dictated the modes in which the unit was offered. As a small number of students chose each of the three modes of study, it was decided to offer internal and external modes simultaneously. With a range of demands on his time beyond the semester’s teaching responsibilities, Nectarine decided ‘that discretion was the better part of valour’. Instead of pursuing an online design where the discussion would form a component of the assessment, an unmoderated discussion forum was made commonly available to both cohorts of students.

As previously described with social science students skilled in online interaction (O’Reilly & Newton, 2002) these unmoderated forums were well used by students and in the final action learning meeting to evaluate his assessment design and implementation, Nectarine reflected on what might have been if he’d decided to support both cohorts through a facilitated and graded online discussion as originally proposed. Asynchronous discussion themes were pursued by students according to their own interests and for mutual assistance in ungraded supplementary activities, further confirming a number of the features of online interaction valued by social science students such as:

• value of interacting with peers for shared goals, in a non-competitive situation
• social cohesion
• social constructivism
• disciplinary relevance
• benchmarking
• motivation, confidence and making friends (O’Reilly & Newton, 2001).
Nectarine signalled the wish to continue his reflections on assessment designs and the reconceptualising of ‘online’ in terms of how it might enrich the experiences of both internal and external students. The more general notion of online learning as supplementary to other modes of study proved to be of particular relevance to Nectarine. The cyclic nature of the planning, implementation, reflection and evaluation process of assessment design once again reinforced Nectarine’s motivation to continue pursuing improvements to assessment design in the online learning context. He plans to build on ideas from previous experiences including the collegial exchanges core to the action learning cycle ….

Peach

… The unit Sports and Exercise Psychology II is a later-year unit and requires the development of interview skills including the design of appropriate questions and the development of skilled approaches to asking questions, listening and probing for information. As self-reflective skills are also important in this context, students must keep a personal reflective journal and write a report. In addition, the specific learning outcomes related to the unit content include being able to identify the athlete’s limitation in psychological fitness and designing an appropriate intervention program.

The reflective journal activity was proposed for ongoing completion throughout the semester, though it would simply be marked ‘satisfied requirements’ and not be graded. Evidence of the ongoing journal activity was to be structured using online areas private to each student. The primary assessment task proposed was a report that provided a description of the issue selected for attention, an explanation of the intervention carried out and an evaluation of its effectiveness. By using extracts from the reflective journal, students were expected to match their own observation of the athlete’s personal change with the interview questions they had developed in advance, thus determining the level of effectiveness of their prescribed program of fitness improvement. Other assessment tasks in this unit include a 40% exam and a 20% multiple choice quiz.

On evaluation it was found, as for Nectarine, that the proposed innovations had not been implemented, though for very different reasons. Rather than the extrinsic reasons given by Nectarine (i.e. organisational instability, uncertainty around staff availability and so forth), Peach’s main hesitation about implementing online components of assessment signified an unresolved pedagogical dilemma concerning the authenticity of adopting online assessment in a traditionally interpersonal field such as psychology. Peach questioned how she might justify
use of online communications while at the same time handling students’ (and her own) expectations of face-to-face communication with the client athletes. This question of appropriateness was further highlighted by the fact that the subject was only offered on-campus and there was currently no opportunity for off-campus enrolment. However, in exploring authentic designs for on-campus students undertaking a very interactive unit, Peach mentioned that students had enquired about an online option. Members of the action learning set suggested inviting later-year students to participate in a pilot project where their involvement would contribute to the development of assessment design for online. Peach saw this as something to definitely explore in future.

In a follow-up interview Peach explained that as a final psychology unit in the program, she had always seen it as representing the basis of how graduates may go on to work with their clients. In reflecting on this, she wondered if this belief of online being ‘unlike the real world’ arose from her age and habits of the past rather than being a belief shared by her younger, more Web-savvy students. She decided that ‘an athlete client who I work with over the Web … is a possibility’, and she further expressed excitement about designing innovative assessment processes for students who have their own intrinsic motivation to learn. For example, the graduating seminars held at the end of third year seemed to present an opportunity for integrating online approaches to the assessment task, or at least in the build up towards the final seminar presentation …

Macadamia

… The fifth member of the action learning set was the leader of the online team. Macadamia was a valued member of the set though her role differed significantly from the three academic staff. Nor did she have any direct involvement with students as did Grapefruit, the reference librarian. Macadamia did not take a dedicated timeslot for sharing her perspective at each action learning set meeting but was instrumental in providing technical advice as well as creative ideas in response to each academic as they explored their assessment designs. Macadamia also worked between meetings to implement the technical elements of the assessment designs, so that testing and fine-tuning could be taking place as staff prepared to teach and assess in the following semester. Macadamia has recently been invited to participate in the second action learning set and has enthusiastically agreed to do so. Macadamia provided reflections on the creative process of assessment design and valued being involved at the design stage rather than simply at the technical troubleshooting phase as is usually the case (O’Reilly, 2003, pp. 378–382).
4.3 Issues emerging for assessment design in AL1

From the case studies reported above, there are several issues evident. Each academic began from the position of seeking to adapt their current assessment design for the online environment and explore what the online environment could do to improve on existing limitations, especially for off-campus or mixed cohorts of students:

*Lychee:* I see trying to adapt that to an online environment as a challenge.

*Nectarine:* I’m happy to look at other options … so this might be useful for me to stretch my imagination about the assessment for that subject.

*Peach:* … open to exploring some way of giving students an option in terms of the online assessment component … or assessing some of their activities online …

A hesitation to design assessment for online was immediately evident from the academic (Peach), whose teaching and assessment responsibilities were exclusively for on-campus students. Without the imperative of designing something that students could undertake no matter their place or pace of study, for this academic the need to find a good pedagogical rationale for going online was foremost:

*Peach:* … as long as I’m not doing it just for the sake of it … this is the new way of doing things … I’m still very committed to my educational ethos …

4.3.1 Addressing an identified challenge in assessment

The concept of enhancing quality is inherently a holistic concept. The constraint we experienced in this project was that we could only consider the notion of enhancing quality with respect to one component of the study experience, that of the assessment design. While the literature speaks volumes about the innovations and experiences of teaching and learning online, the fact that assessment design for online has been left in the too-hard basket meant that our design work had to start with existing curriculum design and existing units of study. The action learning task was thus commenced by academics designing online assessment within the constrained context of an already designed and developed curriculum. In the interest of addressing existing challenges in assessment, several distinct areas for improvement were identified in Cycle 1 by members of the AL1 set:

*Lychee:* It’s all about critical evaluation, affirmation of professional judgement and sharing ideas and information they [the students] find. That’s the only thing they are traditionally not good with – it’s all about keeping
everything to yourself. I want to get them out of that, sharing their work among one another, say how you feel with regards to what others have found and what have you come up with … research component needs to facilitate the sharing. That’s my challenge.

**Nectarine:** Within the major [the unit] serves to help people think beyond a more narrow view of the world and ask why … A good unit for critical thinking … want to think about changing the assessment, particularly in terms of the online format, seeing what I can do there that might be a magic and wonderful learning experience for those students.

**Peach:** … that whole diversity opens up in terms of the world and what people know in their situations and how everybody’s situations are unique. I’m interested in that … that piece interests me, yeah. I’m happy to explore that.

**Macadamia:** [I suggest] … take essays down in weight so marks can be given for participation in discussion.

### 4.3.2 Diversity of the student cohort

The desire to encourage a sharing of perspectives amongst a diverse group of students and rewarding them with marks for this effort emerged as the common purpose for designing assessment for online in Cycle 1. In process, this is similar to giving participation marks in class, but the idea here differs in structure in that the students may be distributed geographically or temporally, with members from a number of socio-cultural backgrounds and lifestyle commitments. For example:

**Lychee:** … it’s a second and third year unit so … It’s all about excellence, giving them the opportunity to think about varying perspectives on the standards, they are not all just interpreted the same by everybody … that’s where they ought to be because that’s what happens when they get out the door. It is quite a different approach … I wanted to try and see if I can make that a truly international discussion forum. So I went over and saw [Macadamia] and [an IT colleague] and now I’ve got permission for a colleague in the UK to have access to the email and discussion forum through this semester and that’s all been set up for him now … I’m sitting tight, waiting to hear if someone over there wants to pick up the ball and run with it, be enrolled in the discussion forum where they’ll debate. The idea is that they do it locally and we do it locally and the next phase is that we open it
up to both groups and then finally they synthesise the results and come up with a one-page summary to say how it’s influenced the harmonisation debate within the context of their country.

This hoped-for collaboration was not organised in time for the study period. Broader questions of inclusive assessment designs were not explicitly explored at this time, as the proposed cross-institutional and cross-national designs could not be implemented in this cycle. The kinds of questions to be considered when designing for cross-institutional and cross-national assessment tasks would have to be: the diversity of the learners’ social and educational backgrounds; their gender; the extent to which financial, cultural and institutional pressures bear upon their involvement online and in study overall; and the level of control they feel in the expected requirements of assessment (Brown, 2003).

4.3.3 Approaches to learning

Lychee chose to motivate students’ learning through a marking scheme that acknowledged their existing capabilities and appealed to their competitive drive. He explained his model for notifying his (later-year) students at the start of study period that they were commencing with a grade of Higher Distinction and it was thus their responsibility to maintain that grade (or not, as they saw fit):

_**Lychee:** _What I do is start off by saying they are all HDs and I expect excellence now that they are at this (final) stage of their course. They all start there and what they do will determine whether they stay up there or go down … [in the end] … There are more Distinctions than may usually be given, still a lot of Passes. Often the students know what they want to say, but in discussion with me they figure out how to go about putting it down logically, ‘to be precise and concise’. They are often surprised at what they know – they don’t know what they know – and that’s the challenge to do this online, to negotiate their individual needs.

This quote also indicates an attempt by Lychee to influence the students’ approaches to learning although the result may be arguably termed more of a ‘strategic’ approach than a ‘deep’ approach. The actual approach to learning that students might take was first described by empirical research conducted in the 1970s and 1980s by Marton & Säljö (1976; 1984). This research distinguished between two levels of cognitive engagement with learning – a deep approach and a surface approach. In a deep approach, the student engages at a higher cognitive level, seeking to make meaning and apply knowledge to their context of learning. When taking a surface approach the student will be engaging at a lower level, seeking only to remember facts or a body of knowledge. In later research the addition of a third approach
has been described – the strategic approach (Boud, 1995a; Gibbs, 1994), where students try to maximise their grades by determining what will impress the assessor (Greer, 2001).

Similarly Bloom et al.’s (1956 in Greer, 2001) taxonomy for the cognitive domain also outlines three approaches:

- **utilising**, where students will only learn what they think they need to pass, thus adopting a surface approach
- **internalising**, where students read widely and attempt to make connections in their understanding
- **achieving**, where the student aims for the highest grade they can possibly achieve by adopting a range of cognitive strategies in response to the perceived criteria.

So, as noted by Biggs (1999) it is ‘what the student does’ that drives learning, not so much what the lecturer does. As the quote above from Lychee also illustrates, another aspect of student learning that academics attempt to influence is the autonomy that we expect is being cultivated by the student, particularly in later years of study. As each of the participants in this cycle was working with units for later-year students, it seemed that they envisaged stimulating students through purposeful assessment designs such that students’ approaches to learning would be actively engaged and optimised.

Whatever learning approach that students take, Ramsden (1992) notes that they are influenced by a range of factors, from their existing knowledge and values prior to commencing their study, through to the quality and appeal of the teaching they experience. The most powerful impact upon students’ learning, however, is the assessment design with which they must engage. So as Greer (2001, p.128) mentions, ‘It is pointless developing a curriculum that encourages a deep approach to learning if the assessment encourages students to adopt a surface approach’. Following the epiphany that I had experienced during my Masters project, my educational design practice had subsequently been about ensuring the design of appropriate assessment and maintaining the constructive alignment overall. The importance of my input in assisting academics to consider these issues continued through this cycle as the AL1 set members grappled with the question of designing a meaningful online engagement for students within their own disciplinary contexts.

The approach to learning known as ‘constructivism’ is particularly focused on ‘what the student does’ to develop understanding and knowledge in both pure and applied contexts. Furthermore ‘social constructivism’ refers to what the student does in the negotiation of meaning and understanding within an interactive and collective approach to learning (Kanuka & Anderson, 1999a). Again, these theoretical perspectives challenged the AL set to consider the design of assessment that builds in capacity for higher order thinking and communication amongst peers as well as with the teacher. It was evident from the
tendency in this cycle towards creating discussion forums that dialogue amongst peers and with the academics themselves was considered a benefit of the online medium. Although two participants designed these discussion activities as formative processes to provoke engagement and a diversity of discourse, they both reflected on the value of developing a structured way of grading them in future.

4.3.4 Methods

The question of which online assessment method to use in each of these cases was derived from three key aspects: the identified problem; the level of the subject (later year); and the recognition of previously successful strategies in other delivery modes, such as classroom-based assessment designs. As suggested by Brown (2003) the online environment provides an opportunity for academics to diversify their methods of assessment whilst ensuring that a fit-for-purpose is retained. The assessment methods that came about from Cycle 1 were not as diverse as those discovered in the preliminary survey and listed in Chapter 2, but did however include three types of assessment described previously under the category of ‘Discussion’. The first of these also illustrated what I termed ‘Authentic’ in Chapter 2 (Herrington & Herrington, 1998; Herrington, Oliver & Reeves, 2003):

1. Online forum with librarian’s input to inform a literature search, and discussion of emerging issues amongst the full off-campus cohort
2. Reflective dialogue by the full blended cohort (formative)
3. Reflective journal for on-campus students (formative).

These were practical in their design and addressed the ‘problems to be solved’. However, without previous experience of the online medium for supporting assessment, one of the members of AL1 set, Peach, felt tentative about the authenticity of their assessment design. Another, Nectarine, was preoccupied with the impacts of organisational change. As a result of these additional considerations, both Peach and Nectarine avoided allocating marks to the online discussion tasks they had designed. Towards the end of the cycle, both reflected on positive outcomes that encouraged them to consider allocating marks in future. Overall they agreed that the tasks demonstrated a fitness-for-purpose where assessable discourse or interaction could be designed for online in future:

*Nectarine*: I think on reflection I’d probably say that given those students who used them [online forums for reflective dialogue] and if they’d actually been online [both on-campus and off-campus students], then we could’ve perhaps had a significant … a greater critical mass to work with … so I’ve gotta look at that … I still think there’s lots of potential here.


**Peach:** [with reference to past experience in a first year subject] … What I did online [in the previous semester] was to start up discussions … It actually got so big and it wasn’t even assessed, but because the group is so big the fact that maybe 10 or 11 of them really got into it, it may have something to do with the numbers, not just that it happened… so I’ll think about it [making discussion assessable] …

I tell you there were students [this semester] who asked if they could do it [graded task] online … I’m more than happy to try that …

On the other hand, Lychee, who did design online assessment, was always confident that incorporating the reference librarian into the unit would up-skill students in readiness for their professional practice as accountants on graduation. He reported that their engaged discussion with each other had indeed led to the broadening of the perspectives that students held. This had been his aim from the outset.

It was interesting for me that the reflections of both academics who designed formative assessments was a positive one, not only from their own observations of how things had worked out, but they also seemed to be influenced by the success of Lychee. It was much easier for me, in my educational design role, to encourage them to try more innovation in future in the context of Lychee’s successful example which that they had observed in detail during the development process. My perception of this emerging process to engage set members to inspire each other was further reinforced by Jacobsen’s (2000, p. 456) findings that ‘one characteristic that all early adopters appeared to have in common was a willingness to share their knowledge and expertise in some way to encourage further adoption of technology by peers.’

### 4.4 Features of online assessment

The eventual design of assessments in this cycle came to showcase a few of the features specific to the online environment. The following discussion covers a number of the issues, in particular:

- the blended cohort
- authentic assessment
- flexibility
- synthesis of formative and summative assessments
- archives
- screen-based marking.
4.4.1 Blended cohort

A key benefit reported by each of the academics was the capability of the online environment to collect all students, whether on-campus or off-campus, into a single ‘blended’ cohort. In this way, not only is it manageable and efficient to broadcast announcements and notices of import to all students at once, but it is also facilitates student communication with each other regardless of their location. In particular Nectarine provided an unmoderated discussion forum to encourage development of a community of learners and alleviate the sense of isolation commonly experienced by off-campus learners.

In terms of assessment, no longer is it necessary to design assessment tasks for completion by off-campus students only as individuals. It became clear to all AL members that it is now possible to include all students in assessable group work and non-assessable formative learning activities online. Lychee suggested that in addition to the structure of assessment for a blended cohort, the entire teaching approach, including student consultation time, could be designed in this way:

Lychee: … perhaps make your consultation time, the same time when you have the virtual classroom open, so you’re not adding extra hours on to your own load. You are available to all students on campus and off campus – some of them may not be able to attend at some time… that way you’re controlling your time and you’re sending a message ‘hey I’m not here 24 hours a day, this is when you can get me’, so if you have consultation times on your door, make the online time the same … in the end I shied away from throwing it open … I said if I was doing this class and it’s been timetabled, then that’s what you do, you come as scheduled if you can. If they can’t then … because I was trying to replicate what happens in class, I thought I should really do the same thing in terms of scheduling a virtual classroom tutorial.

Grapefruit, the reference librarian, who generally does not have the benefit of teaching the same group for several consecutive weeks, found another feature of managing a blended cohort through the online environment:

Grapefruit: … you can see who’s there and you can see who hasn’t spoken and you can … address people by name which I certainly find hard to do for a new group … you can cheat, you have the names there and you can ask directly ‘what do you think Joe’, or ‘thanks Carol’ or whatever and draw people in and you can see people are there and not saying anything so without being confronting you can ask for their input by name, that’s handy…
4.4.2 Authentic assessment

As briefly mentioned in Chapter 2, much of the literature on authentic assessment describes it as performance-based and that which assesses students in a practical real-world context. Herrington and Herrington (1998, pp. 313–318) list seven criteria by which to determine whether an assessment is authentic:

1. fidelity of context
2. effective performers with acquired knowledge and polished performances
3. significant student time and effort in collaboration with others
4. complex, ill-structured challenges requiring judgment and a full array of tasks
5. assessment seamlessly integrated in a continuum of learning activities
6. multiple indicators of learning
7. validity and reliability with appropriate criteria for scoring varied outputs.

The importance of authentic assessment design is highlighted by the fact that no online design was developed just for its own sake. In keeping with Boud’s (1995a, p.36) premise that ‘assessment for accreditation or certification cannot be separated from assessment for learning’, the authenticity of the assessment tasks discussed in this cycle was indicative of a time of change, where academics were considering change for the sake of improving current practice through building on opportunities afforded by the technology whilst maintaining learning as their central priority. Reasons given for designing assessment for online rested upon the initial problem that academics wished to address.

In keeping with the methods flagged earlier in this chapter, Lychee used the affordances of online to engage a blended cohort of students in direct dialogue with the reference librarian for the explicit purpose of supporting their research task. As final-year students it had previously been an issue that not all students would graduate with a good grasp of database searching and information literacy skills. Furthermore, this achievement was self-evident to students, thus meeting all seven of the criteria described by Herrington & Herrington (1998):

Lychee: … about half way through the semester, with a bit of prompting, but only gentle prompting, they finally got into organising virtual chat sessions themselves to discuss the case studies … and they had some fantastic discussions among themselves [10 students]… I was excited about the quality of the feedback … it is very much about that they feel like they’ve learnt lots to be able to pursue areas of interest to them and even learnt some professional development skills, so yeah, I’m really happy with those units, very happy… so
I’d like to thank you all for your input and encouragement and say that it’s been well worth the effort…

A contrasting case was the choice by Peach not to design for online as her student group were all on-campus and their major assessment task required face-to-face interviews with athlete-clients. This academic conceded there may be a good reason to use online communication in future for the flexibility it could bring to the client-student connection, something which is also increasingly occurring in the world of professional sport.

4.4.3 Flexibility

Issues relating to flexible learning also arose through this cycle. The challenge to teach in accordance with the approved syllabus while at the same time utilising the affordances of online in terms of a just-in-time decision-making tool during the teaching period was apparent in the decisions made by Lychee. In terms of resources, this academic is very flexible in his approach:

Lychee: … we’re flexible with what we do, negotiating with the students what it is we cover. Well I’ve sort of got a pool of case studies but they’re a back-up. If students want to pursue something different, well we’re quite flexible to go there … One of things that [named colleague] and I have had some preliminary discussions about is writing this up and of course [he] is doing something similar and the point of view he’ll be coming at it from is that he’ll be taking a blank page approach to the unit and starting with very little, just letting it go wherever it ends up. While there’s certainly more structure to my units than that, where we went with some things is way different to where I thought we might have gone. That was fine and the students have been fine with adapting to that and running with it as well… they’ve been very keen participants.

In terms of learning activities, this same academic was again able to be flexible given the specific synchronous features of the online environment:

… and another final anecdote on the library thing which is just something that happened on the spur of the moment during a virtual classroom session two weeks ago … the presentation was on an issue about financial reporting and I’d read an article the day before in the Financial Review which I had a copy of and had taken home, ’cause I was doing this one from home at night and I had cause to refer the students to that article and had given them the reference
and later on in the session I thought ‘I’ll try this’ so I said to them ‘let’s have a little break and in 10 minutes let’s come back and in that time I want you to go to the database you might use to actually access this article…’ … Now there’s no way in the world I could do that in a face-to-face class. They came back with a synthesis and an idea, so those sort of things are practical and possible … they are really useful to us and so I mean you can provide the article to students but better than that, you can tell them to go and find it and read it now and they can … just have a 10 minute break so they’re doing something different and it breaks up what is happening and then they can come back and we can talk about what they’ve been reading and thinking.

This strategy has also been termed ‘guided independent learning’ (Moodie, 1998 in Postle et al., 1999) and in this case provides choice of study pathway and progress, while requiring online connectivity. However, it seems flexibility does not suit everybody:

*Lychee:* One of the things mentioned in the feedback from one of the students was that they didn’t like the idea of flexibility, they wanted to know exactly what they had to do when it was due and … ‘just tell me what I have to do and I’ll do it’ and they’ve really struggled with the notion of having to take responsibility for that whereas the overwhelming majority of them think that’s fantastic and they’ve really enjoyed that, but it’s a struggle at first because they’re not used to that, so it does take some adjusting to, but I think the sooner you get them to do that the better.

With respect to assessment, flexibility relates primarily to choice and format and while not yet designing graded assessments, Nectarine and Peach were nevertheless trying to accommodate a variety of students’ circumstances (McAlpine & Higgison, 2000). Nectarine developed the ungraded forum for sharing perspectives on the issues with the blended cohort, and Peach designed a reflective journal for on-campus students. Both formative tasks were an integral part of the learning activities, and thus were also constructively aligned to the unit as a whole.

### 4.4.4 Blending formative and summative assessment

The potential for blending formative with summative assessment processes was flagged in Section 3.6.2 and was now in evidence in Cycle 1. Two of three members in this AL1 set did not design assessment for online but instead chose to test the online learning activities as ungraded. In the end, this enabled them to see the benefits of online and the potential for
blending formative activities with summative assessments in a way that is not so readily achieved in traditional teaching, particularly in distance education:

*Lychee:* What I think is ‘OK, how can that experience be enhanced by the online delivery mechanism?’ For example before they go and do their personal interaction, provide an opportunity for them to compare different ways they’re going to do that, if there’s not a set way to do it. So they can each benefit from seeing ‘OK this is what this person’s thinking of doing, this is this person’s design, that person’s design’, so they get a bit of an opportunity to cherry pick from each other’s work to perhaps improve what they’ve planned themselves. Then once they’ve done it, they can see what the results are and compare the results, which usually doesn’t happen. Usually the student gets the assignment back and no one else benefits from seeing an excellent one. Feedback like that is something students really enjoy. I tell you, there’s benefit of seeing the different ways that people interpret the same information because they hadn’t thought about it in that perspective and they can then go and resubmit or amend what they’ve done. They really benefit from that and that’s a collaborative learning approach so I don’t think you should necessarily take a key component and figure how to get that online, you don’t have to … that’s a key element … but what they might do before and after might give you somewhere to use that environment to share that information, so people can be aware of the differences that exist and the way that it can be done.

I noticed this same principle in one of the examples provided on Chapter 2 where another Southern Cross academic described the postgraduate case of students not only negotiating their assessment but also then being able to submit a number of iterations of their work for formative feedback. Lychee was taking this one step further and establishing that students could view the iterations of their peers. This challenge to normal conventions of testing and assessment, both formative and summative, may be constrained in scalability, but it is seen here as offering students a distinct advantage over the single time class-based or paper-based submissions. As Astin et al. (n.d., p. 1) succinctly put it ‘improvement is best fostered when assessment entails a linked series of activities undertaken over time’.

### 4.4.5 Providing timely and constructive feedback

Following from the innovation of blending formative learning activities and summative assessment tasks is the issue of providing timely and constructive feedback to ensure that students are sufficiently informed about their progress. Feedback is said to provide
the scaffolding for students to gradually develop their understanding as well as being a strategy for identifying gaps and motivating learners (Thorpe, 1998). The discussion of this is further taken up under the issue of marking in Section 4.4.7.

Designing this kind of interrelationship between formative learning activities and the summative assessment tasks represents the scaffolding that intentionally supports higher-order thinking (McLoughlin et al., 2000). The feedback students receive along the way is a valuable indicator of their progressive understanding of the concepts, theories and practices they are being taught. This includes the feedback they might receive from each other as suggested by Lychee in the quote above. The potential learning value of formative assessment tasks should be weighed up in the overall teaching approach (Morgan et al., 2004) as well as the impact on staff workload which is further discussed in Section 4.5.1. There is potential to automate feedback to students as they complete activities in preparation for assignment submission (Buchanan, 1998–99).

### 4.4.6 Availability of online archives

In addition to the point made earlier by Grapefruit that shows the value of having the students' names in text during a live online conference session (see Section 4.4.1), it is also a handy feature of the online medium that the work submitted by students, whether in the discussion forums, the virtual classrooms or simply in the assignment drop box/gradebook, are all stored digitally and can be archived for later inspection. But perhaps of greater value is that these archives can be the source of stimulus for student reflection on the issues discussed and the learning that took place in the course of study:

**Lychee:** What I’ve done is set up a group for each person so that it’s confidential between them and me and once everyone’s had their justification of what they’ve done, well I’ve set up the group where they can all access those comments and see how other people dealt with those same issues.

**Nectarine:** What I thought [in a future unit] … is if I get a good cohort in this online group, to get them to interview maybe one or two people and also – going back to that self-audit sort of stuff – to review their own experience of the notions of work. What are their experiences of work? What do they view the place of work in life? What changes have they seen in work practices? What impact have these had on them? How can they argue for and against… so I’ll give them a number of things to consider. Then the idea would be to present their findings … in the online discussion forum. Then they’ll all have access to those findings and then … they could … produce
individually an assignment that incorporates an interpretation of the overall findings of the group.

In this way, students can deepen their understanding of the main points discussed and, by taking account of the varying perspectives presented, they can also engage in the ‘reflective conversation with the situation’ that Schön (1983) describes.

### 4.4.7 Screen-based marking

Set members made mention of screen-based marking at the end of this cycle, so although there was no data to validate any strengths and weaknesses of this feature at this point, the promise for it to happen in the future did arise, not only for the potential to reduce turn-around time and provide students with timely feedback, but also for the potential to reduce the consumption of paper:

*Nectarine:* … one of the problems with Singapore students is that in the past it takes something like two weeks for their stuff … to arrive to me for marking, so I’m actually going to [ask that they] submit their assignments electronically. I’ll mark them on screen and I’ll return them and see how that goes. I’ve only got a small group of about 25 students so I’ll have a bit of a play around with that … I’ll do some more training, I’ll still do some rethinking but certainly I think probably the thing I’m learning from [Lychee’s] stuff is that you’re moving progressively away from a whole lot of paper-based stuff and that’s where I want to head.

The benefit of working with a group was again evident in these comments from Nectarine. It is when academics see their peers actually making effective changes to their practices that the power of this lesson far outweighs the suggestions I might make as educational designer. The difference is in seeing the evidence for themselves rather than working in abstract concepts. Nectarine also saw techniques and strategies for screen-based marking as a desirable focus for his professional development as this quote from O’Reilly (2003, p. 380) demonstrates:

Though Nectarine is writing and publishing in his own discipline area and thus has not yet written of his experience in this instance, his interest in following-up on this action learning was expressed in the form of identifying his own staff development needs – that of enrolling in a forthcoming workshop to extend his use of the electronic procedures for assignment submission by overseas students, improving his skills to mark these submissions on-screen.
and gaining more experience in the virtual classroom for future adoption with on-campus and off-campus cohorts simultaneously.

At that time, academics across the University were also known to have developed their own small tutorials for marking on-screen, either using the features of Word™, or in one case (in the IT school) through full development of a software tool to assist in the marking and feedback process for large cohorts who were submitting their work (text and graphics) online. Reference to these was made for members of the AL1 set in Cycle 1 for their own information to follow up as needed.

4.5 Challenging conditions to grow assessment for online

In addition to the strengths of online assessment explored in this cycle, a few challenges also became clear, not the least of which was the hesitation some felt about trying something new of such significance as assessment online. The specific challenges that academics face when designing assessment for online include the general conditions of assessment such as being mindful of marking loads when designing engaging and authentic assessment tasks with choices for students; and efficiently and effectively supporting the development of students’ academic skills as well as their knowledge and understanding of the subject area.

4.5.1 Staff workload

The question of staff workload emerged in this instance as a driving force for the design of assessment for online. Set members sought to design meaningful tasks which could make use of a common delivery method for all students whether enrolled for on-campus or off-campus study, rather than create a third method of ‘online’ as had been emerging across the University at the start of this cycle. Workload issues arose at this time for set members. Peach revealed how her previous experience had influenced her decision in this instance to stay clear of designing an online reflective journal for grading:

Peach [of a previously taught first year unit]: I was spending half my evening in there just keeping the discussion moving and throwing more into it, so I ended up bringing the tutors in and that was quite good. I thought well … it probably has got a place in terms of assessment possibly … but even what I did [the formative online discussion forum] is pretty big to me.

An additional question arose about students’ generic skills and the consequences of this for workloads:
Peach: I still question whether I should be taking on this issue of developing study skills… where is the library, how do you get into the journals and all this sort of stuff. Should I be dealing with that? … [or] should I be letting go of some of that hand holding and just getting into my stuff or should I be supportive of that?

Nectarine [in response to Peach]: I guess the imperatives are on us to subtly operate to try and reduce the pressure … it’s about tackling those issues that are bothering the students that may be getting in the way of focusing on the subject matter. I don’t worry about the time spent on supporting these skills, it is essential … and once you have tackled that stuff about how to perform academically they start to relax and get into the content.

Interestingly some experienced academics such as Nectarine, accepted this situation that required their input to students’ generic skills development even though we were concerning ourselves with the design of later-year units. These reports by academics are revealing of the times since the issue of generic skills really should be something that is attended to in first year. Recently the University has engaged in an institution-wide project to embed graduate attributes into all undergraduate programs. The expectation is that better scaffolding will be achieved with foundation generic skills being established in first year.

On the other hand, Lychee maintained his positive approach to designing his teaching to make best use of the online environment in all its features. Together with his enthusiasm for encouraging colleagues in this regard, his views on workload proved to be very positive in contrast with a general wariness, which he proactively sought to challenge:

Lychee: … one final thing is that I’m firmly of the view that this online approach in my experience doesn’t involve any more or less work than it did in the face-to-face mode …

4.5.2 Maintaining standards

Maintaining standards arose as another concern. Specifically, academics wanted to be able to do what they could do face-to-face and perhaps design some innovation that represented an enhancement. They were keen to ensure that their academic standards would not be compromised in any way and that their students would receive at least as good a learning experience as they would in any other mode of study and assessment. All the while, the ‘can-do’ attitude of Lychee was at play, as shown for example by these contrasting comments on the issue of accessing databases through the virtual classroom:
*Grapefruit:* That software was fairly inadequate for what I would like to do, given that I couldn’t even get into what we take to be internally available sites that we use on campus. That was a bit disappointing.

*Lychee:* One of the interesting things the students did in those sessions … they toggled from the classroom to the library site [the technical workaround] … I have to say that from my point of view as a lecturer what the students have come up with in their literature searches … has been really very very good, and far better than what I’ve had in face-to-face experiences of trying to get students to do a literature search on something… what they’ve found and the way they’ve presented their findings is much much better.

Nectarine, who was mostly feeling constrained by the institutional context around him, perceived the students as ‘customers’ which was very revealing of his overall approach to protecting standards. He was concerned with balancing ‘customer satisfaction’ and providing the educational ticket they were paying for, with preserving the academic rigour and standards of his teaching:

*Nectarine:* I didn’t actually end up doing anything magic and wonderful, which is what I’d meant to do … I think we have to reconceptualise what online means as well… because we tend to conceptualise it as being a third mode – the internal, external and online – and I think we need to think about … maybe online is not the right name, maybe there’s some other name for it but somehow we need to build it in more and certainly … in the end internal students say ‘look I don’t want to do this stuff, I’ve paid my money I expect you in front of me to teach, and that’s what I want’ and they’re the customers so it’s a bit difficult to mount an argument against that, so anyway I’ll play around with it…

The approaches to maintaining standards adopted by Lychee and Nectarine were polar opposites. On the one hand, as illustrated in the quote above, Nectarine felt somewhat constrained by the expectations of students and felt it risky to challenge these, whilst Lychee consciously designed the unit information to challenge students’ expectations and thus make an impression with respect to what was different and unique about the learning they were embarking upon:

*Lychee:* I wanted students to recognise that it was different so that’s why it says here ‘this unit is offered online, there’s no printed materials, no exam, this is all about excellence … when you read this go and do this
… when you’ve done that give me a summary of what you’ve done and when I get that, I’ll give you the unit statement which includes the assessment requirements’. So, different right from the word go! Because rather than come into a unit and as per expectations they go to the unit statement and check out the assessment requirements and they don’t care about the unit, so even if you put something different in there, it doesn’t register. So, this way being able to set the unit up so that it is unique I think that’s a really good thing because they get so used to skipping through everything just to get to a point, they don’t wonder what’s along the way, so if every one can be a little bit different they are going to notice that.

4.5.3 Accountability and quality

In the design and implementation of assessment, each academic is expected to comply with the university’s assessment policy. In addition to this, both Lychee (accounting) and Peach (psychology) were from discipline areas that required external accreditation by professional bodies. As such their syllabus and assessment design were required to conform not only to University policy and guidelines but also to that of the relevant accrediting bodies. Even so, Lychee was prepared to challenge the fixed requirements of his discipline:

Lychee: … built into the agreement we are supposed to go there [to offshore locations] and give twelve hours’ delivery and that’s for professional accreditation and I said in principle I’m not going. I’m convinced that I can give the 12 hours through the virtual classroom and I said I think that what we ought to do is say to the professional bodies that we’re going to trial this for this unit, see how it goes and we can give them access to it or whatever and see how they go. I think that’s what I’m going to do. It will be interesting to see the professional bodies’ response …

As it happened, the University was also preparing at that time for an external quality review by the Australian Universities Quality Agency (AUQA). This procedure was mentioned in Chapter 2 as an element of quality assurance in the sector. Since the unit designed by Lychee was known by his colleagues to be unique and cutting edge, it was selected as an exemplar for review by the AUQA panel due to visit Southern Cross. Not dissuaded from his pioneering approach even whilst being scrutinised, Lychee agreed to showcase his unit under the condition that the review panel access it through its intended format, online. Furthermore, Lychee strategically used this as another authentic learning activity for his students:
Lychee: ... they’ve all [AUQA panel members] got access to the unit to preview it as part of the quality review process ... interestingly one of our discussion forums is for the students whenever they come across a different type of audit, they need to put it on the discussion forum, so I said ‘now this is where I’d like you to post something about the quality audit on the relevant discussion forum’ (laughs)…

Evaluation feedback obtained from students is another part of the quality assurance process inherent in the design and implementation of assessment. True to form, Lychee gathered this data on completion of the semester and of course showed a willingness to address the shortcomings reported:

Lychee: The unit experience survey results are back and they are very positive. There are one or two negative comments in there about timing of virtual classes, the difference between the response rate and the way the virtual class was used by students as opposed to the discussion forum and that’s OK and those things can be taken on board…

Sadly, the other two participants were not curious about collecting student feedback on their assessment design. Perhaps Lychee was most interested in what students thought of his innovations, while the others had not proceeded with new designs for assessment and were thus less concerned with gathering feedback on their designs for formative online activities. The evaluation of teaching and learning activities, including assessment, remains an important way for understanding the effectiveness of my educational design practice and I noted that perhaps more encouragement may be needed in future to ensure that set members followed through on gathering the feedback data for us to review.

4.6 First harvest

At the conclusion of this first AL cycle, several key themes are worthy of noting. Firstly, while the academic set members had demonstrated their preparedness to explore questions of designing assessment for online, there were several factors constraining their actual designs. In one case it was the implications of current organisational change and in another it was a present commitment to their own PhD completion. Only one set member was immediately ready, able and willing to implement an innovation into his assessment design, and his example is the one that demonstrates a clear progression in terms of making use of the online environment to engage the affordances, and enhance the learning experience. This participant was a crucial member of the AL1 set as he shared his past experiences, and transmitted his enthusiasm and hopes for the future with all members of the set:
Lychee: If you think of the virtual classroom as being just like a big room (and that’s what it is), you can have as much control as you want or you can let go and just butt in when you feel a need to, or anywhere in between … so whether you use the whiteboard or whether you just let the chat go, or whether you load slides in, it’s just like you would in a classroom. If you want to come in all prepared you can, if you want to let it happen, then let it happen.

As the meetings continued, members became more aware of their own unexpected learning and of other perspectives for exploring their approaches to design of online assessment. Lychee surprised himself through the realisation that the spontaneity and responsiveness of classroom teaching was readily achievable through the use of synchronous technologies. The virtual classroom became a significant focus for him and his interest in sharing experiences went beyond this AL set. Not only did he pursue the staff development interests that emerged at this time:

Lychee: I am embarking on something with [production staff] in a series of sessions ... to promote from a lecturer’s point of view, the practical aspects of the virtual classroom …

… but he has also gone on to become an international leader in the implementation of this kind of synchronous technology in teaching. He has been invited by the software company, Elluminate™, to provide a pedagogical perspective in their global demonstrations. In 2006 Lychee received a Vice-Chancellor’s award for service to students and staff via good teaching using Elluminate™ (which has in the meantime been adopted as a plug-in to the Blackboard environment thanks largely to Lychee’s dedication and persistence). In 2007 this same academic received national recognition through a Carrick Citation for Excellence in Teaching. This is a competitive national award conferred by the Carrick Institute for Learning and Teaching in Higher Education, which not only administers the Learning and Teaching Performance Fund (as mentioned in Chapter 1) but also issues grants, citations, and awards for teaching excellence across the Australian higher education sector.

At the time of Cycle 1, however, the online environment in which we were designing was in the process of being prepared for an upgrade (from Blackboard version 4.1 to version 6.0). We heard from both the service providers – the technical staff and liaison librarian, that certain features would be possible to use in the future:

Grapefruit: … what the library is looking at is to develop an e-Reserve area, so digital book chapters etc can be put into this for students to access … there’s scanning and copyright to sort out… this will come as quickly as people demand it … it is a bit labour intensive to get it up but again if people want it, it can be done…
Macadamia: … we’ve been getting 30-day evaluation licences and we’re testing content, migrating content … and I’m only now just getting to the point where I’m testing some of the functionality inside the unit … at the moment the server is up and down, but we expect to have that up and running and have people in there to start developing … I need to master it first but it won’t be long …

The additional features Macadamia mentioned that were forthcoming included options for modifying the entry point and better ways of handling groups, both of which could be handy for these three academics. All in all, the concluding comments seemed to indicate a good experience for set members, and especially Lychee’s inspirational role for the others:

Lychee: … in a word, fantastic … and in a few more words, everything that we talked about doing (and I have to say, and then some) … has been used and used successfully, so I have very few reservations and quite a few more ideas and understandings about the value of using these tools, especially the virtual classroom. I’m a big fan … I tried a variety of things… and the best indication of how useful and successful it has been from the students’ point of view is that in my [named] unit where I had that big case study that was the oral exam – in the end I just asked them to … submit it … in a virtual classroom presentation… so they were happy with that …

Nectarine: I didn’t end up doing anything magic and wonderful, which is what I’d meant to do … but I think certainly I’m keen to do Lychee’s workshop [on virtual classroom facilitation]. I haven’t actually used that [before].

Peach: I suppose I reached a bit of a conflict about my unit and the online environment too, because… it’s about communication which is actually verbal … real time … and I assume it does work in [the online] context but … it’s your [Lychee’s] enthusiasm that comes across, for example in my unit if I engendered that much energy, it would run [online].

4.7 Reflections from the garden bench

On commencement of Cycle 1 I took the time to explain the action learning process to set members. The background readings I provided were meant as a baseline orientation to the techniques and procedures that we would be adopting. Fundamental to action learning is the value that we agree to place upon our time together and the space we allow each other
for reflection. The foremost insight I gained in this instance was in terms of the extent to which staff will inherently reflect upon their practice. I had not known how much reflection I could expect to occur, without having to proactively ensure that this was taking place both during and between sessions. After the first session, I witnessed Lychee’s independent reflection and his capacity for turning over a problem in his mind till he came up with a possible solution. He had immediately responded to my suggestion to follow up with me between sessions if something occurred for us to discuss. His phone call to me the day after our first AL1 session gave me reason to imagine that all set members may to some extent take a similar approach to critical reflection, but not necessarily making contact to discuss their ideas. This assumption was not however supported by evidence and thus, at the end of Cycle 1 I was aware that most set members were preoccupied with many other concerns. The action learning sessions were the only time they were able to focus fully on the question of assessment design and the creative process of using colleagues outside their own disciplines to seed innovation. I was thus left wondering about the differential capacity of staff to engage in reflection and to contribute these reflections to the action learning set. Were there perhaps some who were not able to reflect without an external stimulus to get them started, I wondered.

Overall, I thought this aspect of reflection needed much more attention in future cycles. Key to my concern was Grundy’s (1982, p. 34) warning to guard against manipulation of the group by ensuring a ‘reflective deliberation … through discourse’. So concerned had I been to facilitate a symmetrical communication where I did not dominate the sessions in Cycle 1, I fell quite short of prompting the reflection I was aiming for. Only once did I pose reflective questions for consideration between meetings and that was when I circulated the transcript from the second meeting. I realised that if I hoped to be planting the seeds of change in academic staff, then promoting reflection on practice outside of set meetings was going to be important. The literature on critical thinking and reflection on practice was helpful in this regard. If I was to truly apply a practical action research methodology, then I needed to take an approach in the action learning sets that sought ‘to improve practice through the application of the personal wisdom of the participants’ by which they must be able to reflect upon ‘knowledge, experience and intuition’ (Grundy, 1982, pp. 29–30). Perhaps in future cycles, the time could also be more equitably shared between all members and not just among academic staff. As a consequence the sessions would need to be longer so that each member might have their turn for reflective discussion. As noted in the literature, sessions should be for the explicit benefit of each member who should have their own focus (Weinstein, 1995). My challenge was thus not to shy away from assisting in this process of self-reflection and reasoning but to handle my role with confidence and a sense of purpose, the benefits of which would be relevant way beyond the confines of this research.
In terms of this bigger picture I also wondered, were the current organisational influences so disruptive as to act against the creative process and prevent academics from reflecting upon their design ideas? External forces did impact upon individuals in Cycle 1, not only in terms of institutional changes that made creative design possibilities too uncertain, but also in one case through a pre-existing commitment to complete her doctoral research whilst working full-time. Both these influences seemed to constrain the freedom to reflect creatively. However, the benefit of our action learning sessions meant that for at least one hour each time we met, our minds were unfettered by external obstacles and there was a collective sense of possibilities to work towards.

Inclusion of the ‘service providers’ proved to be critical to the process of breaking down old habits of educational design. It seemed as if these seeds were very ready for the planting as both the technical and library staff became proactively involved in the design of the online assessments. The library staff continued their involvement into the semester to provide tailored support to students. Furthermore, in my quest to find a new approach to educational design practice that was based upon a group process or a collaborative development, I saw the potential for members of the set other than myself to inspire each other and to establish an accountability that would normally be part of my one-to-one relationship with subject matter experts. I believe that the cross-fertilisation of ideas and inspiration in this cycle was significantly enhanced by Lychee’s initiative, productivity and his overtly optimistic manner. He is what I’d call a ‘seed tree’ dropping his own ideas as seeds for others to take up and grow in their own contexts. My typical approach to educational design, working with subject matter experts one at a time was definitely enriched by the collaborative approach that we took in this cycle.

The fundamental achievement in Cycle 1 pertaining to my research question was that the educational design input provided by set members to each other was evidently effective in promoting new ideas and decisions for change of practice. Unlike the usual situation, my educational design input was one of several being considered from within a cross-disciplinary (or was it transdisciplinary?) context. The benefits of this unusual opportunity for dialogue across disciplinary boundaries was not only rewarding for me to see, but also drew comment from set members:

*Lychee:* I think it’s great getting the diversity of input

*Nectarine:* A cross-fertilisation of ideas, works well.

I thus began to preliminary work of establishing a second action learning set (AL2) to see if we might progress with the benefits of cross-disciplinary assessment design with the inclusion of librarians and technical staff. Herein lies the genesis of this chapter’s opening quote, ‘One generation plants the trees, another gets the shade’, illustrating that having tried out my idea
of working collaboratively with a team of academics and support staff to design assessment for online in Cycle 1, the benefits were most certainly there to be further cultivated in the next cycle. My resolve became much stronger that selecting participants from the online workshops was a good way to find early adopters, and that bringing them together to discuss their online assessment design would be likely to result in seeding change, if not immediately, then at some time in the future. Commencing Cycle 2 was now the next step.
Chapter 5
The elements conspire – Cycle 2

The season of failure is the best time for sowing the seeds of success

Paramahansa Yogananda (1893–1952)
5.0 **The elements conspire – Cycle 2**

This chapter reports on the second AL cycle and seeding its membership from two preceding staff development workshops. I report the outcomes of a collaborative approach to designing assessment for online as well as reflections on lessons learnt. Within the context of organisational factors that impacted significantly on the whole of this cycle, I also explore questions of selecting suitable members for the AL sets and the impact of their inherent professionalism. The activities reported in this chapter are also depicted in Figure 1.1.

5.1 **Collecting seeds between cycles of planting**

Before completion of the first AL cycle of design, and development and delivery of assessment for online, it was important to commence another staff development workshop, not only to maintain relevant development opportunities for academics in general, but also to find potential participants for the next AL cycle that I planned to commence soon. As it happened, two workshops were held before the AL2 cycle commenced and the reasons for this will be explained in the following sections.

5.1.1 **Description of Workshop 2**

Based on the feedback for the first workshop, the second full workshop ran over a five-week period with a revised schedule. As will be remembered, a significant focus of the feedback given on Workshop 1 was the quality and quantity of available resources and the concomitant lack of time to engage with these resources or to complete online activities. Another key factor emerging from that workshop and previous pilot workshops was the lack of time spent on questions of assessing online interaction.

A slightly revised Workshop 2 was thus completed by 21 staff members from across eight disciplinary areas, as well as the International Office and Library. Most had enrolled to discover features of the Blackboard™ environment or to build on basic prior knowledge. Some looked forward to experiencing being part of an online learning community, for instance one thought she would ‘live and learn’ to communicate effectively in this context. Another stated that he hoped to explore ‘potential oppressive elements of features in the online structure (apart from obvious workload issues) …’ and a few others aimed to address ‘wariness’, ‘fear’ and ‘skepticism’ arising from ‘a sense of frustration’ due to past experiences. Several commented that having mastered the technology to a small degree they were aiming to focus on the many pedagogical challenges in online teaching. Therefore, while academics enrolled in this workshop for many reasons and with a wide range of skills and expectations, they were primarily undertaking professional
development to learn more about Blackboard™ for the forthcoming semester. They were not in a position to design assessment for the immediate future, though some indicated at the conclusion of the workshop that they would be going ahead and designing online discussion for assessment in the following year.

The only participant from this workshop whom I invited to join AL2 was the librarian. While it was disappointing not to have any possible academic participants in Workshop 2, from my experience of AL1, I thought it likely that the next workshop, in second semester, would yield suitable academics who were gearing up to design assessment to implement online the following year. The librarian was willing to wait till I could invite sufficient participants from the next workshop to join the AL2 set.

5.1.2 Workshop 3

The third online workshop was run in the latter half of the year and in addition to having the benefit of two previous versions (and feedback for improvement that these yielded), there was a further drawcard in that I organised for a visiting scholar to the Teaching and Learning Centre at the time to co-facilitate. Dr Mauri Collins from De Paul University, Chicago, is known for her expertise in e-moderation and was one of the founders of the e-moderators list and developer of the subsequent e-moderator Web site (eModerators@yahoogroups.com). Together with her colleague Prof Zane Berge, she has published several seminal articles based on experiences arising from moderating discussions online (e.g. Berge & Collins, 1995; Collins, 1998; Collins & Berge, 1996).

I co-facilitated the third workshop with Mauri. We had designed it to run for three weeks (longer than the first and minus the two off-line weeks of the second). Both these factors (duration and co-facilitation) helped to stimulate a strong level of enrolment. There were 20 participants from eight disciplines including one from the University’s marketing department. The workshop was very dynamic, not only due to the diversity of participants, their shared expectations of the potential of online teaching and learning, and their wish to improve their online facilitation skills, but also through the energy and enthusiasm generated by co-facilitation with an internationally recognised expert in e-moderation.

Overall this workshop finished on a high note and it was an easy task to invite three participants into the AL2 set. The first was from Environmental Science (Guava) and had completed both Workshops 2 and 3, but was now in a position to design online assessment. The second academic was from Exercise Science (Cherimoya). He was just beginning to develop his units for off-campus delivery for the first time (as well as continuing to teach on-campus) and was looking for ideas for online assessment in order to manage all the students as a blended cohort. The third academic who agreed to join the AL2 set was an experienced online teacher in Social Sciences (Fig) who had completed Workshop 3 for
an advancement of her facilitation skills in order to prepare to implement a very dynamic
and innovative online assessment.

5.1.3 The fruit trees in this cycle

Macadamia agreed to join the second cycle and thus replicate the provision of technical
design input for this new AL set.

Cherimoya trees have grown on the periphery of my garden with a minimum of attention
over a long period of time. The academic I have called Cherimoya is also a very independent
person who was just beginning to take a coordination role for the surfing program at the
Tweed campus. This was when the department was undergoing turmoil of an organisational,
structural and interpersonal nature. He was regarded as a self-starter who could be relied
upon to take carriage of a new initiative under challenging conditions.

What can I say about guavas? You either love them or loathe them. I was drawn to the set
member I have called Guava because of her quirky, mercurial and complex nature. She is
a senior academic in Environmental Science who delivers brilliant outcomes even though
one might sometimes wonder if it’s all going to end in disaster.

The fig tree in my garden did not last. It grew well for a while and produced enormously
satisfying fruit but one day this delight suddenly came to an end. For this reason I named the
Social Science academic Fig, after the fact that without warning she chose to discontinue
her involvement, even though from the perspective of set members, it had been most
valuable till that moment.

I have three different orange trees in my garden and one variety, the navel, has thick-
skinned fruit. I named the librarian in this cycle Orange as a way of depicting his particular
contribution, inured as it was by his specific role in the library.

5.1.4 Seeding ‘service providers’ into the AL2 set

Following a positive response from the first reference librarian (Grapefruit) that she
would like to ‘work in with the staff development component…’, I also received some
spontaneous feedback from the head of the library’s reference area that ‘librarians want to
be in closer contact with students when they need the help…’ (pers comm. head reference
librarian). The benefits of librarians in general having an explicit role in teaching and
learning was also reviewed by Doskatsch (2003, p. 112) who noted that the online context
provided opportunities for re-evaluating traditional approaches to curricula:

… unbundling of traditional teaching activities means that an individual
academic no longer has sole responsibility for curriculum decisions, material
and delivery design, student services and support, interaction with students, marking assignments and quality assurance of both the course and the teaching and learning process. It also affords many opportunities for librarians to assume a more active educative role and demonstrate their actual and potential contribution to the re-engineering of the teaching and learning environment.

These comments from the literature and Southern Cross staff thus served to reinforce the idea of including librarians in design teams. Rather than invite the same liaison librarian who had already participated in Cycle 1, it seemed appropriate to invite a new person for Cycle 2 as this second librarian (Orange) had completed a recent online workshop and thus demonstrated an interest in educational technology in the same way as the first librarian had prior to inclusion in AL1. Additionally, there were a number of librarians on staff, each with their own disciplinary portfolios, so it seemed best for more than one to have the opportunity for involvement in an assessment design team in this research.

In the first meeting of AL2, the idea of inviting a librarian was supported by all set members who acknowledged the potential of involving librarians in both the design and delivery stages. As potential benefits of a cross-disciplinary team for design and development of assessment tasks could clearly be enhanced by input from a librarian’s perspective, I decided to incorporate librarians from the first meeting in future AL sets. By contrast, the technical support staff are fewer in number and each holds a portfolio across the entire institution. The same staff member (Macadamia) had already enthusiastically agreed to continue her involvement on completion of Cycle 1 and in the course of her feedback to me, felt that she wanted to be more actively involved in a collaborative design process in this next cycle.

5.2 Cycle 2 – germinating online assessment

Cycle 2 thus began with three experienced academics engaging in design and development of online assessment for new and existing units that were being either developed for off-campus delivery for the first time, or being increasingly migrated to online to accommodate for a blended cohort. Both service staff also committed to exploring ways of supporting students’ progression through their online study.

5.2.1 Preparing the hardened seeds

Unfortunately, only two of the three academics were able to attend the first Cycle 2 meeting (Cherimoya and Guava). It was agreed that due to a limited timeframe for the cycle, the six-member AL2 (five members plus myself) would run for six meetings including this first one, in order to span the design period and to include a final meeting for evaluation of outcomes.
Though I knew from the previous cycle that one hour is a very tight allocation of time for each meeting and had been prepared to suggest a longer time for each session, the time constraints were evident from the first meeting and again I did not request that we continue these meetings for any longer than one hour throughout this cycle. Partly this was my own decision that having short sessions did work well enough in the first cycle, so it was better than not being able to hold any sessions at all if it was thought I was asking too much of set members. This was also partly reinforced at the first meeting when Fig sent apologies for not being able to attend at the last minute, and also stipulated some boundaries for her participation:

**Fig:** I’m not keeping a journal … it’s too much work, I’m busy and I’ve done action learning before and I know you’re going to make me keep a journal, but I’m not keeping a journal.

After Cycle 1 I had planned to structure the sessions in this subsequent cycle so that it was not just the academics taking their allocation of time and having the ‘service providers’ give input along the way. In accordance with a more participatory approach (Dick, 2002; Kemmis & McTaggart, 2000) and in keeping with the action learning paradigm (Weinstein, 1995), I needed to allow input from all six members in equal measure. Having decided this and yet having not requested the extra time for sessions, my dilemma was in how to gain meaningful input from members if only allocating ten minutes to each. The only room to move I felt I had was to use the other insight I had obtained from Cycle 1 and that was to build follow-up prompts into my communication with members between meetings. This seemed to give me the option to give up my allocation of time but this still meant too little time for each member. I thus described the format to AL2 set members as being like the first cycle where time was shared as evenly as possible between three academics, and the support staff were encouraged to input to each of these segments of time with design ideas they considered relevant from their own perspectives.

### 5.2.2 The seed-raising mix

Cherimoya came along with a new program to be developed for both internal and external delivery. He tabled the unit statement for the first unit in this course and explained that he hoped to assemble resources that would prepare students to meet specific unit objectives and succeed in the course overall:

**Cherimoya:** I’m working with … a diploma group … worried that they may not be terribly academic and I’m thinking already about resources in terms of libraries and learning assistance to get that group up to speed. Keeping in mind I’ll be the course coordinator, I’ll have units
to oversee for the whole degree … want to make sure they have the information literacy skills they need. Even if that’s not written into the unit objectives, it’s one of my objectives …

Given his impending move to another campus, and the resulting increased responsibility as course coordinator, Cherimoya was clear that he wanted to develop an assessment scheme that would be useful for all students regardless of their enrolment mode, whilst being mindful of his own workload:

*Cherimoya:* They do want to externalise the course … so I’m trying to think at the same time – how do I set up assessment that can be replicated externally … I am [happy to use the online environment for their assignments in some way], and given my experience of undergrads these days … they’re pretty *au fait* with technology. My [students] like engaging with it …

Guava is an experienced academic who is also not shy about being an innovator in her teaching. Her publications of her own teaching innovations reflect long-term experience with pedagogical approaches such as authentic learning for which she refers to the work of Chinn and Hmelo-Silver (2002) and Schwartz, Lederman and Crawford (2004) and collaborative learning for which she turns to researchers such as Dori and Tal (2000), and Lemke (2001). Her methods involve what may be termed continuous forms of assessment with weekly classroom activities being awarded marks that accrue towards the final grade. The challenge for this academic was to take the best from her current assessment design and graft it onto a mode of delivery that does not differentiate between on-campus and off-campus students. Her initial reflections in this regard were about her own professional development:

*Guava:* … in the process of engaging in online learning … well, we have to learn new technologies … so how much do we impose and bring in other peripheral technologies into our subject? … But it’s not so much the content that I care about, it’s how I’ve been delivering it … and how the students have been doing their stuff in it to learn about it. I don’t necessarily want to change too much … But the challenge I suppose in external mode, is how do I keep what I think is a pretty good learning experience as alive as I can?

Fig’s initial aims for improvement of her existing unit were twofold. On the one hand she sought to address the participation levels online:

*Fig:* I also want to do more online, but I also have to say whilst I’m passionately attached to online assessment, my students aren’t and this is a frustration. So, this semester I have four who are actually
completing assessment online, which is sad … four out of 42 chose
the option … I did a lot of things [to encourage participation]. First
of all, I emailed all of them and asked them to consider participating.
I also sent a letter to all of them. I asked them to let me know if they
were interested and I also … put up on the site a kind of guide on
how you use virtual classrooms and said that I would do some quick
kind of teaching early in the session … the trick is really getting
them prepared to be involved … no [this did not improve their level
of involvement], they’re lurking, and I tried to address that by saying
that they could put up anonymous postings. I thought that might
help them because I understand it’s a bit scary putting yourself out
in that environment and sometimes people can be quite flaming of
you. So it takes a bit of courage and confidence to do it.

Fig was concerned about ‘flaming’ as this is a phenomenon described in the literature as
‘the practice of sending responses that are overly harsh’ (Jonassen, Peck & Wilson, 1999, p. 124). Creating a supportive online environment means that both students and staff perceive
the online space to be open for communication without fear of non-constructive criticism
(Hill, 2001). She wanted to reassure her students through their own personal experiences
that communicating online was not so threatening or difficult. With this in mind, Fig also
wanted to redesign her assessment scheme to encourage greater engagement with the unit
material as a whole and to integrate the assessment scheme over the semester:

**Fig:** I want to … design the assignment tasks so that they actually require
students to understand the content of the whole unit, rather than just
particular sections of it. And I want to design some online assessment
and give them the option of completing their tasks online like the
sort of things that I’ve done with the online assessment in the [other]
unit. …. we have traditionally assessed students on the basis of two
written assignments, generally essays … of about 2500 words …
What I’m trying to look at … is having a first … assessment piece
which is formative in the sense of leading into their major assignment
and providing a clear indication to me as to how they intend to go
about their major assignment. So that I can give them feedback at
an early stage and know that if I think they need to go broader or do
more research or do whatever, they get that guide early … I really
like the idea that instead of the students having to focus on two
totally … separate issues, to have a more formative approach in the
first assignment.
These three academics each had some prior experience of online teaching and learning as being both rewarding and challenging, but the two set members who were ‘service providers’ played very different roles in Cycle 2. Despite high hopes for inclusion of a liaison librarian, Orange turned out not to be a liaison librarian at all but Manager, Electronic Resources and Systems. He was not able to attend the second meeting and in the end he attended only one meeting, even though he did not send apologies or declare a lack of interest or commitment at any time. By contrast, the technical staff (Macadamia) joined AL2 enthusiastically, and participated in collegial discussions even in the face of significant changes being implemented in the online environment during this cycle.

The University’s move from version 4.1 to version 6.0 of Blackboard™ was occurring at this time which meant that a lot of suggestions that Macadamia had to make were in the form of ‘Maybe not in this version, but just wait till we move to the next version’; ‘next year when we go live with version 6, you won’t need to…’; ‘it’s going to be a lot more complex…’; ‘obviously there’s going to have to be a lot of consultation with people who are actually using this, but what we’re proposing to do is that we’ll create a template…’.

The result of this timing was that Macadamia felt her involvement with academics at this planning stage was even more important than it had been in AL1. Her advice on how academics’ ideas could be supported by v6.0 of Blackboard™ meant that their designs could incorporate a suitable range of up-to-date functionalities of the online environment in which they would be teaching, so long as they maintained their communications with her as they completed and implemented their online assessment designs and she was simultaneously able to advise them of new features of the system.

5.2.3 Seeing the garden grow

By the fourth meeting of AL2, three members were continuing their active involvement in the process of collaborative design – Macadamia, Cherimoya and Guava. At this meeting, designs of the assessment schemes of Cherimoya and Guava were finalised, while Macadamia continued supporting the design process from a technical perspective. At the fifth (final) meeting Macadamia took the opportunity offered in the available time to provide reflections of her own involvement in this research. These are included later in this chapter. Earlier Fig had shared the following story that prompted Macadamia to offer a solution:

Fig: … I had an experience last semester … it really made me reflect on what I’d done … a couple of people … had made some comments that were quite offensive … and I thought I’d better put something on here that talks about how you make inclusive and respectful comments … [in] this particular unit we have an awful lot of [students] from ADFA [Australian Defence Force Academy] …
and we were … talking about some of the Iraq issues … we have American students, international students and I thought ‘I’ve gotta say something’ so I did and from that moment on the conversation just dried up … I then sent an email … asking ‘where have you all gone?’, ‘what have I done wrong here?’ and it was very hard to get anyone back in … I also realised I should’ve done that really up front and it was a mistake. So are you going to be putting … is it possible to put that sort of thing up as a broad university statement?

In response, Macadamia suggested AL2 members upload a file to their online site that described the principles and practice of ‘netiquette’, so that students could see the importance and necessity for respectful communication with each other and with staff. This file was developed by the technical team, in collaboration with academics already providing such guidelines to students. These guidelines were suggested to not only help students new to online study, but to also provide details of the specific terms of communication required or expected in each unit or forum. Macadamia’s term for this was ‘lurk before you leap’, thus encouraging students to get a feel for the forum before plunging into a relatively unfamiliar communication process. The concerns that Fig had about creating a supportive environment for online communications were being proactively addressed by the online support team, and this meant a lot to AL2 set members. It was not just ‘all talk’ in these meetings.

Cherimoya’s assessment design concerned orienting students to the industry and laying down key academic/professional skills such as searching library databases and doing an oral presentation. In addition, the recently adopted school ruling that each unit must include an exam to guard against students plagiarising required that a substantial proportion of marks be set aside for such an exam. By the time this design was finalised, it appeared as though the enrolments were around 15–20 students and Cherimoya felt that he would be best to concentrate on the on-campus style of assessment to begin to create a sense of the learning community within this new course. Though he had considered including an online portfolio as part of the information literacy assignment, he agreed with Guava’s view that the portfolio work (Assignment 2) could readily be adapted to a Web-based format at a later stage. Cherimoya’s final design was thus not built around online delivery as its primary form – using the Web environment simply to support student activity. It did however, link the first two assessment tasks (as had also been one of Fig’s aims already described):

1. oral presentation on organisation and data collected by interview or other research 20%
2. discussion forum supplementary to portfolio of industry information (post 2000) 50%
3. exam 30%.

Upon arrival at his new campus, Cherimoya introduced himself to the liaison librarian and foreshadowed the likelihood that students would need assistance in database and
information searching early in the semester to successfully complete Assignment 1 (which also led to Assignment 2). The liaison librarian was delighted to be included, much as the first liaison librarian (Grapefruit) had responded in a proactive way in Cycle 1, finding out assignment details at the first opportunity.

Turning now to Guava. Her assessment design remained at a level of complexity that required more time to streamline. She was concerned to sequence online interaction and file exchange for off-campus students to be completed prior to the residential school that would be attended by the blended cohort. Overall, students would be required to complete six components of assessment:

1. actual hands-on activities related to a plant kit. This kit would be developed by Guava and issued to students for practice in plant identification
2. students were to provide a brief online report on plant features in their local community including the digital photos taken by them and uploaded to Blackboard™
3. following the residential (in Week 8), students were to complete a quiz based on data they collected and analysed supplemented with data from the class as a whole
4. with data collected and analysed, students were to participate in a forum to discuss their hypothesis
5. for an overall conservation strategy to synthesise their knowledge and skills for the unit, students were to complete a mapping and overlay activity in groups using online methods for document exchange and discussion
6. students were also to complete the weekly forum questions for formative discussion and reflection.

5.2.4 Thinning the seedlings

As all experienced gardeners know, disappointment is a common occurrence – too much water or not enough, too much sun or not enough, wrong plants for the location, weeds overtake the seedlings and so forth … possible reasons for failure are many and varied. In this cycle, such disappointments were encountered and as already indicated, by the end of Cycle 2 two of the six members had withdrawn.

Disappointingly, Fig had informed me prior to our fourth AL2 meeting of her withdrawal from involvement. She reiterated her familiarity with action learning and action research, and confessed her own priorities as being the completion of her doctoral thesis, which she hoped to achieve in the near future. She further explained the limited potential for revising her assessment for online in accordance with any collegial creative process as provided in Cycle 2, since she felt somewhat constrained by being in a ‘holding pattern’ during a process of course review and her School’s restructure at that time.
While Fig had wanted to revise assessments to blend formative and summative tasks, promote the need to access a broad coverage of content, and encourage reflective participation, she actually left AL2 after attending only two meetings. On later follow-up, I discovered that very little was changed in the assessment design despite all intentions. As with Nectarine in AL1 (from the same School) this lack of action was due largely to organisational changes within the School, which drained all energy:

*Fig:* At the end of the day I didn’t change the assessment … [I] guess I ran out of time and energy.

The fourth AL2 meeting was actually the single meeting attended by the librarian, Orange. He appeared not to have read the preliminary orientation to action learning provided, nor had any prior experience of the process. Accordingly, his contribution to the meeting was in the form of reporting current news of the library’s services, whether relevant to the set members’ needs or not. Fortunately, his advice on new database links and search functions was of core relevance to Cherimoya, who then approached the relevant liaison librarian for his discipline to invite her to actively involve his students in becoming familiar with searching the relevant databases for their first assignment. Orange’s lack of connection with the process drew a comment from Macadamia, the technical staff, who said:

*Macadamia:* [Orange] was telling me information about what he’s doing, but it was nothing anybody was going to use in the future …

Orange was clearly committed to his core duties of managing electronic resources and systems, and making the academic community aware of these. Fortunately, his attendance at one single meeting stimulated Cherimoya to engage the particular liaison librarian whose role it was to support students in his discipline. This situation of having wrongly assumed all librarians would be professionally engaged with our task of designing online assessment made me realise that for best effect in the AL sets in future, I needed to restrict my invitations to liaison librarians as they are actually the ones with a core responsibility for assisting staff in their teaching and learning activities.

These circumstances for members of AL2 put us into a much less robust cycle than anticipated. As with Andresen’s reflections (1993, p. 59), I found myself suspecting that we needed to ‘make the uncomfortable journey back to ignorance’ and ‘reconceptualise both learning and teaching’ (p.67) to find creative solutions to design problems presented. Because some themes emerging from the three ongoing members seemed beyond our control such as the impact of moving campus and taking course coordinator responsibilities when support from within the School was shaky (Cherimoya), and past difficulties of pedagogical design for online including limitations of early version of Blackboard™
(Guava), I wondered whether extrinsic circumstances were conspiring against a collegial design of assessment for online as our central focus.

Despite this uncertainty resulting from elements of the University being in a state of flux, set members of both AL1 and AL2 clearly shared some ideas, describing learning as both an holistic and authentic process. In the face of upheaval, three AL2 members were nevertheless committed to designing assessment for online and we drew reassurance from early work of Chickering and Gamson (1987) who had established that principles of good teaching in on-campus contexts can be equally applied to the online context. Their list of seven principles speaks of good practice as being that which:

1. encourages student-academics contact
2. encourages cooperation among students
3. encourages active learning
4. gives prompt feedback
5. emphasises time on task
6. communicates high expectations
7. respects diverse talents and ways of learning.

With these apparently achievable principles in mind for Southern Cross staff who were moving their assessment online for the first time, I determined to support the three active AL2 members to develop effective assessment design regardless of surrounding organisational and technological changes.

5.3 The new shoots

The actual assessment design ideas that germinated from members’ identified needs within this cycle included:

1. online discussion (Cherimoya, Guava and Fig)
2. scaffolding the development of information literacy skills (Cherimoya)
3. online quizzes for formative feedback (Guava)
4. blending formative with summative assessment (Guava and Fig)
5. display of digital photographs for plant identification in own location (Guava)
6. group work with shared files (Guava).

Of these, the two assessment approaches previously explored in Cycle 1 were online discussion and blending formative with summative assessment. I return to review these details more fully in Chapter 8. In the following discussion I examine the assessment designs and issues emerging for the first time in Cycle 2, including three additional foci for
concern that arose in the course of this cycle, namely, plagiarism, the first year experience and professional development for academics.

5.3.1 Scaffolding development of information literacy

In Cherimoya’s first-year unit, the benefit of involving a liaison librarian was immediately obvious, and he proactively sought to make arrangements with the relevant library staff, even though she was not a member of this AL2 set. As it happened, Cherimoya was constrained by more extrinsic factors than just his own change of campus and a more responsible role. He was also faced with a recently determined departmental policy to allocate a significant weighting on exam grades for the unit. While in the end he decided that the exam would be worth only 30%, he had no objection to its inclusion in principle. Thus 70% was the remaining portion of marks he could consider allocating to online assessment.

Although the issue of information literacy had previously arisen in Cycle 1 for Lychee’s unit, he had focused on the use of synchronous tools with a third-year group of students, and I had not looked in depth at the issue of information literacy. Cherimoya’s case was a first-year unit and the issue of information literacy a crucial one, thus I took the opportunity to engage in more depth with the literature. Cherimoya’s design was reinforced by the notion of integration of information literacy into the curriculum through involvement of the librarian with students in class (or online as with AL1) (Trivett & Skillen, 1998). One article also says ‘Librarians, as research and information literacy experts, should help academics examine their existing or future assignments to determine the ease with which students could plagiarise’ (Auer & Krupar, 2001, p. 425). ‘Since information literacy is seldom integrated into the curriculum, most of us are grateful for even a fifty-minute class where we can introduce the bare essentials of the research method’ (Auer & Krupar, 2001, p. 428). Similarly, Doskatsch (2003, p. 111) agrees that ‘collaboration between librarians and other educators is the key to the integration of information literacy within the total educational process’. Beyond this push by librarians to improve information literacy of students, Laurillard (1993, p. 213) also points out that providing students with access to information databases is ‘of no value to them if they are not able to make selective judgments about what to use and critical judgments about the content of what they find’. The role of librarian thus needs to be allied with academics to ensure students are clear about both the skills and content they are learning concurrently (Albury et al., 2001). Cherimoya’s assessment design was hoping to address this.

The flip side of this coin is that academics who feel hijacked into teaching information literacy to their (second- or third-year) students whilst having a syllabus full of content to progress through at the same time, would be grateful if this support could be reasonably designed into the curriculum in first year:
Guava: It’s like libraries … I think it equips them to better do a job but I cannot spare too much time to do that or else I lose my content and that would be the thing … and it would be good if it was in partnership and not taking too much time and maybe encouraging them to find some other time, so that the librarian could use that time…

This kind of support from the librarians is also described in the work of McLoughlin and Luca (2002, p. 578) who refer to a kind of resource-based scaffolding, where students are provided with guidance, support and hints that initially meet them at their level of cognitive capability and progressively decrease to the point where the support is no longer required. Skills, understanding and tasks with finite goals also help to delineate the level of scaffolding, so that when students have clearly reached this finite level (which they would not have been able to do on their own), then any further assistance or scaffolding can be removed (Love, 2002). Cherimoya hoped to enable students to perform these search tasks and demonstrate their own knowledge within one semester. Furthermore, he certainly saw involvement of the librarian in this case in a first-year first-semester unit, as a means of assisting students to get started in developing their academic skills for the course as a whole.

Doskatsch (2003, p. 113) details a range of academic roles for librarians that include having the ‘confidence to collaborate with academics in designing learning activities that promote student centred learning and foster lifelong learning’. As involvement of librarians in the teaching of generic skills increases (beyond these AL cycles), we should expect to see greater collaboration between academics and library staff in educational design.

5.3.2 Quizzes for formative feedback

From a concern to engage both off-campus and on-campus students in an ongoing process of learning and interaction with both the resources and the class, Guava wanted (among several things) to convert a series of in-class quizzes into an online format. Her pedagogical approach was explicitly to engage off-campus learners and she explained:

Guava: I’ve got more assessment items for the externals because I want to keep them participating at the beginning … I thought if we had smaller tasks for them they would begin to communicate better and they are smaller tasks, they’re not quite as big as the internals.

This strategy addresses two notions as reflected in the literature: (a) engagement at the earliest opportunity, and (b) formative feedback to reinforce this engagement. As Laurillard (1993, p. 210) puts it:
Students are not simply learners of an academic subject: they are social beings. Like everyone else, they respond to the social, political and organisational context around them and this directly affects what they do in their day-to-day work.

To engage students in a weekly quiz provides a clear context for demonstration of their understanding of the knowledge domain in a very day-to-day manner. Immediate feedback provided on completion of the quizzes allows the students to reflect upon the meaning of the data they are analysing and to potentially correct their misconceptions before continuing on (Buchanan, 1998–99).

Guava’s plan was thus for the blended cohort of students to use data about their plant collection, supplemented by data provided by academics to learn the processes of formulating a hypothesis, making deductions and completing a data analysis exercise. Involving the blended cohort of students in an online forum at the same time was intended to support development of their plant identification skills and basic data collection techniques in a more social environment … ‘it’s one of those things you should be doing as you think about it rather than… being just passive objects in a [print-based] study guide, which they have been to date …’, commented Guava.

As these quizzes and discussions were planned to occur prior to the residential workshop required for the unit, Guava also proposed that a great deal more synthesis of the data would be worked through once the group was together at the residential, thus enabling her students to take the results away for use in the follow-up mapping activities. The proposed learning activities were indeed integrated and complex in design.

5.3.3 Digital photographs for sharing

Another of Guava’s ideas was for students to use digital photographs to identify their environment and provide an authentic presence within the blended class. However, the graphical interface of the online environment is very much under-utilised in the higher education sector, except in those fields that are, by nature, graphical, such as visual art, graphic design, Web design and architecture. Despite the computer interface being a graphical environment, text predominated in educational settings as reported by Spector (2001, p. 32):

> When the Internet exploded, the educational focus became providing distance learning using the Web. Not much thought was given to the design aspects of the instructional materials or to the entire learning environment itself.

Early concerns about incorporating multimedia in education (Bates, 1995) centred around the constraints of the cost of development and the questionable quality of results. Bates (1995) predicted that multimedia would gradually come to play an important role in
education, depending upon the increasing capability of academics and the emergence of a new curriculum. Some recent studies have shown that learners gain more meaning from the online text when graphical and visual resources are located in context, irrespective of whether they support cognitive or emotional interest (Park & Lim, 2004). The use of colour in text is also believed to be beneficial, either for impact or to convey symbolic meaning such as when red is used to indicate a warning (Ingram, Thompson & Tcha, 2001) or highlight key elements of feedback (Trivett & Skillen, 1998).

A study that highlighted the use of photographic images within a CD-ROM resource showed they were an excellent and valid means to supplement a field trip to visit a volcano (Knowles, Kunz & Tarnowska, 2003). Others suggest multimedia can be usefully embedded in many science-related curricula (Ba, Martin & Diaz, 2002). Photographs in learning materials serve to raise awareness, make explicit the concepts and represent complex real-world systems in detail. Young and Witter (1994) found that learning in environmental science was enhanced through the use of photographic images. Rivet and Schneider (2004) also report that digital photographs taken by students themselves play a part in supporting and motivating learning.

Guava, always ready to be innovative in her teaching, wanted to trial the sharing of digital photographs by students in the course of their data collection activities. In this way students could develop a sense of being part of a distributed community of learners. Both motives for trialling the idea reflected the authenticity of Guava’s assessment design, an activity well supported by the literature. Guava’s thoughts about digital imagery also included a decision about the plant kit. Instead of drying plant specimens and preserving them and having them carefully posted to students, Guava decided to have the plant kit scanned for ease of reproduction and delivery in future teaching sessions.

5.3.4 Group work with shared files

In this cycle, as a direct result of designing assessment for a blended cohort of on-campus and off-campus students, we found ourselves exploring the potential for adapting a particularly engaging hands-on task to an online environment. The task was for student groups to share files in an iterative development of a base map with a series of overlays. The transfer of this to the online environment meant requiring each student to input into the development of additional overlays and revisions over the Internet, thus producing a collaborative collage.

Apart from the technical challenges this presented, there were also questions of how to handle the group process component of this activity where some students were attending class while others were distributed around Australia and were only expected to attend a two-day residential school. Guava organised groups to ensure that they comprised a fair
distribution of both on-campus and off-campus members. Though Gibbs (1995, p. 17) states that allocation of members is most realistic when done randomly, as would be the case in work contexts, he also states that ‘[a]llocating students on the basis of learning style, preferred group role or other quasi psychological grounds is difficult and unlikely to be very effective’. In addition, Gibbs (1995) also explains the importance of providing students with an adequate understanding of expectations, and preparing them for their role and responsibilities within their assigned group. To this end, Guava established groups in the on-campus version with a maximum of six members, based on their profile using the Belbin system (Belbin, 1981). She proposed to transfer this process to the online version and argued for the authenticity of this idea through describing instances when National Parks and Wildlife Services employees are required to map an area for investigation and decision making. They do so collaboratively with colleagues across geographic locations without necessarily making a prior visit to the site of interest itself. Their collegial work is in multi-disciplinary teams and input is based upon their individual strengths and roles within the project.

Furthermore, several studies had indicated that group work in the online context might take longer, but nevertheless closely resembled the group processes and outcomes when working face-to-face (Fisher, Phelps & Ellis, 2000), including both functional and dysfunctional communicative practices (Cecez-Kecmanovic & Webb, 2000). Where group work is supported with the use of technology, as in this case, McLoughlin and Luca (2002) advocate a process of scaffolding development of team skills involving social, technical and task-focused skills – something that Guava was set to do by commencing with the Belbin (1981) process of identifying and training group members for their series of tasks and challenges.

Guava was also ready to build on her own momentum for innovation and enthusiastically threw up some technical challenges for the AL2 set to ponder:

*Guava:* But now that we’ve got this great opportunity for going online which I do see as a tremendous opportunity, I’m quite keen to get my external students to do quite a lot of their group work online [groups of 5 or 6] … and it presents a couple of challenges because what I get them to do is to develop a conservation plan for an area of land that we have… and we provide different sorts of data for them, and we can set them up … [through] online interaction… and they go away [from the residential] knowing their peers and then they build a map – a series of maps using the Internet to exchange that information … So, it’s a really gestational… it really just grows and grows and grows and it’s great if they can have that exchange. I think if we can do it by document delivery so long as they’ve got
it in front of them and they’ve each got a printer, then they can talk to each other while looking at it ‘Oh I like your version here but I don’t like this one here’ … but the real idea would be to display it while they’re talking about it and they can actually draw on it on the Web, on the screen. So that’s a technical challenge I think could be quite interesting. But I do think it’s a really great way to get people to relate …

Empirical studies have also shown that when students engage in collaborative concept mapping as an activity to promote understanding, this tends to result in more meaningful and elaborate interactions between them, as they find there is less consensus than they expected and thus more effort is required to communicate and maintain focus on task (Chung, O’Neil & Herl, 1999; Fischer et al., 1999). An increased level of meta-communication has also been observed in studies by Reinhard et al. (1997) who make the point that without the capacity to demonstrate concepts to each other, students engaging in collaborative concept mapping online need to be able to describe their actions. As with the two studies already mentioned, Reinhard et al. (1997) also found the students needed to repeatedly summarise the consent achieved in the team. Each of these studies also showed a positive correlation between the quality of interactive discourse amongst students and their task performance.

The development of the mapping resource (that Guava was designing) as a collaborative activity was not exactly the same as that reported in the literature. However there was some similarity in that the notion of collaborating in the development of visual materials is the principal aim of the group mapping activity, just as it is in collaborative concept mapping. Further, the experimental study by Stoyanova and Koomers (2002) showed that there was a significant difference in effectiveness of group collaboration on problem-solving concept mapping when interactions were (a) ‘distributed’, (b) ‘moderated’, or (c) ‘shared’. They found that when teams worked synchronously online, that is, when they ‘shared’ their immediate need for a solution, they were most effective in both collaborative learning and problem-solving. Groups that worked in a ‘distributed’ sense were where group members worked autonomously, passing their work around to each other in sequence until an agreed version of the solution is achieved. While Guava had long-term plans to design a ‘shared’ approach to this mapping activity, the ‘distributed’ approach was necessary for the time being due to our technical capabilities at the time.
5.4 Seeing the perennials

In addition to the assessment methods developed in this cycle, the AL2 set identified three further issues pertaining to online assessment:

1. plagiarism
2. the first year experience
3. professional development.

These issues are found throughout the literature not only in regards to online teaching and learning but are also central to higher education generally.

5.4.1 Dealing with plagiarism

During the design process in this AL2 cycle, I thought an obstacle to the eminently sensible ‘Seven principles of good practice’ (Chickering & Gamson, 1987) arose in the form of mandatory exams being proposed as a way of avoiding plagiarism. However, Cherimoya’s thinking was not so blocked by this issue:

Cherimoya: … ‘cause we’re management and science we have a mix of philosophies, and the science side definitely want exams because they’re really worried about the plagiarism issue. That’s one of the big things in the school at the moment. The easy solution that someone’s put up is ‘just have an exam’. They can’t plagiarise in an exam …. but that’s a side issue … but it looks like I’m stuck with exams anyway. To some extent I probably don’t mind in this first year ’cause given we’re not sure about the academic quality we’re going to get … [For online] I’m grappling with …. how to make the presentations useful for the students, even if they give a bad one there’s something of value to the rest of the group and something at the end …With a portfolio, we’ve had a couple of lecturers do that where students’ve collected a portfolio of clippings and made comments … how do you objectively grade that? Tutorial participation? So I’m dealing with those classic issues and I’m just trying at the moment to just get firstly in my mind what I want to do in that assessment and then how I objectively want to assess it, and how I make that assessment useful in terms of the teaching …

In their article addressing plagiarism online, Stoney and McMahon (2004) make the point that three kinds of tactics need to be employed when fighting the war against cybercheating: fighting with intelligence, propaganda, and armour. By this they mean using a combination of (a) digital solutions such as using Google™ and TurnItIn™ to compare students’ work
against existing databases of published works (intelligence), (b) educating students about
the nature and consequences of plagiarism (propaganda), and (c) designing cheating out
of assessment (armour). They have called this multi-pronged approach, ‘bulletproofing
assessment’. Designing this ‘armour’ is further reinforced by the kind of ‘engagement'
implied by Chickering and Gamson’s (1987) principles of good online teaching.

The decision of Cherimoya’s department to include an exam in every unit represented an
old model of preventing cheating without consideration for how higher-order or authentic
assessment designs might be preserved. Though he was not too distressed by this constraint
in his first-year first-semester unit, it is worth noting that inclusion of exams is not one of
the solutions suggested in the literature on cybercheating (Atkins & Nelson, 2001; Auer
& Krupar, 2001; Carroll & Appleton, 2001; Stoney & McMahon, 2004). Specifically,
measures to counter plagiarism include: integrated strategies at the level of organisational
policy (Park, 2004), the development of software-based solutions, increasing the range of
assessment methods for a unit (Le Heron, 2001), and the implementation of these strategies
with consensus understanding within the institution. Southern Cross was yet to issue its
first comprehensive policy on student integrity. In the absence of this, ad hoc measures
such as mandating the use of exams were being adopted by some schools.

5.4.2 First-year experience

Cherimoya’s new role as course coordinator meant that he was viewing the student
experience as a whole rather than focusing on one unit at a time, as is more typical with
academic staff. Perhaps for this reason Cherimoya’s focus on the specific issues for first
year led him to carefully consider the foundation skills required to increase the likelihood
of success through the course as a whole. His concerns were in accordance with the work
of McInnis, James and Hartley (2000) which showed that students’ experience within their
first year of an undergraduate program must provide sufficient support and orientation in
order for them to make a smooth transition to the university and the program of study.

Following this national-scale research by McInnis, James and Hartley (2000) institutions of
higher education around Australia are now laying down guiding principles to promote an
understanding among both students and staff about such basics as the nature of the course, its
direction and its required learning. In some Australian universities such as the University of
Sydney, student engagement with the scope of university life and their perceptions of teaching
are also monitored to gauge student satisfaction and to address emerging issues. At Southern
Cross, the use of student feedback mechanisms is key to identifying any issues arising for
students in first year. On the basis of this feedback, either students and/or academics can be
referred for requisite assistance. Academics may be referred to the resource ‘Pathways to
Good Practice’ (Bird et al., 2006) for self-directed professional development or the identified
issue may form the basis for a departmental or School-based workshop.
For students, the recent implementation of a ‘Success in Tertiary Study’ program at Southern Cross has helped in identifying gaps in prerequisite knowledge and skills so they may gain support prior to commencement of their studies. The difficulty seen by academics such as Cherimoya, however, is that while many students could benefit from this pre-entry program, most do not enrol. Academics who teach first year therefore, must continue to include learning activities to develop both generic and online literacy skills. Cherimoya was especially willing to do all that was necessary to support students, not only in his subject, but also as the recently appointed course coordinator. He was well aware of the potential gains this could offer for their overall success in the course.

5.4.3 Professional development

Guava also raised the question of academic staff development in this cycle, and this immediately resonated with one key aspect of the educational design role. As reinforced in a study done by Torrisi-Steele and Davis (2000, p. e-page 12), educational designers are key collaborators with academics in designing teaching and learning for online. The opportunity this provides for engaging academic staff in professional development activities goes hand-in-hand with the chance for reflection:

Reflection fuels innovation and as such, educational designers and professional development programs aiming to transform teaching practice need to focus not purely on the capabilities of the technology but also on fostering reflective practice. Professional development initiatives that consider only creative ways of including technology will not support transformation of teaching practice unless accompanied by critical reflection on current practice.

The fact that Guava identified this for herself as an important element in the AL process as well as her own process of critical reflection was a clear testament to her performance as a reflective teacher. In their study, Torrisi-Steele and Davis (2000) also found that the other critical elements that academics identified as critical to seeding their ideas were time release allowing extensive consideration of designs for online and access to exemplars. Though time release was seen as desirable by academics in many such studies, at this point in the process my role was to provide time during our AL meetings for reflection as an aid to set members’ professional development. Gathering exemplars to seed future assessment designs and AL cycles is described in Chapter 6.

In addition, the concept of immersion online for effective professional development – which was the strategy adopted for the iLO workshops (explained in Chapter 3) – was also identified in other research as a key method for changing practice when academics may have had no previous experience with online learning themselves (Bennett, Priest & Macpherson, 1999; Shannon & Doube, 2004).
5.5 Spotting the weeds

In this cycle there emerged a few issues relating to both process and content that provided a source of reflection. One major shortcoming in the process was that of not being able to have a full complement of participants at any of the five meetings. However, this experience provided insights into how to select and engage participants in future cycles. The following discussion will consider the issue of participant involvement and professionalism. Other issues discussed also include: constructive alignment and the intended and unintended outcomes of assessment.

5.5.1 Level of involvement and professionalism

Guava was the only one in this cycle who attended all five meetings, and during each of these she participated enthusiastically and productively, displaying the kind of professionalism that ultimately led to her receiving a Carrick citation for teaching excellence in 2006.

Macadamia and Cherimoya attended four meetings and provided input in a collegial manner, despite both being preoccupied with broader agendas. Macadamia was responsible for the institutional roll-out of version 6.0 of Blackboard™ at that time, while Cherimoya had to move to a new campus (and new home) and begin the role of course coordinator for a newly approved award.

Fig attended only two meetings and contributed effectively in these. Her previous experience with online teaching was a benefit to the AL2 set – her direct contribution was evident in the assessment design adopted by Cherimoya. This level of experience was however a limitation to her as she chose to prioritise refocusing her time above any benefits she might have derived from continued involvement.

Orange attended only the fourth meeting and the input at this meeting serendipitously helped Cherimoya. However, given this lack of buy-in from Orange, I resolved not to assume that all librarians are similar in the way that they can contribute. It is the liaison librarians who have the brief to work more closely with academics on the pedagogical aspects of units. Clearly, other roles within the library are more concerned with the resources themselves.

No-one was ready to collectively review unit evaluations in Week 10 as originally planned, and as a result we decided not to hold the final meeting.

5.5.2 Revisiting constructive alignment

From my point of view as an educational designer, alignment of assessment design with learning objectives, syllabus and teaching and learning activities of the unit is an
inalienable part of the design process. As mentioned in Chapter 4, the principle is enshrined in professional practice as ‘constructive alignment’ (Biggs, 1999), and referred to amongst practitioners as routinely as the lawn is mown. In this cycle however, it was with alarm that I heard the following in our first AL2 meeting:

Cherimoya: … we’ve always had a philosophy in our School, that regardless of what the unit outline says, you teach what you want to teach … that’s reflected in our unit outlines that have different formats and designs …

Guava: [in our School] It is different from yours. I thought it was a university-wide approach … we all have the same unit outline [template] that is absolutely rigorously applied and then I have my manual, so I can go through the unit outline and say ‘right we’re going to ignore that for now and here’s the timetable, here are the topics’ … operationally … you don’t look at your unit statement every day. It’s not how you really present the [unit].

Perhaps it was Cherimoya’s independent nature behind his comments, or perhaps what I was seeing was similar to what I discovered in the interviews described in Chapter 3. Those academics, such as Cherimoya, who are prepared to go ahead and design their teaching and learning with little or no reference to educational designers, may not place constructive alignment as their main concern. However, through dialogue with someone who can take the role of critical friend, the issue of constructive alignment can readily be identified as being of fundamental importance. Through Guava’s experience as a senior academic and her frame of reference from outside Cherimoya’s school context, she was able to point out the critical significance of ensuring constructive alignment in all units. Once again, I was gratified that this was not theorising or jargon from an educational designer, but a ‘university-wide’ principle being espoused by one academic peer to another. Both the group effect and the cross-disciplinary perspective were at work in this key situation.

On further consideration, though Cherimoya was new to course approval procedures and was treating the existing documentation as negotiable, he was actually committed to the overall principles of constructive alignment in Biggs’ (1999) original sense of emphasising what the student does. This is clear in his comments:

Cherimoya: I am a pragmatist. I want to get some good results. That’s my first priority, to get good results from the students and my second priority is to get a program that seems academically viable with quality that sustains the students.
5.5.3 Intended and unintended outcomes of assessment

The consequences of assessment can be as they were intended, or there may be unanticipated consequences. If we see the process of designing assessment holistically, in accordance with a model of ‘systems thinking’ (Flood, 2001; Senge, 1990), then the unintended consequences that may arise also deserve attention as part of the system. Guava referred to the difficulty for some students to grasp social protocols online (‘netiquette’) whilst at the same time engaging in content-based discussions:

*Guava:* … often they don’t know what’s appropriate … It’s a civilisation process, because we have such a wide range of students, how do you deal with where each of them is coming from? … how do you convey that tacit learning online?

*Fig:* At the moment the way that the assessment tasks are designed, the cleverer students very quickly realise that they actually only have to do two parts of the unit because they’re basically designed around a debate on each of those topics and they can choose what they do, but they only have to do two.

*Cherimoya:* … we’ve got a similar unit in the [named degree] that is so broad and tries to cover 14 different topics over 14 weeks. [When we mark their assessments] we often wonder whether it’s very effective at all, ‘cause some of the students go ‘well what the hell was that about?’ They don’t really get any appreciation of management at all.

As AL2 members designed their assessment schemes, we kept in mind a range of intended outcomes such as establishing information literacy and supporting success in first year; building dialogical and graphical aspects into online tasks; providing links between assignments to guard against plagiarism and building higher order challenges. The side effects of online assessment that can arise when tasks don’t match intended learning outcomes include those that also occur in standard classroom situations. Students might achieve well if they have learned to play the system and be ‘cue-conscious’ (Miller & Parlett, 1976). When being cue-conscious, otherwise keen-to-learn students may narrow their focus to only that which will be assessed (Rowntree, 1987). Unintended consequences of online assessment can also include:

- the novelty and challenge of online assessment distracts from intended learning, and students spend time on the online task disproportionate to its weighting relative to the overall grade
• the layers of learning required i.e. students are juggling the mastery of content knowledge at the same time as their development of technical literacy, with potential drawbacks for each (Morgan et al., 2004).

5.6 Enjoying the blooms

Some of the features I had already encountered in the initial literature review, in the Web-based survey of four universities, in the 22 interviews and in Cycle 1, were themes that recurred in this cycle. These blooms of established practices were welcome features that we pursued amidst the environmental, technical and personal unrest that provided the broad context for AL2. In this cycle we worked towards designing assessment tasks that maximised the benefits of blending formative with summative tasks through provision of timely and constructive feedback as described by Greer (2001); engaged students early and continuously, creating a sense of community online as described by Palloff and Pratt, (1999); and sustained a democratic and communicative atmosphere as found in the research by Cecez-Kecmanovic and Webb (2000).

In so doing, I found a sense of professionalism in set members despite the chaotic times. The research benefited directly from their willingness to share perspectives and experiences, their receptivity to new ideas and their reflective, committed approach to participation in transdisciplinary educational design team. In response to my between-session prompts, Guava noted in one of her written reflections that the sessions helped her ‘thinking about approaches, [getting] new ideas’. In the penultimate session Guava suggested that ‘some question and answer, show and tell exercises with the computer in front of us would be good’.

This excellent suggestion, however, was not implemented in our last meeting of this cycle, because the session occurred early in the new year when Cherimoya was in the process of moving and settling into his new accommodation at home and at work. He managed to briefly join the final AL2 set meeting by teleconference and described the completion of the design of his online component of assessment in accordance with his earlier plans. The design relied upon the interactions between liaison librarian and students in the development of their library database searching skills. In this case there was little benefit to be gained by Guava, Macadamia and myself viewing his design through a ‘show and tell’.

5.7 Reviewing the season from my garden bench

This chapter’s opening quote indicates that the best time for sowing the seeds for success is following a season of failure, and another way of seeing this notion is to learn from our mistakes. In this Cycle 2, there are many lessons to learn including:
• how institutional circumstances impact upon individual academics
• the importance of engaging appropriate set members
• securing academic and non-academic staff professionalism
• maintaining a guiding role to keep the cycle and reflective activities alive
• an emerging need to benchmark online designs from Southern Cross with others, and to find examples to share with colleagues and to seed future AL cycles.

5.7.1 The uncertainty of gardening

At this time of reflection on the action research process, I found that a synthesis of educational technology provided by Spector (2001: p. 35), listing his own five principles for effective use of technology in learning and teaching, resonated with me:

1. Learning is fundamentally about change – the Learning Principle
2. Experience is the starting point for understanding – the Experience Principle
3. Context determines meaning – the Context Principle
4. Relevant learning contexts are often broad and multi-faceted – the Integration Principle
5. We know less than we are inclined to believe – the Uncertainty Principle.

Spector (2001) goes on to say that the Uncertainty Principle may be the most fundamental of all, and as such, ought to be the driver of educational research through which the claims for improvements to teaching, learning and assessment afforded by technology could be demonstrated. At this stage my research was very much at the behest of much uncertainty. Spector (2001, p. 34) commented that:

… hybrid or mixed-delivery solutions can offer a path for graceful growth and development while retaining the best features of proven solutions … Some legitimate learning goals are effectively met with traditional and well-established methods; we need not abandon what we know works well when embracing new technologies

Such comments contributed to my sense that designing for online requires a range of factors (individual, organisational, pedagogical and technical) to be appreciated in order for successful integration of sound design to occur at the level of both the individual unit and the course as a whole.
5.7.2 Checking the seedlings

Macadamia, Cherimoya and Guava did well in this cycle, and they also benefited from the small but effective contributions made by Fig and Orange. Though no evaluation was conducted of the units and thus no student feedback was recorded in terms of the assessment, the designs accounted for here have intentions that are supported by the literature.

An evaluative review of these assessment designs will occur in the normal process of unit and/or course review. The best time for this will be when student feedback can be fully taken into account so that enhancements that were discussed but not yet implemented can be implemented. For Cherimoya this will mean the introduction of an e-portfolio task. For Guava it will mean the creation of a synchronous space for collaborative mapping. For Fig, it will mean the creation of a graded integrated discursive group discussion.

5.7.3 Checking the growing medium

During this cycle, the benefits of working within cross-disciplinary teams were once again becoming much clearer. Taken-for-granted practices within one school have been sharply brought into view by perspectives provided from another school. Such non-threatening challenges led in several cases to changes in practice such as:

- ensuring development of both academic and online skills in first-year students (section 5.4.2)
- inclusion of netiquette guidelines for all online units (section 5.2.3)
- reducing the reliance on exams as a preventative measure against plagiarism (section 5.4.1)
- highlighting the realities of constructive alignment (section 5.5.2)
- providing relevant, timely and appropriate professional development (sections 5.2.2 and 5.4.3).

The lessons I took from this cycle and which formed the basis for moving towards a third AL cycle included the following:

- Continuing involvement of academics from different disciplines adds complexity to the situation as some parts of the university are always under review or restructure.
- With the likelihood of constant flux, it was clear that future cycles would benefit from commitment to full attendance by all.
- Academics who make a regular habit of reflecting on their teaching also have a great deal to offer, and any strategies in the action research process that may encourage reflection should be considered (Ballantyne, Bain & Packer, 1997, 1999; Brookfield, 1995).
More time devoted to each session is one strategy to support reflection and invitations to co-author (or encourage individuals to author) publications of reflective insights on teaching/online assessment is another consideration for the future.

This last point is also coming to be seen as part of a model for the scholarship of teaching (Boyer, 1990). An exploration of the scholarship of teaching literature reveals that there are several levels of this activity, the first three of which are preliminary to publishing (Trigwell et al., 2000, p. 163). If participants in AL sets can be encouraged to:

1. engage with the scholarly contributions of others including the literature of teaching and learning in higher education
2. reflect upon their own teaching practice within a disciplinary context and identify insights
3. communicate and disseminate their own insights on theory and practice of teaching and learning within their discipline,

…then they will be demonstrating the initial levels of a scholarship of teaching. Further to these steps, the publication of insights in refereed journals, conference proceedings or the development of successful grant applications on the strength of these insights shows the highest levels of the scholarship of teaching. In the follow-up from this cycle, I personally encouraged and assisted (in my role within the Teaching and Learning Centre), Guava to apply for a national award. As reported earlier, she was successful in 2006, on her second attempt.

5.7.4 Cross-disciplinary action research process

Finally, the question of disciplinarity is one that had become of central importance in this cycle. Beginning with a simple notion of introducing diversity of perspectives to the AL sets, the significance of having this diversity proved much greater than I had initially envisaged. Standing aside from tacit disciplinary practices became central to the critical inquiry process, and enabled us to demonstrate the following strategies (from Scott & Weeks, 1998, p. 247):

• Challenge and change disciplinary-insular values and beliefs, such as the gentle challenge from Guava to Cherimoya that, despite his confession of apparent disciplinary norms, actually, the learning objectives were critical to the design of one’s teaching and learning activities. This resulted in Cherimoya accepting the unit documentation as a valid basis for pedagogical design.

• Analyse and deconstruct personal linguistic and abstract conceptions, such as Macadamia’s explanation of her technical language in the term ‘lurk before you leap’ when describing the suggested preparation of students for online discussion.
• *Explore multiple meanings and dimensions of linguistic conceptions,* such as the questions about Cherimoya’s portfolio: was it to contain reflections or not, was it to be online or not. He described it as a ‘scrapbook of media resources’ in the first implementation to be developed for online use later without particular emphasis on reflection in this case.

• *Convert ‘story’, narrative and common sense into educational knowledge,* such as when Fig was describing her notion of linking assessment tasks to each other … ‘I’ve asked them to reflect on their major learning points and then indicate what they’re going to be exploring in regard to their [topic] …’ and Cherimoya’s naming this as ‘like a proposal’.

• *Elicit and authenticate ‘tacit’ knowledge,* such as Guava’s justification for implementing the online mapping group activity by explaining its relationship to authentic professional scientific practice, of which none of the set members had been aware.

• *Critically explore personal and collective conceptions:* for example, without specifically referring to a ‘blended cohort’ which might have seemed jargonistic to Cherimoya, I asked him about designing online assessment for on-campus students (in preparation for off-campus delivery later), which Cherimoya said he was happy to do.

In response to the suggestion made in the last of these points, Cherimoya commented:

> Cherimoya: Given my experience of undergrads these days, they’re pretty *au fait* with technology. My [students] like engaging with it I think … I have a bias here, I suspect people who come from a surfing background are quite happy fiddling around with the Internet whereas they mightn’t be as happy reading journal articles and things like that … I might try and use that to my advantage where I can.

### 5.8 Lingering on the garden bench

This chapter has yielded some very fruitful engagements with the literature, including references to the published data available at the time regarding the first-year experience, and how the foundation skills of information literacy are increasingly being built into the curriculum. The particular areas of relevance to my research questions – collaborative educational design and the positive impact of cross-disciplinary dialogue, have also been highlighted in this cycle.

I have indicated how I was confronted by my assumptions in selecting participants for action learning sets. While my strategy for identifying relevant academics from my online staff development workshops had seemed a good way to find those who were self-
selecting for professional development in the online context, apparently identification of library staff through this means was not so appropriate. I realised that some library roles are to do with collections, networks and systems management, which have as their goals much more overarching outcomes than the immediate student experience. For my future action learning sets, I really needed to be sure that the library representative was a liaison librarian, with a more immediate need to support student learning and assessment.

In the interests of maintaining a diversity of disciplinary inputs within the action learning set in this cycle, I had not thought about people’s prior experience with action learning or action research. What emerged was a realisation that prior experience with action research can sometimes amount to a hindrance in future involvement. I had invited one set member (Fig) who had prior experience with action learning. I thought this would offset the other demands upon her of her own doctoral research (just like Peach from Cycle 1). However, her past experience turned out to be a strong negative bias against my approach and I learned that those with experience in action learning need to be counselled prior to involvement in order to clear away preconceptions and allow a new openness to recommit the process. Not having done this meant that Fig projected a sense of weariness with reflection and allowed herself little chance for personal investment in my research. She thus expressed some impatience with the process and left Cycle 2 prior to its completion.

Fig’s comments about what happened after that (she made no change to her assessment despite all intentions) also reflected the external factors counteracting a creative approach to educational design. My personal experience of these same institutional constraints was that the Head of School had advised me to have minimal input with course design during that period of restructure. My hands were tied and since the restructure, this course and the academics involved are no longer within my portfolio of responsibilities.

Apart from the external factors, about which it seemed we could do little, I decided that finding academics and service providers who could authentically invest in the outcomes of our collegial work would be critical. This will also be vital beyond the research and into my own practice. It is significant when the members of any development team have a sense of buy-in that ensures they are prepared to weather the storms and challenges we will inevitably encounter along the way.

In terms of the process of reflection in this cycle, I no longer expected a natural engagement with reflection between sessions and thus had commenced a strategy of posing a small number of prompt questions for consideration prior to each session. I included these prompts in each email and attached the transcript from our previous session for member checking. Although this was effective in stimulating the reflections of Guava (herself an experienced and reflective practitioner, as evidenced by her subsequent attainment of a Carrick citation for teaching excellence) and Macadamia (who was now involved for a
second cycle in my research), it seemed to have little impact on Fig and Cherimoya who were both substantially impacted by external influences. Perhaps the explicit prompting of reflection between sessions was precisely the thing that caused Fig to make a hasty departure from the cycle. I clearly saw that both readiness and willingness to reflect are a must in action learning and action research.

The external influences on Cherimoya, which included relocation to another campus and picking up the responsibility for course coordination of a brand-new course, were also the reason that Cherimoya did not leave the cycle. His need for collegial support and the chance to take time out for reflection meant that the cycle was of specific and immediate value to him. He seized the opportunity for strengthening his interactions with the technical staff as he moved further away from the Lismore campus, as well as striking up an immediate partnership with the liaison librarian at his new campus. These supports were critical for him at a time of change and challenge.

The combination of academics and service providers from a number of disciplinary contexts also ensured that at least for the duration of the action learning set, the disciplinary-based politics were viewed from a more institutional or a transdisciplinary perspective.
Observe always that everything is the result of a change, and get used to thinking that there is nothing Nature loves so well as to change existing forms and to make new ones like them.

Marcus Aurelius (121–180)
6.0 Touring the exhibition gardens

As demonstrated in Chapter 5, some critical lessons were learned about the impacts that organisational change continued to make upon individuals at Southern Cross. These factors, external to the design process and usually beyond the academics’ control, had the effect of delaying or impeding the creative design and development of online assessment. It thus became clear to me that I needed once again to take a look beyond the organisational context and its apparent constraints at what was transpiring in the sector more broadly. This chapter thus steps aside from the AL cycles to take account of the external environment where online assessment was being increasingly adopted.

Earlier, Chapter 3 indicated the process that I undertook overall at this stage, through phone and personal interviews at the four regional dual-mode universities originally sampled. A more detailed analysis is presented here as a marker for the temporal place that these interviews had in my research process, and to bring the issues into focus before embarking upon the third AL cycle at Southern Cross. The precise reason for interrupting my AL cycles at this time was to consolidate my understanding of how critical the organisational context may be as compared to the process of critical reflection in determining the assessment designs that academics achieve. Thus, through twelve interviews of academics (three from each of four universities) I sought to obtain further information about the nature, purpose and authenticity of online assessment design, as well as exploring the process of design with academic staff.

As part of the exploration of reflective practice through these twelve interviews with academics, I also explored the topic of the scholarship of teaching, following the realisation I’d had from the previous Round Two interviews. In hindsight, I saw that these innovators were referring me to their published works for more details of their assessment designs and pedagogical rationales. I became aware that they had integrated their reflective inquiry together with the dissemination of their insights and the critical peer review that accompanies a true process of the scholarship of teaching (Trigwell et al., 2000a). I wanted to see whether this was evident more widely.

In this chapter I also refer once again to Appendix 5 (O’Reilly, 2004) which covers the purposive sample of educational designers that I undertook to gain perspective on the established educational design practices at each institution, and to validate the context for innovative cases of online assessment. Neuman (1991) explains the benefit of purposive sampling in such a case where specialist information is sought. In addition, I cite the O’Reilly and Hayden (in press, 2008) publication throughout this chapter in order to capture the details of all case studies collected.
6.1 Preparing to go on tour of the exhibition gardens

In order to identify the innovative assessment designs for online and determine how they had been developed in the four regional universities in my study, I applied for and received an internal research grant that allowed me to travel to each of the other three universities to interview academics. As a follow-up on the initial Web surveys I conducted prior to the AL Cycles, I made contact with academics who had previously agreed to provide further details. In total I was able to interview 22 academics across the four regional universities using a snowball method of sampling. These details have appeared in Chapter 3. Interviews explored innovative design for online assessment as well as the involvement (if any) of educational designers. Appendix 5 presents details of three cases of transdisciplinary partnerships between academics and educational designers during the process of designing online assessment. In order to distill the perspectives of educational designers concerned with the design of innovative cases of online assessment, I made a series of mediated arrangements as time and technology permitted, to conduct focus groups with each university. These were mentioned in Chapter 3 with details of Round One and are briefly shown in Table 6.1:
<table>
<thead>
<tr>
<th>Uni</th>
<th>Round Two follow-up by telephone</th>
<th>Round Three follow-up by telephone</th>
<th>Interviews with educational designers</th>
<th>Face-to-face interviews for case studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSU</td>
<td>3 academics (of 10 responses) were interviewed, one referred me to another.</td>
<td>Interview with one academic referred in 1st round, who referred to one more academic plus educational designer</td>
<td>Focus group teleconference with 2 educational designers (each from different campuses)</td>
<td>3 academics (2 from original survey and follow-up, plus one 1st round referral)</td>
</tr>
<tr>
<td>USQ</td>
<td>3 academics (of 7 responses) were interviewed, one was a novice with respect to online assessment; one was an educational designer; and 2 referred me to 4 other academics plus one other educational designer</td>
<td>3 academics interviewed referred me to 4 more academics (one at an institution outside my sample), plus the educational designer already identified. One interview with academics was conducted from these referrals.</td>
<td>Videoconference focus group with 4 educational designers (one from original survey and follow-up, one who had been referred by 2 others, plus their 2 colleagues)</td>
<td>3 academics interviewed (one from original survey and follow-up, plus 2 from 1st round of referrals)</td>
</tr>
<tr>
<td>UNE</td>
<td>One academic completed the Web survey and was followed up by phone interview, one referral was obtained</td>
<td>One interview was conducted and from this one more referral obtained (but at an institution outside my sample)</td>
<td>2 educational designers responded to invitation sent to all 4 educational designers. Only one was available for phone interview.</td>
<td>3 academics interviewed (one from 1st round of referrals and 2 referred by educational designer).</td>
</tr>
<tr>
<td>SCU</td>
<td>5 follow-up phone interviews were completed (of 11 responses), and 3 referrals received</td>
<td>2 interviews were conducted and 2 more referrals obtained (another 3 referrals validated academics already identified)</td>
<td>Face-to-face focus group with 2 educational designers</td>
<td>3 academics interviewed (one from Web survey and follow-up, one from 1st round of referrals, one from 2nd round).</td>
</tr>
</tbody>
</table>

Table 6.1: Brief details of snowball sampling to obtain examples of innovative online assessment

6.1.1 Low hanging fruit

The sequence of interviews with academics, as well as their colleagues to whom I was referred for further details of online assessment, was a rewarding process. The innovators or as termed by Hersey, Blanchard & Johnson, 2000 ‘peak performers’ were commonly known within their institutions, particularly by the educational designers who thus
recommended them to me. Certainly, examples easily came to light in Rounds Two and
Three of this data collection, thus leading to the twelve face-to-face interviews. As distilled
from these interview rounds, those academics who embraced a process of continuous
enhancement of the design of online assessment also tended to have a consultative and
scholarly approach to their teaching and assessment practices overall. For this reason, I
focused my actual exploration of each case not only on details of the assessment design,
but also on how academics decided on this scheme. I asked about the consultative and
reflective processes undertaken and, ultimately, the extent to which insights were shared
with a wider audience.

Whether or not academics explicitly acknowledged their engagement in the scholarship of
teaching and learning or their collaborations (if any) with an educational design colleague
in their institution, this is nonetheless what appeared to be occurring (see Appendix 5).
Furthermore, the interviews revealed the readiness with which academics identified
their pedagogical rationale for redesigning assessment for online. This was the type
of problem-focus that Nowotny (2003) explained would underpin transition towards a
transdisciplinary approach to curriculum design. Thus it was from my encounter at this
time with Nowotny’s (2003) assertion that I finally replaced my prior reference to the
cross-disciplinary nature of the collaboration with the term transdisciplinary collaboration.
This was also in keeping with Jantsch’s (1970a) definition mentioned in Chapter 4 which
described transdisciplinarity as a reciprocal, multi-level, multi-goal coordination of all
disciplines in the system, resulting in mutual enrichment … and that was definitely one of
the intended outcomes the AL cycles.

The problem focus mentioned here is also part of the paradigm proposed by Gibbons and
colleagues (Gibbons, 1997; Gibbons et al., 1994), termed Mode 2 knowledge production,
which further resonated with my approach in this research.

6.1.2 Mode 2 knowledge production

Considerations of knowledge production have developed recently from the work of
Gibbons et al. (1994) and the further-refined concepts of Nowotny et al. (2001). The
theory put by these proponents distinguishes traditional knowledge production (Mode 1)
whereby knowledge is advanced in contexts that are seen as secure, reliable, hierarchical
and homogeneous disciplinary specialisms, from that of Mode 2 knowledge production.
Mode 2 is described as a new form of knowledge production which ‘is carried out in a
context of application’, is ‘transdisciplinary’, ‘characterised by heterogeneity of skills’,
is more ‘transient’, ‘socially accountable and reflexive’ (Gibbons, 1997, p. 9). Mode 2 is thus
knowledge that is continuously negotiated until all stakeholders’ interests are
taken into account, and the inquiry can be guided to a consensus regarding cognitive and
social determinants for action (that transgress traditional disciplinary boundaries). This consensus, however, may only be temporary, dissolving when problems are solved. The dissemination of outcomes of Mode 2 activities is also:

… unlike Mode 1 where results are communicated through institutional channels [but instead], results are communicated to those who have participated as they participate … subsequent diffusion occurs primarily as the original practitioners move to new problem contexts … (Gibbons, 1997, p. 12).

Present dialogue amongst theorists, researchers and educators alike regarding the concept of Mode 2 knowledge production (Gibbons et al., 1994), thus refers to a reversal of a prior trend to reinforce the specialisations of disciplines, and instead seeks ways of embracing diversity, complexity and a multiplicity of perspectives in discourse. The now-famous quote (whose origins have been lost) serves to illustrate this point well: ‘The world has problems, but universities have departments’ (in Pohl, 2005). Through a Mode 2 lens, both curriculum and research activities are now more likely to take account of the institutional context (including the student demographic) as well as to acknowledge the critical need of preparing academics for teaching in such diverse, complex and multi-faceted contexts (Klein, 1998). No longer is the disciplinary domain of singular importance to academics, but the bigger picture of creative curriculum innovation within a dynamic educational context requires an ability to stand within one’s disciplinary context while applying an integrated approach to pedagogical solutions and reforms. Furthermore, Klein’s (2004, p. 518) reckoning is that ‘Transdisciplinarity raises the question of not only problem solution but problem choice’ (emphasis in original).

6.1.3 Fellow gardeners and their patch

To explore these conceptions of Mode 2 knowledge production and the problem-focus of transdisciplinary work, I made a decision to obtain more detailed data from other universities. I expected that this would also contextualise the AL cycles that formed the basis of my action research project. The next step was logically to explore details of educational design procedures at other institutions from the perspectives of both subject-matter experts and educational designers. Following up on the original Web survey was a matter of catching academics by telephone when they were available and willing to be interviewed for approximately 30–60 minutes. Those who agreed also provided details documenting their assessment designs through follow-up emails with their unit outlines attached.

In order to benchmark the educational design activities at Southern Cross, I sought to organise focus groups with educational design colleagues at each of the four regional universities in my study. The purpose of these focus groups was to explore educational design models being implemented at each institution. While the intention was to
videoconference and record the sessions, this proved to be too difficult – with CSU being multi-campus and not technically compatible with the Southern Cross videoconference system; UNE having only one staff member who was available for interview, and Southern Cross being my home institution where I planned to engage face-to-face and record the audio. USQ was the only institution with which I conducted a videoconference. Even so, the technical difficulties did not end there – the video recording for USQ and the audio recording for Southern Cross did not work. In both these cases I relied on written notes also taken at the time of interview and submitted these summary notes to my colleagues for member checking. The two audio recordings from the CSU and UNE interviews were transcribed and sent for member checking.

6.2 The touring season

I have already provided a brief overview of educational design practices, their theoretical underpinnings and contemporary models of practice in Chapter 1 as background to my research question. Now, after two action learning cycles, my emerging model of collaborative and transdisciplinary educational design was appearing to be of practical value. Unlike the models of Willis (1995) and Crawford (2004) which, as I mentioned earlier, appeared to put educational designers ‘stuck in a groove’, this approach of mine provided potential for a richly unique design process in each iteration, due to the multiple perspectives being brought to the task at hand. My approach seemed to have more in common with the concept of educational designers as change agents (Campbell, Schwier & Kenny, 2005; Schwier, Campbell & Kenny, 2004). Thus, at this time I thought it was important to investigate the actual practices in all four universities as a means of validating the literature and testing the distinctiveness of my approach.

6.2.1 Gardeners’ community meetings

To interview educational designers about their practices I needed a purposive sample. I was seeking to interview my professional peers and to discuss issues of assessment design requiring a certain level of expertise and experience. I took focus groups to be the most appropriate method of working with this sample since the benefits of focus groups in this case were twofold:

1. Efficiency of interview time for all
2. Leveraging on the range of experiences provided within each group of educational designers through their shared attention to relevant claims, concerns and issues (Guba & Lincoln, 1989).

In addition, the recommended size of focus groups is between six and twelve (McAteer in Harvey, 1998, p. 38), and I knew that educational design teams in each of the sample
universities were relatively small (up to six at most campuses, with eleven at one campus). I was specifically aiming for the small-group interaction to resonate with the effects of the action learning cycles observed so far, and viewed the interchange of ideas between focus group participants as having the potential to seed change of awareness or practice, even in a minor way (Ehrmann & Zúñiga, 1997).

A one-hour session at a time of mutual convenience to the maximum number of educational design staff in these sample groups was arranged. The response was as follows:

<table>
<thead>
<tr>
<th>University</th>
<th>Type of focus group</th>
<th>Number in group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Sturt University</td>
<td>Teleconference</td>
<td>2</td>
</tr>
<tr>
<td>Southern Cross University</td>
<td>Face-to-face interview</td>
<td>2</td>
</tr>
<tr>
<td>University of New England</td>
<td>Face-to-face interview</td>
<td>1</td>
</tr>
<tr>
<td>University of Southern Queensland</td>
<td>Videoconference</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

Table 6.2: Focus group interviews with educational designers in four regional universities

### 6.2.2 Four different garden plots

I conducted semi-structured interviews with each group of educational designers. My questions concerned affiliations with specific discipline/s; institutional requirements of the educational design role including its classification; habits of work, whether one-to-one or development teams; issues of specific relevance to the online context; extent of involvement in academic staff development and/or the scholarship of teaching (full list of prompt questions can be found in Appendix 4).

Appendix 5 contains the published article with some details of the four interviews of educational designers and their practices. In this section I will briefly highlight the issues of most significance to the action research project itself with particular regard to questions of transdisciplinarity.

#### 6.2.2.1 Charles Sturt University

The two colleagues interviewed in this case were both employed as professional staff rather than having an academic role. Their title of ‘instructional designer’ was a reflection of this role as well as the fact that their involvement in design work was focused more to the development and production phase than the earlier planning and design phase. Their responsibilities might at times include project-based roles such as ‘media manager’ and
‘coordinator of MCQ testing tools’ (where MCQ is shorthand for multiple-choice quiz). This means that the design of assessments tends to have been completed by the time these instructional designers are engaged in the process.

Instructional design collaboration with academic staff was described as taking place on a one-to-one basis and largely not team-based with no evidence of transdisciplinary interactions. When academics seek ideas on innovations and pedagogical designs in this institution, they are encouraged to collaborate with colleagues either within the University, or through creative networks across the sector, or from the literature. The interviewees in this case reported that a level of informal collaboration often resulted where academic subject matter experts may have developed a good rapport with instructional designers.

Interviewees also described recent development projects at the institutional level such as a pilot project focused on learning designs, as instances where development teams are brought together including instructional designers, IT services staff and production staff. These teams were formed for the duration of the project and were not established as part of the long-term institutional structure, much as suggested in the Mode 2 knowledge production model.

At this University, instructional designers can also be involved in the academic staff development programs which are largely informal, and where academic staff from a number of disciplines may be in attendance. Formal staff development initiatives include teaching critique, seminars and workshops to which staff from other campuses of the university might travel to attend.

Even though the University was beginning to adopt a performance-based funding scheme, which included the scholarship of teaching as one of the criteria, only one of the instructional designers reported being currently active in her own scholarship. She had been researching and publishing in the field of science education on adaptive management as an environmental tool.

### 6.2.2.2 University of Southern Queensland

In this case, I interviewed four educational designers by videoconference. They were the full-time members of the centralised team and were classified as academic staff. Together with one part-time member, they each took carriage of the educational design needs of one faculty, thus having a restricted range of disciplinary contexts in which they worked.

They described the principal delivery mode at that time as being a ‘hybrid model’, meaning it incorporated content using both print-based and CD-ROM resources. While the university had a strong online presence, as yet there was limited design or implementation of online assessment. The reason given for this was to ensure equity of access for all students and, to
this end, the plans for online assessment were being considered at the broader management level. Small-scale applications of the emerging model of online assessment was described by these educational designers as being along the lines of authentic assessment tasks.

On the question of transdisciplinarity, their faculty-based roles restricted the possibilities for too broad an approach. If any team-based work occurred, it tended to be multi-disciplinary in nature, for example including the physics and engineering colleagues in discussions of pedagogy and curriculum. Educational designers who took part in the annual induction programs for new staff were in the best position to have transdisciplinary contact, though this was not design-oriented nor a collaborative process. Rather, it was in the design and development of tertiary preparation courses such as those on English language ability for overseas students, and in those on advanced information literacy for postgraduate students, that a transdisciplinary perspective had occurred.

Staff development seminars and workshops facilitated by educational designers offered academics the best opportunity for cross-disciplinary interaction. Otherwise the model of practice as described at this University was a traditional mix of one-to-one as well as ‘groups from faculty’. Scholarly publications from this group of educational designers included individually authored works on cross-cultural and language issues in learning, and co-authored works on educational technology innovations in teaching and learning, and the scholarship of educational design.

6.2.2.3 University of New England

In this case the single ‘instructional designer’ interviewed described the context of work on behalf of her colleagues who were not available to participate in an interview. She mentioned recent changes that had reduced the size and the configuration of the team from one academic staff developer and four instructional designers, to the current team of two academic staff developers and only two instructional designers. This team was situated in a centralised Teaching and Learning Centre but its members were not classified as academic staff, reflected once again in the use of the title ‘instructional designer’.

The work of this group was primarily structured around projects, meaning that if a one-to-one consultation between a subject-matter expert and instructional designer was going to develop into a design project, then an application needed to be put to the Teaching and Learning Centre to give it project status and allocate the requisite personnel including IT programmers, graphic designers, multimedia developers and so on. With such a project-based approach, the cross-disciplinary inputs were from the development perspective and not across academic knowledge domains. Other kinds of collaborative development teams could include academic, instructional design, library and technical staff. These were occasionally convened for development of teaching, learning and assessment strategies.
within generic academic support or study skills packages, again bearing some resemblance to Mode 2 knowledge production.

The transdisciplinary approach did not appear to fit into the practices at this institution. However, the presence of a number of combined degrees at this university suggested some collaboration across disciplines, though this was not reported to me in relation to assessment design. Within these degrees, units core to multiple programs offered students assessment options according to their disciplinary focus, for example a geology unit may have one assessment option for geography students and another for the science students. This interviewee declared that: ‘Cross-fertilisation [of ideas between staff] doesn’t happen very often, despite quite a few attempts to encourage it.’

The interviewee in this case gave an example of how assessment might be designed where one unit may be core to a few different programs – where academics from the disciplines of science and education happened to be knowledgeable about teaching strategies and theory, and one of the scientists had done some additional studies in the area of assessment, they were able to design an assessment strategy that was suitable to both disciplinary perspectives.

The input of instructional design staff into academic staff development programs appeared to be hampered at this time due to their classification as non-academic, and the changes to the team. In addition to this hindrance, involvement of instructional designers in the evaluation component of the development cycle had not been occurring lately due to these same structural changes. This organisational change and the lack of evaluation data to validate design practices, had also resulted over recent years in a lack of publications and conference attendance by this instructional designer.

### 6.2.2.4 Southern Cross University

The final focus group interview I conducted was face-to-face with my own two colleagues. They reported on their academic classification as educational designers and their central situation in the Teaching and Learning Centre, plus describing a collection of disciplinary areas within each of their portfolios. They had deliberately distributed these areas of responsibility across faculty divides, thus stimulating an ongoing awareness of disciplinary discourses. Both of my colleagues described their work as being primarily on a one-to-one basis with academic staff involved in the design of teaching, learning and assessment processes.

Online assessment was not something either of my colleagues was proactive in proposing to the academics who consulted with them. One commented that she works with the more problematic cases, noting that the ‘innovators need us least’. The other explained that designing online assessment was something that emerged from discussions with staff and
the appropriateness for the discipline, not due to his suggestions or recommendations. Examples of where this might be taken up included cases where special or authentic objectives prevail, such as in programs delivered to students who travel for their employment and need to study and carry out assignments while in transit.

Neither had been working with design teams and nor had they taken a transdisciplinary approach to their design activities as these were said to be ‘not the bread and butter of our educational design work’. However, working with small groups and school-based groups was an aspect of their approach to academic staff development. The kind of staff development workshop or seminar that was open to all staff was identified as the primary opportunity for cross-disciplinary dialogue amongst academic staff.

Both my colleagues were active researchers and published in journals and conference proceedings on questions of educational design practice, flexible learning and assessment.

It must also be said that while some of the data provided by my colleagues is also applicable to my own role, there are also differences in my professional practices which arose as a direct result of this research. So the case reported here only describes Southern Cross if my perspective, where it may differ from that of my colleagues is also taken into account. I also have my own areas of research, and regularly co-author with my colleagues on topics of common interest.

### 6.2.3 Every gardener has their plot

These cases across four universities revealed that educational design practices are most commonly based on a one-to-one model of practice. Group-based developments tended to only occur within allied disciplines where the project necessitated a cross-disciplinary approach to curriculum design. Evidence of transdisciplinary activities, where academics are able to temporarily ‘transcend’ their disciplinary strictures in order to solve the presenting problem or project task, was only found in association with preparatory courses or induction to tertiary teaching programs. At this point where academics are new to teaching or new to the institution, it is arguably an easier matter to stand aside from one’s disciplinary determinations and consider aspects of good teaching and the skills in facilitation of learning in a more generic and holistic sense.

These responses by educational designers bore no examples of transdisciplinary curriculum development teams or even such teams for assessment design. Furthermore, the inclusion of librarians in development projects was restricted to the design and delivery of information literacy and language proficiency programs for students. Inclusion of librarians in assessment design processes was not found in any of these cases, other than my own university.
Academic staff development was commonly described as a part of the educational design role, and this was where most of the cross-disciplinary interactions were reported to occur. Seminars and workshops that were held for the broad university community tended to be the forums for cross-disciplinary discourse. While not specifically explored in interviews with educational designers, it was my experience that transdisciplinary discussions were most unlikely to occur in these forums because participants were imbued with their disciplinary culture and contextualised their inquiry through this filter. Their disciplinary identity is largely what defines their place in academia (Becher, 1987a). While at a seminar, any benchmarking academics may be undertaking as to ‘how things are done’ or ‘what is the conception of this issue’ in other areas of the university, tended to be from the perspective of their disciplinary paradigm. Questioning and stepping aside from disciplinary discourse and conventions was not the natural approach academics take in this situation. In order to facilitate opportunities for Mode 2 inquiry it seemed that a diverse team with a problem focus, such as the AL cycles, was a good method.

Finally, the scholarship of teaching activities mentioned in the above summary of educational designer interviews generally revealed their professional approach to reflective practice and their productivity in sharing insights. In several cases the educational designers (and instructional designers) interviewed had published articles and conference papers on their innovations and evaluations. This observation of a willingness to share insights needs to be tempered with an acknowledgement that in one case I could not gain the agreement of more than one colleague to an interview, though at least two more colleagues were part of the team. Notwithstanding, the findings overall are similar to the findings of Schwier, Campbell and Kenny (2004, p. 81) who report that the profession is reflective and scholarly with a focus ‘close to the ground, for the most part, not in the clouds’.

### 6.3 Round Three interviews

During this same period I also conducted the three interviews in Round Three of the snowball sampling method (previously described). These three academics were referred to me because they were considered by their academic colleagues to be innovators when it came to designing online assessment, and were known as peak performers in their own institutions.

Following Round Two, the approaches of academic staff to the scholarship of teaching had also become evident to me. Thus, I conducted the interviews in Round Three to continue exploring the extent of the scholarship of teaching in these ‘peak performers’. I was hoping to further cross-check the nature of educational design that I was learning about from the educational/instructional designers themselves, with the academics’ perspectives.
The fourth university in my sample did not yield a case for Round Three (see Table 6.1) because, as alluded to earlier, the Round Two interviewee in that case was relatively new to his institution and referred me to a more familiar colleague at his prior university (which was not suited to my sample). It was not until I interviewed the educational designer that I was able to identify more examples of online assessment design at the fourth university in my sample.

6.3.1 Pioneer species

The three examples of online assessment in this section are each pioneering in their own way. Additional details can be found in Appendix 5.

6.3.1.1 Charles Sturt University

The academic in this case was from the discipline of education and was involved in co-teaching with a colleague from the Information Technology field. Their approach involved the blending of two student cohorts, one from the Masters of Information Technology and the other from the Masters of Teacher Librarianship program. Common to both groups was a unit about computer support of collaborative work. Assessment tasks were structured in a developmental way so that as student teams experienced the online environment and the collaboration support tools, students were also required to keep a reflective log of their personal learning journey. Their final grade was comprised of a group mark combined with an individual mark.

This academic described the process of designing the assessment task as being a collaboration with her colleague who co-taught this unit. Her innovative ideas came not only from exchange with this ‘critical friend’, but also from a number of sources including: literature about online communities of practice and the process of scaffolding student learning in the context of group work; her own reflections on past teaching experience; and students’ feedback. She valued the opportunity to collaborate with her co-teaching colleague who was from another discipline and was also qualified to provide technical support.

In this case, an educational designer colleague was seen as an ‘objective outsider’. He had been initially consulted to assist in development of the subject outline. He subsequently checked the constructive alignment and assisted with development of marking rubrics. There had been no other opportunities provided for this academic to consult with a cross-disciplinary team of colleagues. She mentioned several subjects that she designed and taught with innovative approaches, which she systematically evaluated to capture student feedback for continuous improvement. She was looking forward to engaging more extensively with her scholarship of teaching during a forthcoming sabbatical.
6.3.1.2 University of Southern Queensland

This academic described a collaborative ‘multi-disciplinary team’ made up of seven academic colleagues from two faculties (engineering and science), and supported by educational design and technical support staff. The multi-disciplinary team of colleagues collaborated to design, develop and review the problem-based assessment scheme in this academic’s unit. The problem-based model of this unit also required this academic to manage the facilitation of 45–50 groups in a class of 300 students as well as be part of the teaching team.

Fortnightly team meetings were held for all staff concerned as the assessment design involved a series of submissions for feedback in accordance with the problem-based paradigm, and needed to be moderated and managed for consistency. This team approach brought together a diversity of perspectives from within the engineering and science domains. The interviewee commented on the strengths of this saying it was an ‘ideal example… [of] people with different expertise bringing complementary strengths to the team.’

The approach in this case reflects Jantsch’s (1970b) description of an interdisciplinarity. With its level of complexity – large scale unit, diversity of students who may be studying engineering, information technology or science, and the problem-based approach to pedagogy, the initial administration of the team of staff has potential to present difficulties ‘if staff do not work as a team’. The interviewee explained that meetings were key to solving the management of differences between staff experience, capabilities, their relative levels of contribution and workload allocations.

In terms of opening up this team approach to input from a broader disciplinary base specifically for the design of online assessment, this academic identified the value of future consultation with staff from psychology and perhaps the field of arts. His scholarship of teaching activities were already underway as far as preparing conference papers in collaboration with educational designers and academic members of the teaching team.

6.3.1.3 Southern Cross University

In my snowball method of sampling, I had followed the same kind of trail at Southern Cross as I had at other universities. Firstly, I interviewed the Web survey respondents in Round One and they referred me to colleagues whom I interviewed in Round Two. One of these academics had previously been a set member in my action learning cycle AL1 (reported in Chapter 4), and in this way he had encountered a colleague in another discipline area (i.e. Lychee in AL1) who had been instrumental in prompting him to adopt more innovative forms of online assessment. In the interests of including the ‘peak performers’ that were identified for Round Three interviews from each university, I also detail the following
case, bearing in mind that this interview took place approximately twelve months after AL1 had ended.

This academic was from the field of auditing and finance. His online assessment design at this time had evolved from previous experience and the student feedback he had received, which reinforced the benefit of authentic assessment tasks. He was no longer providing print-based resources and instead was using the online environment for all teaching and learning activities with his final-year undergraduate students. Their assessment task included an option to engage in a question-and-answer session with recently graduated alumni, who were now in professional practice. Using the asynchronous discussion forums, this innovation brought students into contact with an authentic perspective on their learning and the context for disciplinary knowledge.

Due to this academic’s involvement in my first AL cycle, and also as a direct consequence of his involvement, he described how his move from solo activities in design, development, implementation and evaluation of assessment strategies had occurred through that period of working in transdisciplinary design teams. He described his perspective on the action learning process as having been an encouraging method for clarifying and pursuing ideas in a transdisciplinary context. He felt that this had supplemented his personal approach of broadly consulting with colleagues within his school, and that more opportunities for transdisciplinary consultations would be of value.

In this instance however, he had not consulted with an educational designer in developing the current innovation. On the other hand, he had been consulted by others both from outside his school in the follow-up to Cycle 1, and from within his own school by colleagues who hoped to co-author papers on their reflections and experiences of online pedagogy. These events reinforced what he’d initially come to see due to his involvement in the Cycle 1 process, and that is that he had a contribution to make that was evidently valued by his peers. He recognised that he had a wealth of experiences that were new and different in terms of online teaching and assessment and in his interview he noted ‘my focus on publication emerged from the action learning group as through my reflections, I realised I had something worth talking about with others’. His excitement was evident as he listed three publications he was working on at that time, as his emergent scholarship of teaching activities. He has since published several national and international conference papers as well as refereed journal articles thereby demonstrating a high level of scholarship of teaching in his disciplinary area.
6.3.2 Cross-pollination

It was evident from these three academics that they were inclined to find a ‘critical friend’ with whom to discuss their design and development ideas, whether in terms of teaching, learning, assessment or the curriculum overall. In each case, this was not done by formal arrangement and did not occur outside the usual connections of the discipline or allied contexts. However, due to the peculiarities of the case from Southern Cross having been involved in my research project, a level of transdisciplinary engagement was evident. The reflective process as it is shared in all these ways, both within the discipline and across disciplines, supports the notion of continuous improvement inherent in exemplary and innovative teaching practice.

While interviews with educational designers described previously showed that they did not think it to be in their current purview to convene cross-disciplinary design teams and work from a transdisciplinary perspective, the lack of opportunity that academics had to engage in these ways and the evidence emerging from the AL cycles of this research have indicated the potential benefits to be obtained through implementing not only a recursive and reflective approach as advanced by the Willis (1995) and Crawford (2004) models, but rather to also work from a transdisciplinary model of educational design (O’Reilly, 2004).

6.4 Tour highlights

The snowball method of sampling had resulted in 22 cases as previously depicted in Table 3.6. In this sojourn between AL cycles, I was interested in investigating the organisational context in other universities and the process of critical reflection academics undertook. I thus selected the following ten from the total of 22 cases, for further exploration through face-to-face interviews. I also proposed to examine details in the documentation of assessment as issued to students. My method of selection was based firstly on the details already provided, which gave me cause to seek more extensive information, not only about the assessment tasks but also about their reflective and scholarly approach to the process of assessment design. As mentioned earlier, I also requested that the educational designer, from her central perspective of teaching and learning at UNE, provide me with two additional referrals to the known innovators in online assessment. I did this purposive sampling for the same reasons that I had in selecting the educational designers to interview, that is I was looking to find in-depth detail about a specific area (online assessment), and was finding it difficult to locate potential interviewees through the snowball method (Neuman, 1991). I also sought these additional examples to balance the representation from each of the universities, as I knew there to be relevant activities in each of the four regional universities.
Table 6.3 shows all twelve cases that will be discussed in the following section, and which appear in full detail in O’Reilly and Hayden (in press, 2008). They are numbered here in accordance with their order of presentation in the published article. What follows are some of the common features and essential issues encountered during the season of ‘touring the exhibition gardens’.

<table>
<thead>
<tr>
<th>Num</th>
<th>Uni</th>
<th>Round</th>
<th>Assessment</th>
<th>Discipline</th>
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<tbody>
<tr>
<td>1</td>
<td>UNE</td>
<td>1</td>
<td>Whole-of-class shared grade</td>
<td>Linguistics</td>
</tr>
<tr>
<td>2</td>
<td>UNE</td>
<td>2</td>
<td>Discussion forums, individual and group marks</td>
<td>Law</td>
</tr>
<tr>
<td>3</td>
<td>SCU</td>
<td>1</td>
<td>Constructivist discussion forums</td>
<td>Education</td>
</tr>
<tr>
<td>4</td>
<td>SCU</td>
<td>3</td>
<td>Optional Q&amp;A forums with alumni</td>
<td>Auditing</td>
</tr>
<tr>
<td>5</td>
<td>SCU</td>
<td>2</td>
<td>Simulated organisation, comm/doc exchange</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>6</td>
<td>CSU</td>
<td>1</td>
<td>Self-assess quiz for formative support</td>
<td>Health</td>
</tr>
<tr>
<td>7</td>
<td>UNE</td>
<td>1</td>
<td>Online quiz for blended cohort</td>
<td>Geology</td>
</tr>
<tr>
<td>8</td>
<td>USQ</td>
<td>1</td>
<td>14 quizzes (can be retaken for formative use)</td>
<td>Maths</td>
</tr>
<tr>
<td>9</td>
<td>CSU</td>
<td>2</td>
<td>Web-based tasks as per workplace</td>
<td>IT</td>
</tr>
<tr>
<td>10</td>
<td>CSU</td>
<td>1</td>
<td>Discussion forums (theory-practice nexus)</td>
<td>Health</td>
</tr>
<tr>
<td>11</td>
<td>USQ</td>
<td>2</td>
<td>Critical reflection, critical incident, netiquette</td>
<td>Education</td>
</tr>
<tr>
<td>12</td>
<td>USQ</td>
<td>2</td>
<td>PBL teams and reflective portfolios</td>
<td>Engineering</td>
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</table>

Table 6.3 Twelve case studies of online assessment from four regional universities

6.4.1 Affirming the definition of ‘online assessment’

As mentioned in Chapter 1, the term ‘online’ refers to the environment provided by Internet-based technologies that support multi-way interactions – both synchronous and asynchronous, access to resources and databases, and the transfer between users of digital objects of various kinds. In terms of the assessment processes that I have gathered in these case studies, I include any use of online technologies to conduct any activity that forms, or is a prerequisite to, a graded component of including the provision of comments and feedback on this activity:

Online assessment includes, therefore, the completion of online quizzes and tests, the online submission of assignments, the maintenance of online-based discussion with a distributed cohort of learners, the online receipt of feedback and grades, and all other assessment-related activities that use the online environment as the workspace or as a focus for critical reflection and dialogue (O’Reilly & Hayden, in press, 2008, p. 222).
6.4.2 Common specimens of online assessment

A number of assessment methods were found to be in common usage across the examples in this collection. Specifically, the most common method of assessment was class discussion or group participation online, carried out in a variety of ways. Of the twelve cases, six examples included some kind of online engagement such as:

- structured or unstructured contributions to a discussion list
- reflective or investigative comments
- choice to participate or mandatory interaction
- individual, group or class mark.

The second-most common form of online assessment came in the form of quizzes. Four examples of the use of quizzes varied in approach to include:

- auto-graded: results after question, test or period
- single or multiple attempts
- both timed and flexible submission
- formative (self assessment) and summative (graded).

Three examples represented workplace simulation:

- working to technical specifications
- organisational communication
- online teaching and learning.

Three examples were found of reflective self-assessment:

- portfolio (learning, engineering)
- submission (critical incident, nursing)
- submission (critical incident, education).

Two examples of whole-of-class teams

- shared mark (goal-based activity)
- self-selection into smaller groups (for individual mark).

Peer assessment was not identified in this sample but the whole-of-class example also included the activity of peer review as part of the process of identifying shared misconceptions with the collective intention of sharing a class mark.

This collection of the most commonly used forms of online assessment amongst the ‘peak performers’ is also categorised by Byrnes and Ellis (2003) in their national survey of Web-based assessment which refers to the three broad categories of quizzes, participation lists...
and assignment submission. These categories are verified (namely quizzes, forums and assignment drop box) and expanded in their later work (Byrnes & Ellis, 2006) which also found that programming, creating Web pages and digital video clips were also reported as assessment methods that were used online – these echo the workplace simulation example in the IT context case in my collection. In the study by Byrnes and Ellis (2006), peer assessment is reported by 1.8% of respondents; online journals are used by 0.3% respondents while online exams (in both partially and fully online assessable units) appear in 6–7% of cases. Overall the authors state ‘… the results showed that beyond the use of online quizzes and online forums, there is very little reported utilization of other types of online assessment’ (Byrnes & Ellis, 2006, p. 121). There were no examples of online resource-based or project-based assessment tasks found in either my collection or the Byrnes and Ellis (2003, 2006) studies.

6.5 Postcards from garden tour

These twelve cases have shown a range of features including some that may be defined as ‘excellence’ in online assessment design. This can be summarised through four characteristics – the way in which each example has:

1. harnessed the affordances of the online technologies
2. integrated authentic approaches to learning and assessment
3. ensured constructive alignment
4. communicated explicit marking criteria.

6.5.1 Harnessing affordances of online technologies

The following list (taken from O’Reilly & Hayden, in press, 2008, pp. 235–236) illustrates the various ways in which examples of assessment design in this collection have best exploited potentials of the online environment and extended the range of possible approaches, through:

• being able to blend formative and summative assessment forms, with students able to work incrementally on a summative piece while receiving feedback along the way (provided by staff, fellow students or by automated computer response)
• achieving flexibility of pace, time and place of learning and teaching – no longer is there a need for learners to be assessed in isolation
• allowing for varying levels of student ability and experience, and respecting a diversity of talents
• developing online archives of submissions by students for later use in reflection, critique and accountability
• providing timely feedback – the quiz style of assessment can be shown to provide good feedback individually or to the class, and timely feedback through quizzes can be a valuable learning support
• providing input to ‘feed forward’ for students to improve their performance
• being able to blend on-campus and off-campus student cohorts, therefore being better able to achieve an exchange of perspectives
• using self-assessment for reinforcement of understanding, self-reflection and diagnosis of weaknesses
• requiring the application of tasks to students’ own contexts and personal reflections to deter plagiarism and cheating
• achieving more time saving forms of marking, as, for example, where quizzes can be auto-graded and the questions randomised
• achieving a rapid turnaround of assessment and feedback through screen-based marking for assessment tasks not requiring large volumes of narrative
• achieving whole-of-class assessment, where asynchronous forms of dialogue could be used to enable students to complete an assignment as a whole-of-class activity.

6.5.2 Integrating authentic learning with assessment

In my examination of these twelve cases, I referred to the ten characteristics of authentic learning that are described in the literature (Herrington, Oliver & Reeves, 2003). Though these are not specifically applied to assessment, I wanted to examine to what extent they could be applied to the assessment designs. In summary I found that they are not always applied through the assessment tasks.

Having said this, it is of note that authentic learning activities were evident in the large majority of cases collected. In particular, two features of authenticity that were evident in all twelve cases are the seamless integration of formative learning activities with summative tasks as we might find in ‘real-world’ tests; and the opportunity for students to reflect and make choices with respect to their learning both individually and in groups. More extensive discussion is provided in O’Reilly and Hayden (in press, 2008).

6.5.3 Benefits of blending cohorts for graded online discussion

In all instances, staff evaluated the assessment strategy in their own subject as having many strengths and some limitations. The common strength of the discursive-style examples is seen in the fact that all students work as one group such that on-campus students are working in the same environment as the off-campus students. Staff and students are able to rely on the accretion of archives for later inspection and reflection. The sense of isolation has been removed from the off-campus learning experience and the immediacy with which
the whole class of students can exchange ideas and develop an outcome is impressive. Without staff reflectively developing the online facility to support this, such an interactive assessment strategy would not work.

### 6.5.4 Ensuring constructive alignment

Once again, and not surprisingly, the findings from this tour to collect examples included a note that units with exemplary assessment design were also constructively aligned. Clearly, the unit assessors that were interviewed were concerned to ensure that what the students were required to do took primacy over what the syllabus contained (Biggs, 1999). A consistency between unit learning objectives, teaching and learning activities that take place in the unit, and the assessment tasks can be seen in all exemplars, from quizzes through to discussion forums and self-reflective tasks. Attention to constructive alignment also ensures, as far as possible, that assessments are both valid and reliable.

### 6.5.5 Communicating explicit marking criteria

The development of suitable criteria for marking includes the communication of explicit requirements to learners. Once again as with all good assessment practice, the development of open, fair and defensible marking criteria (Morgan et al., 2004) is one of the hallmarks of excellence in online assessment. Several examples show the provision of explicit criteria for successful achievement of the learning objectives through guidelines or through the structure of the task itself.

### 6.6 Stresses on the seedlings

In this collection of twelve examples, three interesting features were reported in terms of the academics perspective – the implications of auto-grading and screen-based marking, the impacts of flexible versus paced assessment tasks, and the workload arising from online assessment designs.

#### 6.6.1 Screen-based marking, autograding

One of the affordances of online assessment can be the use of autograding (for quiz-style tests) and screen-based marking (for narrative-style assignments). These strategies for streamlining and potentially reducing marking load require careful consideration for their implications on authentic learning and higher-order thinking. In cases where immediate feedback is essential for cogent development of understanding, then autograding can be very useful indeed. Where short written work is sufficient to demonstrate the achievement of learning objectives, then screen-based marking may be sustainable. Clearly these
methods would need to be combined with other approaches to marking in order to assess students validly and effectively.

6.6.2 Flexible vs paced

Some of the examples collected shone a spotlight on the tensions around flexible learning when the nature of the assessment task may be an interactive discussion forum. If students are not required to complete discussion tasks within a certain timeframe or in a prescribed sequence, then the kind of critical mass that is needed to activate a sense of online community and invigorate interaction is not achievable.

6.6.3 Workload

While early commentators suggested that online assessment offered possibilities for reducing workload and teaching time (Bacsich & Ash, 1999; Sheely, Veness & Rankine, 2001), the examples collected at this time highlight a need to carefully balance the benefits of timely feedback on formative assessment tasks with the concomitant marking load for academics. Increased workload incurred through adoption of online assessment is also the main institutional factor cited in the studies by Byrnes and Ellis (2003; 2006) with respect to influences on use (or avoidance) of online assessment. Achieving a sustainable balance between providing students with sufficient opportunities to gauge their own learning whilst also limiting the marking load for academics, remains a challenge.

6.7 Nourishing the assessment design process

Pursuant to the questions of transdisciplinary partnerships in the design and development of online assessment, the issue of scholarship of teaching became more central at this stage of my research. A significant element in the data collected here pertains to the level of engagement with a scholarship of teaching that was reported by all of the twelve academics who provided examples. The fact that eight of the twelve academics sampled had already published in refereed publications was a clear indication that this was one of the aspects to reflective practice and continuous improvement.

In addition, the earlier interviews with educational designers revealed their commitment to a scholarship of teaching and learning. A body of knowledge is thus developing for professional practice and theory.
6.7.1 Engaging in a scholarship of teaching

Academics identified as demonstrating ‘hallmarks of excellence in online assessment’, appeared to be those who operated in terms of consciously reflecting on their teaching and deliberately seeking to improve their students’ learning through innovations and change, and who furthermore encapsulated the outcomes of these innovations and insights within a scholarly work or presentation for a wider audience. Scholarly publications by case-study contributors are not difficult to find using a standard library search strategy and recent examples include Colbran (2004); Dalgarno (2004); McMurray (2003); Phelps, Hase and Ellis (2004); Reid and McLoughlin (2002); Reushle and McDonald (2004); Rowe and Vitartas (2003); and Taylor and Bedford (2004). All these published examples reveal critical reflection on teaching practice within a disciplinary context.

Of those academics in the sample who have not yet published on their teaching and assessment practices, two indicated that they currently had a role in their department of facilitating scholarship of teaching and learning (see Cases 6 and 12). In Case 7, this junior academic was nominated by colleagues as exemplary for having persevered in the face of an uninterested and sometimes unsupportive context, to finally illustrate to skeptical colleagues the value of reconsidering assessment design with the online affordances in mind. This is seen as the second level of a scholarship of teaching as detailed in the following framework, which I have also applied to all cases (Trigwell et al., 2000b):

1. Reflective practice (Case 3)
2. Collegial discussions (Case 5, 7)
3. Departmental seminars (Case 2, 12)
4. Publications (Case 1, 4, 6, 8–11).

6.8 Coming home to my own garden

During this tour of data collection, it was plain to see that institutional contexts play a big part in the academic practices of teaching, learning and assessment. Assessment that has been designed specifically for online implementation is critically affected by institutional infrastructure and support. Disciplinary contexts also play a part in how much faculty can ‘think outside the box’ when it comes to student assessment.

Given that Cycle 2 was a lesson in the benefits of stepping outside the disciplinary contexts to free up our thinking for creative assessment design, it was thus of particular note that none of the other educational design teams that I interviewed while on tour, had worked with transdisciplinary development teams. Where they had used the term ‘cross-disciplinary’, it referred specifically to working with faculty from allied disciplines such as biology and psychology, or science and engineering. The idea of working outside disciplinary frameworks
in a Mode 2 knowledge production model was glimpsed in the references to project teams for generic resources development. The institutional approach to Mode 2 problem-focused projects would be the ideal, where teams were a fundamental part of the organisational approach to design and development activities. I did not, however, clearly get this impression from references made by educational designers and need to explore further.

An excellent model of reflective practice was also evident in this tour, since academics who were considered to have exemplary assessment designs were also those who demonstrated a scholarly and reflective approach to their practice. Each academic who was referred to me for an example of assessment design could also provide me with a list of publications, other scholarly achievements such as successful grant applications for research into teaching innovations, or list their positions on teaching and learning committees such as being the director of teaching and learning in their faculty.

Why was it that educational designers were not demonstrating a similar process of reflective practice? What I found was that educational design practices at these four regional universities were to some extent defined by the staff classification. Those classified as academic staff tended to work at the earlier stages of designing curricula and assessments, whereas those classified as professional staff tended to work more at the later stages of development in editing, proofreading, production and quality assurance tasks. No examples were found among the educational designers of a group approach to design (though one academic described initiating this himself and bringing the educational designers onto the team).

There was an absence of transdisciplinary approaches to design and while the heritage of behaviourist and systems-based approaches were commonly dismissed as not being contemporary practice, there was no evidence of alternative approaches, specifically in terms of designing assessment. None of the educational designers interviewed felt that it was in their brief to convene development teams. Generally, they saw themselves as responsive to disciplinary needs (for curriculum and staff development) rather than considering that they had a role in determining how these needs would be best served, such as through convening a team that includes academics, liaison librarians and technical staff. They did not disclose any personal puzzlement about this professional approach to practice and as such, I considered their capacity to influence change was hampered through their unquestioning adoption of a responsive role instead of a proactive and reflective one.

Lastly, it is always gratifying, when seeing how others perform, to find that my own institution has its share of exemplars. Through our own context (of being an almost equally-balanced dual-mode institution) we have some unique developments that have not emerged in other institutions (where the emphasis is more to the on-campus or to the off-campus side of the balance). The exemplars that I report from colleagues at Southern Cross have by now been showcased in several national forums and remain as lighthouse
developments that illustrate not only good practice in teaching, learning and (online) assessment but also as examples of the teaching–research nexus and the scholarship of teaching. These academics are continuing in their enhancements to teaching and exchange of ideas across the sector.

The scene was set for a return to action learning with groups of selected academics to further investigate the viability of a transdisciplinary approach to educational design and a return to design for excellent online assessment.
Chapter 7
Planting the seeds of change – Cycle 3

Plant the seed of desire in your mind and it forms a nucleus with power to attract to itself everything needed for its fulfillment.

Robert Collier (1885–1950)
7.0 Planting the seeds of change – Cycle 3

This chapter covers my return to AL cycles and describes the third cycle undertaken with academics at Southern Cross University. With the knowledge of two previous AL cycles and additional insights obtained through a further investigation of specific online assessment activities in four participating universities, this cycle brings together key reflections on institutional initiatives to support online assessment and raises the potential for a transdisciplinary approach to educational design. The additional investigations on the scholarship of teaching that I pursued in Chapter 6 are further explored in this chapter. These activities can be seen depicted in Figure 1.1.

7.1 Workshops 4 and 5

In the lead-up to the third AL cycle, it was necessary to wait for the completion of two staff-development workshops in order to find sufficient academics to invite into the AL3 set (see details of timeline in Figure 1.1). By this stage I had found that a workshop in second semester tended to yield more appropriate participants for my purposes than one conducted in first semester. My tacit impression of this was that in the latter part of the year, preparation for the following year appears to have a longer lead-time if the summer break is taken into account as development time. Perhaps there is also something in the notion that a new year might start with new ideas … these are possibilities to consider at some time in future.

7.1.1 Workshop 4

All 20 staff who registered in Workshop 4 did so as a ‘just-in-time’ preparation for teaching in first semester. They included academics from the international office and in the administration areas for external studies programs, research-active staff and long-term academic appointments, all of whom who were primarily brushing up on the latest features of Blackboard™ since the recent introduction of version 6.0. Approximately half the participants were sessional staff or recent appointments who had little experience with online teaching and also had no current responsibility for designing assessment. The duration and structure of this workshop was adjusted to run for three weeks. It was of immediate and key benefit to all participants for their various needs but from my perspective, it was not possible to invite anyone to become involved in AL3.

7.1.2 Workshop 5

Following a well-managed Workshop 4, Workshop 5 was also restricted in duration to three weeks. It was again scheduled to occur between semesters and took the form of a refined version of previous workshops, investigating:
participants’ orientation to the curriculum online, what works and what doesn’t
online communities of learners
active learning in the online environment
facilitating learning activities and assessment online.

The group of eleven academics from a range of disciplines and one from the Learning Assistance team participated in online discussions facilitated in small groups; the group as a whole; and one-to-one with individuals. Much greater emphasis was placed on use of the Virtual Classroom within the Blackboard™ interface in this workshop. This was done to address previous difficulties in pacing academics through consecutive weeks to retain their involvement, and also to model ways of engaging learners online by handing over responsibility for learning to them. For example, Lychee (who maintained a collegial supporting role in each of the subsequent workshops after his involvement in Cycle 1), developed an activity that was introduced in this workshop. It required participants to create a PowerPoint™ slide and deliver it for presentation using the Virtual Classroom. This proved to be an engaging and useful demonstration of facilitating student input to their class of peers using the resources and functions of the online environment.

The distinction between using online methods for distance education versus classroom teaching was also a focus in this workshop, as was taking into account the size of the cohort to ensure workable online learning designs. Participants individually considered the relevance of teamwork, small groups and independent online tasks for their own disciplinary context.

Feedback from this workshop revolved to some extent around the technical limitations of personal computers used by some of the participants from their home office and worse still, in some cases old equipment at their university office. The deplorable implications of this realisation deflated some academics’ ambitions of using online methods within their teaching designs. It would seem that the institutional factor of giving insufficient priority to the provision of adequate technology resources to teaching staff threatened to restrict involvement of some academics in online teaching and assessment, and thus affect the university’s profile as technologically capable to deliver 21st century education.

7.2 Experience – a gardener’s tool

Armed with a collection of online assessment examples from the recent tour around four regional universities, and the experiences of the past two AL cycles, the third cycle commenced on a well-prepared and fertile basis. Two academics were invited directly from their involvement with the most recent workshop and both agreed to participate – one from Business (Mango) and one from Complementary Medicine (Carob). The third person
invited was from the discipline of Social Sciences (Tamarillo). Her recent experience of design challenges spearheading the move to large enrolments online at Southern Cross involved an expected cohort of over 800 students. It was an example of both a cross-school initiative and the biggest cohort seen online to date. She agreed to be part of the AL3 set for the opportunity of collegial support in the lead-up to a challenging semester.

The librarian (Mandarin) invited to this cycle has the portfolio of health sciences and was selected based on her liaison role with academics and a disciplinary domain that was both relevant to this AL set and not yet represented in prior cycles. Finally, the technical support staff (Macadamia) was the same person who had been a member of both previous cycles and had agreed to continue her involvement with increased willingness.

7.2.1 Brief notes on my selection of fruit trees

The academic, Mango, was named as an illustration of her generally affable nature and a positive willingness to work towards improvement of assessment for pedagogical reasons – a well-liked and productive tree in my garden and in this cycle.

The carob tree is now the largest tree in my garden, having been one of the first trees I planted 27 years ago. It provides a large area of shade where a great number of exotic plants have been placed for the shelter they receive there. However, with such a protected area, the undergrowth has become a mass of interesting, complex and intriguing vegetation. The academic, Carob, is similarly robust and complex. Furthermore, his discipline is that of natural medicine and carob was also known as ‘St John’s bread’, being an ancient source of nutrition. My associations are thus with both the academic and his discipline.

While tamarillo trees seem to most people to be unusual and exotic, their common name is ‘tree tomato’. This may be because they are relatively short-lived, but they are also self-seeding and low maintenance. Over the years my supply of tamarillo fruit has come from successive generations of trees – always reliable in flavour and productivity, requiring very little attention on my part other than to harvest the fruit. The academic, Tamarillo was thus named for her self-sustaining, reliable and productive nature.

The liaison librarian in this cycle was named Mandarin partly to preserve the link with previous librarians who were also types of citrus (Grapefruit in Cycle 1 and Orange in Cycle 2), but also because of her ample figure and easy-to-take nature.

7.2.2 Extension of time for each session

Building on a clear perception that the time allocated to meetings in previous cycles was simply not enough to give each member an adequate portion for their reflection, I began this cycle with an explicit agreement from all that we meet for 90-minute sessions allowing
each of the six members (including the ‘service providers’ and myself) to take their turn for approximately 15 minutes. I proposed six meetings to cover all that was intended in the cycle (design, implementation, evaluation and reflection).

In response to an immediate request in the first session from Tamarillo to describe the aim of my research, I also explained that the focus of my exploration had shifted by now from an initial focus on assessment design to one more concerned with ‘educational design in a transdisciplinary sense’. My mention of ‘benefits and outcomes’ of working collaboratively across disciplines at this initial stage might also have seeded the overall positive tenor of this cycle.

7.2.3 Encouraging reflection on the process

I was also keen to heighten the level of reflection by members in this cycle, as a consequence of not having seen enough of it in between meetings throughout the previous two cycles. I had seen that the more reflection in one’s own time the better (for example Lychee’s achievements as the only one who reflected independently in AL1). Specifically, after touring other universities and interviewing academics who had been identified within their own institutions as peak performers in designing online assessment, I had heard several comments about the habits and processes of reflection and the role of this in one’s ongoing development as an academic. This was also certainly evident in the literature (Brookfield, 1995; Schön, 1983) as previously discussed in detail in Chapter 2.

I resolved to be more proactive in this regard and see what, if any, effect my prompts might have on the reflections of set members between meetings. Once I had transcribed the first meeting, I circulated this with a few prompt questions (shown below) for us all to consider prior to attending the next meeting:

• What can you make of these meetings?
• How can these meetings be useful to you?
• What are the particular urgencies that you bring?
• What do you need today in terms of decisions or agreements or questions to pursue?

Such questions were also circulated with subsequent transcripts and resulted in more reflection as evident in the quotes that I provide later in this chapter.

7.2.4 The gardener’s support group

It is useful once again to recall that throughout this research, I was engaged in a process of collegial and reciprocal support with two colleagues as part of a research support group. Of particular significance at this time is that our support group had been meeting quite regularly for two years. My participation in the research group to some extent seemed to parallel
the activities in the action learning set. As mentioned in Chapter 1, the structure and group norms that we adopted in the research group were much the same as those that were agreed by set members, that is, equal time shared between members, focus on one person at a time, silences are respected, constructive comments as follow-up, sessions are recorded.

Also, I was already finding myself trying to use as many of my research findings as possible in my work practices. For example, making suggestions for staff to consult with other colleagues whose experiences could be of value, and also encouraging them to become more involved in a scholarship of teaching. Given that I could see my practices changing as a result from insight being gained in the course of this research I began to wonder about set members. In the notes I made at this time, I found some meta-reflections that were in my mind which include the question: ‘having joined the AL set, are they [members] already more open to a creative process?’ I had also seen this with the interviews in other universities, where my questioning occasionally seemed to be a catalyst for further ideas to be explored.

The process of reflection was seeming to take a good hold on me and my support colleagues continued to encourage.

7.3 Cycle 3 – a gardener’s delight

By contrast with Cycle 2, where attendance was very patchy and one member dropped out and one simply did not attend most sessions, in this cycle all three academics and the technical staff attended all six sessions. The liaison librarian missed the second session due to illness but came to all the rest. This full attendance meant a very collegial process with a sense of continuity for all. Perhaps because of my mention of interaction and collaboration from the very beginning of Cycle 3, silence was not as readily maintained as in previous cycles. Rather, while all members respectfully stayed focused on each other’s assessment in turn, they were most interactive (including the two support staff), questioning and exploring issues of interest as they arose.

This cycle also commenced at the point where each academic had already prepared a blueprint of their assessment design and had come along to the first session with this clearly set out for discussion. In each case I had not had involvement in the blueprint as this had been created subsequent to a previous assessment design where I had worked in collaboration with them. That assessment design had been implemented and evaluated, and these blueprints were the outcomes of their review of the assessment design for online.
7.3.1 Readiness to grow

From the first meeting, members of the AL3 set engaged with each other as a collaborative group for enhancing their assessment designs. The climate of this cycle was very much as a support group and a positive regard came about between five relative strangers in a surprisingly short time. Following my prompts sent with notes from our first meeting, set members returned to the second meeting having reflected on the value of the process to themselves. It was during the second meeting that Mango remarked:

*Mango:* It’s good to discuss things ’cos otherwise I’m sort of making decisions in a vacuum … especially now that [retired colleague] is not here – he and I always worked together and there was collegiality, and now it feels like a vacuum … so it’s good that in getting ideas I can bring them here … especially as this is a whole new process these online quizzes …

Carob also came along to the second meeting with what seemed a transformational perspective:

*Carob:* … a couple of things that happened yesterday and the day before … made me think that I am indeed not working smarter, but I’m working harder … this is very problematic because they [students] hand in all this work and we have to grade it, and I’ve just figured out that it costs $166 per student per semester to actually grade these things … I’m actually thinking of completely rearranging the assessment and would like to find out what you think …

Tamarillo joined the AL3 set while in the process of also co-authoring her unit, and though remaining optimistic, her early remarks indicated that energy and time were of a premium:

*Tamarillo:* I’m just not 100% today and I’m just tired that’s all. I think I just need more time to get on with this … I’ve got a lot of ideas for it, so I’m very keen to get on with it, I don’t think it’s going to be difficult …

7.4 Design ideas and associated jungles

The three academic members in the AL3 set were fundamentally seeking to improve on existing assessment designs – for the purpose of blending the on-campus and off-campus cohorts; managing online assessment with large classes; and managing the marking/feedback load of continuous assessment.
7.4.1 Online quizzes as learning tools

Mango teaches mathematics and statistics into a business program. She identifies her situation as being academically very solitary ‘I’m in a funny situation in that my School is not in my disciplinary area… so I’m really isolated’. The circumstances for joining this AL3 set was to be part of a collegial process and to prepare for online delivery of the assessments for a first year first semester unit.

Mango planned to develop a series of six online quizzes with multiple-choice questions to be completed fortnightly by students. Her main concerns at the outset were about the technical capability of the software to deliver mathematical formulae, for the system to be as secure as possible (minimising the likelihood of students cheating), and for students to be able to complete the quizzes in a timely way, thus benefiting from the feedback provided. Mango introduced her ideas on assessment in the first meeting by stating that she wanted her online quizzes to serve as a ‘learning tool’, thus indicating the potential for quizzes to have a formative purpose in leading students to reinforce their understanding and abilities when applying mathematical principles. These quizzes represented the technical skills students needed to develop in association with the applied skills embedded within the two project assignments. She hoped to allow students to use the quizzes entirely as formative if they were learning slowly so that ‘if they do badly on those quizzes, I’ll ignore them and just take the final exam mark.’

In the process of the six meetings in Cycle 3, this academic was able to incorporate the following suggestions from set members into her final assessment design:

• include a practice quiz for online completion to allow students to diagnose any technical deficiencies prior to attempting an assessable task
• allocate extra time for quiz completion (increase from 30 mins to 60 mins per quiz) to allow for the time taken with online operations
• introduce the capability of posting questions anonymously to the forum and thus enable a host of Q&A activities without embarrassment
• allow off-shore students to be catered for by local arrangements – the six quizzes are delivered in accordance with locally convenient time arrangements but questions are not randomised to ensure core skills are tested consistently, and to allow marks to be readily checked through sample marking by unit assessor.

The decision to set deadlines for quizzes was made as a result of discussions in the second meeting. With an expected enrolment of 400–500 students in this unit, Mango was hoping to avoid handling a large number of requests for extensions, so she decided to set the due date and provide an automatic extension of four weeks, which she made apparent to students in advance. The intended effect of this was to remove the pressure of exact
deadlines while pacing students’ progress through the unit content to some degree. The actual effect of this was reviewed during evaluative follow-up research undertaken by Mango and findings will be discussed later in this chapter.

7.4.2 Case studies to prepare for clinical practice

The principal aim for Carob at the outset of Cycle 3 was to find a way to support the preparation of students for clinical practice and maintain a sustainable marking load. While his ideas were based on past versions of complex iterative case studies along the lines of problem-based learning, which he valued and saw as providing well-scaffolded learning, he was also seeking a way to reduce the marking load without at the same time reducing the learning challenge for students.

The current assessment design was based around the study of four bodily systems, each with six patient cases. The process of undertaking accurate and thorough diagnostic procedures required the completion of four separate steps, with each step returning feedback to enable students to continue on the right track. A model answer was provided for one case of each system, immediately following submission of each part, and the level of difficulty increased with successive cases and each consecutive step. Previously this meant that over a semester, students would submit 98 pieces of assessment, each of which needed to be marked and returned with individual feedback in as short a turn-around time as possible. Generic or class-based feedback was not considered suitable even in a typically sized class of 40 students, as individual students’ misdiagnoses required tailored attention to correct errors. A turn-around time of two weeks was considered ideal as this gave students some chance of finding their own mistakes as they progressed forward following submission of the prior step.

Although Carob was currently in receipt of a Vice-Chancellor’s seeding grant for teaching innovation which he was using to convert the external studies version of this unit from CD-ROM-based to online-based, he preferred to focus his current thinking in this cycle on assessment of the internal cohort in order to address issues of tutorial attendance (as well as the sustainability of the current model as mentioned). Apparently, it was on-campus students’ belief that submission of each step of each case constituted their requirements for the unit and tutorials were not well attended even though that was where the feedback on diagnostic details was explored in some detail. The external version was also supplemented with a resource book of relevant journal articles.

From the second meeting Carob began to review the assessment strategy as a whole. Seeing the enrolment levels of Mango (400–500 students) and Tamarillo (800+ students), he quickly calculated the impossibility of this clinical unit ever growing in size due to the limitations the marking load placed upon the unit assessor. He also took on board the
concept of assessment being a ‘learning tool’ as mentioned by Mango and began to consider
that perhaps his complex integrated case studies could form the basis of the learning tool
for students. Over subsequent meetings he proposed to structure three assessment events
(two MCQ quizzes and one exam including a case study analysis) following the use of
cases and tutorials to reinforce and guide students’ learning. Cases would thus become
formative in nature and the feedback provided on the acceptable answers to each step of
each case would be the substance of tutorial activity.

In the fourth meeting Carob announced that budget cuts in the School had resulted in an
immediate loss of any additional markers to this unit, therefore the task of marking as it had
been structured was indeed no longer possible to afford or maintain. He was pleased to have
begun thinking of an alternative assessment structure already, but remained very hesitant
about designing something for online delivery in the first instance, stating security and
technical robustness as key concerns. He continued to focus on designing a new method of
assessment for the on-campus students and to put development of off-campus assessment
design to the side (to follow seeding grant activity of converting delivery mode).

Within this cycle of design, development, implementation and review, Carob was able to
develop a cluster of 168 reflection sheets to accompany the on-campus tutorial activities.
Even though no formal student feedback data was yet available at the time of the final
meeting, he reported that students were using these sheets in tutorials as they worked in
small groups and were thus able to share perspectives and negotiate a correct diagnosis
with reasons behind these. The introduction of group work in tutorials was also new to the
pedagogical approach in this unit.

Another problem with converging the on-campus and off-campus cohorts in this case was
that they represented different demographics and were enrolled in different degrees – the
on-campus student was strictly an undergraduate with some prior study of science, while
the off-campus student was enrolled in a conversion degree having attained a previous
certification in some area of natural and/or complementary medicine. Regardless of this
difference, some suggestions were provided by the AL3 set members for handling the new
assessment scheme with a blended cohort in future:

• provide the resource book of relevant journal articles to on-campus students
• organise tutorial time to allow for a meaningful recording to be made of the feedback
given to on-campus students and upload this file as an MP3 (digital audio file) for
download from the unit website
• involve the reference librarian to assist students in locating supplementary resources
  when completing formative case studies, or to assist the unit assessor to find
  supplementary resources
although FAQ files were not seen as secure enough and could lead to solutions being circulated amongst future students before they attempted the case diagnoses, a set of hints referring students to relevant components of the syllabus could be developed

since the learning pathway remains linear and sequential, one of the latest features within Blackboard™ called Adaptive Release was suggested as a means of tracking individual students’ progress through formative case study activities

informal evaluation of students’ responses to these changes could be obtained through a dedicated discussion forum online, either anonymously or with names attached.

7.4.3 Developing information literacy and academic skills

Tamarillo was in the process of co-authoring a new version of this foundation unit that was to be offered for the first time as a core unit across a number of undergraduate programs in two schools (Social Science, and Commerce and Management). The expected enrolment was in excess of 800 students. The aim of the unit was similar to that of Cherimoya (AL2) in that as a first-year first-semester unit, the skills to be developed were not only for the purpose of achieving learning objectives of the unit itself, but also to establish some academic skills for the course as a whole. In this case students were required to identify their own learning styles, pinpoint strengths and weaknesses of this, search databases, critique articles, write a brief essay, manage their time with multiple submission dates, and develop a semester-long learning portfolio of learning resources that they located, annotated and submitted online. Tamarillo was also hoping to include three quizzes with multiple-choice questions and her co-author was keen on a reflective journal.

The design of assessment in this case was occurring in tandem with content development and this allowed for full consideration of how to engage learners in activities to be written into the study guide. The idea of submitting a digital portfolio was to develop students’ digital literacies in locating, annotating and submitting useful learning resources. It was not expected that these resources would all be in the form of Web sites, but could also include journal articles and descriptions of useful strategies such as the research support network I have mentioned in Chapter 1 and earlier in this chapter. Exemplary portfolios could be circulated to the class via Blackboard™ after they were marked.

In such a skills-based foundation unit, it was important to not only focus on key concepts but also to engage students in hands-on application of these. A prime example was the issue of referencing styles, and conventions, and strategies to avoid plagiarism. As the unit was being prepared for two schools with different referencing styles, key principles of in-text citation and referencing could be provided to all students but their application of these principles needed to comply with the relevant disciplinary conventions. An institutional
policy on ‘student academic integrity’ at Southern Cross was at this point still in its final draft stage but had not yet been ratified or implemented. Members of the set thought that a detailed approach to this key issue was needed in the foundation unit.

With an expected enrolment of over 800, Tamarillo was anxious about a number of issues:

• This blended cohort was so large that there were plans to reduce the face-to-face contact hours for on-campus students, instead requiring them to work interactively with the class online.

• In previous semesters some students accessed the Internet at cafés and libraries, but with the introduction of quizzes in this assessment design, a requirement for network computer connection was to be mandated.

• Multiple-choice questions to be auto-graded were seen as essential support to developing online competencies and cognitive capabilities.

• A practice quiz for students to fix technical problems early and without penalty was crucial.

• Concerns were expressed about availability of technical support to assist with troubleshooting and advice when/if students encountered technical problems with quizzes at any time (24x7).

• The inclusion of a liaison librarian within the interactive areas of the unit could also make it possible to provide support for students when they needed it.

7.4.4 Providing support for the new seedlings

In this section I will describe the roles of technical (Macadamia) and library (Mandarin) support throughout Cycle 3.

7.4.4.1 Macadamia

It was very impressive in Cycle 3 to see just how engaged Macadamia had become with the process of supporting academics in designing assessment for online. She came to all the meetings and offered suggestions throughout. Despite her comments along the way that she fundamentally saw herself as ‘really haven’t a need for it … I’ve got nothing to say other than to respond to what everybody else has to say ...’, she was also seeing that she had a much more proactive role to play: ‘I like the idea of being able to have some sort of input and give some sort of help and steer you in a good direction rather than let you go down the wrong… or what could be, a devastating path. That’s been great.’

By the third meeting she made the valuable suggestion that we convene our pre-semester meeting with access to a data projector so that we could view each of the assessment designs that had eventuated. It was not possible to discern if this was an idea that she had
carried over from Cycle 2 where Guava had suggested the same (but nothing had come of it from lack of coordination of the AL2 set). Regardless, Macadamia had suggested a ‘show and tell’ in this Cycle 3 at a highly appropriate and useful moment. Her idea was met with an enthusiastic response from the rest of the AL3 set.

In the course of the six meetings in Cycle 3, Macadamia contributed the following suggestions:

- **Quizzes**: It is important to handle the security of online quizzes including: make printing of quizzes as difficult as possible; Techniques need to be clear for incorporating math symbols, images and format for diagrams in quizzes; Batch upload of questions is desirable and these processes should be learned by academics; Suggest MCQ auto grade for large classes with options for how quiz question delivered – one at a time, no backtracking, all at once etc; Passwords must be established and timed tests need to be set for longer than paper-based equivalents; Also let the student know that they must note the time they start the test if using SCU modem bank to make sure there is sufficient time remaining; Academics’ experience will increase their confidence in online quizzes with varying connectivity of students; They will need to be able to reset when problems arise.

- **Creating generic help files**: Try using files created by other academics e.g. quizzes instructional info; There can be animations created to represent various referencing styles and conventions. This can be created once, delivered many times.

- **Recording MP3 files**: Use MP3 files to record tutorial feedback sessions for inclusion in MySCU; Refer to production team for assistance.

- **App Pack 3 Adaptive Release**: Use this for tracking individual students through multiple submissions.

- **Include a forum for librarian**: to assist in locating and reviewing learning resources.

- **Upgrade to v6.2**: the next version of Blackboard™ will include an e-portfolio building block; Academics should also learn how to instruct students to submit via ‘Create Assignment’; There will be features for downloading portfolio as single file (cumulative version of step-wise submission); The current gradebook very cumbersome for multiple tutors with large class, hoping for improvement in next version.

Macadamia evaluated her overall involvement with the benefit of hindsight over three cycles:

*Macadamia*: Since I’ve been part of it from the very beginning … I’ve watched the whole process grow and it’s been really good. It’s gotten progressively better and I think this session is probably one of the best ones yet and I think that’s due in large part to you circulating
these questions. Because I actually sat down and said ‘Oh I’ve got to think about it before I attend’ whereas before it’s like ‘I’ve gotta go’ and I jump and I’m there and I’m thinking on my feet. This gave me time to actually think about it and I did spend quite a bit of time thinking about it, which was good …

Her comments upon her own role also showed development of reflective practice:

*Macadamia:* Good to focus on each individual person and their issues at one time … it allows me to focus on specific issues and perhaps think about solutions … I very very rarely get the time to sit and focus on one particular issue without having the input from a thousand different things going on, so it allows you to slow down and to really focus on and pay attention to a particular issue, a particular person … it would be nice if it could always happen that way but it can’t …

She decided:

*Macadamia:* We [the online team] need to be more proactive in getting out there and talking to academics who are actually using the software. Also getting cross-pollination, getting information from one source to the next … I think that’s the biggest thing for me.

### 7.4.4.2 Mandarin

With respect to the overarching question of whether it was seen as desirable to involve librarians in units, Mandarin was quite decided:

*Mandarin:* I certainly think that’s … to be considered … I think with new technology it’s important to show what you can do … we’ve [liaison librarians] sort of missed the online boat a little bit … we’re yet to catch it … and I think we’ve being doing a lot of one-to-one … but to be able to participate in some units, showing them [students] all the opportunities to learn the skills would be really good … It’s an excellent opportunity for us to have people learn how to use some of the resources that they need to use …

Her own reflections on this process of action learning were also positive:

*Mandarin:* I’m finding it really interesting … to see the absolute diversity in which people work … and that doesn’t really come as a surprise in some ways because I’ve always known that a lot of science/maths
based is quite different from the more text based. But now there’s a lot of similarities as well … it’s great that the people here you’ve picked have such different subject areas …

In specific terms the practical suggestions Mandarin brought to the Cycle 3 included:

- introduction of e-Reserve, handling of access and copyright etc
- additional resources and updates can be provided by liaison librarian on request
- difficult to link generic skills to the task at hand … how can librarians support this better?
- role for librarian to support information literacy skills for Carob’s and Tamarillo’s units
- challenge to teach off-campus students information-finding skills
- designing resources for remote access staff and students e.g. hints about searching strategies; doing social science type research etc
- using ‘sound bites’ to promote potential of library services at School Boards (academics don’t want to admit they don’t know about searching databases themselves)
- limit referencing styles in the institutions to say four key options?
- generic library skills tutorials available and continuously upgraded
- ‘Ask a librarian’ from homepage of MySCU
- librarians as accidental counselors
- Camtasia™ for screen grabs when creating own skills based tutorials
- EndNote™ … but not considered useful for first years.

7.5 This season’s crop

Once again, as the season turned, part of this crop of online assessment grew at variance to those we’d planned. The actual design for Mango was the only one that went ahead as planned – six online quizzes at fortnightly intervals with a four-week automatic extension, two project tasks and an exam (the decision as to whether quiz performance was calculated in the final grade was made by the unit assessor who used the mark – either including or excluding quiz marks – that represented the best advantage to students).

Carob has still not developed an online assessment scheme, choosing instead to implement and evaluate the changes to on-campus formative tasks – supplemented with tutorial feedback and a reduction of the total number of assessment submissions from 98 to three items (two MCQ quizzes and one exam as explained earlier). Evaluation of this initiative together with a review of students’ responses to the off-campus version of online submission of formative tasks is still underway and is due for reporting to University Executive by the end of 2007.
7.5.1 The trampled seedling

The most disappointing outcome was that of Tamarillo. This academic was in the position of co-authoring and collaborating with an unfamiliar colleague in another school in order to address generic skills in a foundation unit. They had previously taught foundation units in their own disciplines but their ideas on learning activities and assessment did not always cohere, so some compromise was going to be necessary. However, the biggest impact on assessment design proved to be administrative decisions once the semester commenced.

As part of the University’s momentum for increasing its first-year intake and consolidating units to strengthen and focus the first-year experience, this unit was made available to students at two additional campuses (one interstate and one offshore) at a very late stage. This meant that interstate students were still being enrolled in Week 5 of semester and offshore students, who had no reliable online infrastructure, were still coming on board as late as Week 9. A strategic decision was made in Week 4 (by Head of School) to eliminate the online quizzes (worth 30%) that were supposed to be completed early in the semester as part of students’ foundation skills development. Weighting on other tasks was redistributed – report 15%, essay 35% and portfolio 50%. Although the unit assessor was not in agreement with this decision and felt powerless to override it, she felt that time was moving on and many struggling students were in need of some concrete support. Her decision was to try and salvage a meaningful learning experience for the latter half of semester with the 777 students still enrolled.

This report of Tamarillo’s experiences was most distressing, and hopefully not to be repeated. I want to turn now to some of the features emerging from this cycle overall, which are worthy of attention.

7.5.2 Secure, robust and stress-free quizzes

The six online quizzes were constructed such that when a student logs on, ten multiple-choice questions are randomly chosen from a test bank of 30–50 questions (from the previous two-week component of the curriculum). Immediate feedback is provided showing the number of questions correct, the question, the student’s answer, and the correct answer. Quizzes are open-book and all questions are available simultaneously so students can work on them in any order within the 45-minute timeslot. A practice online test is available from the start of semester to minimise technical problems with marked tests. This assessment task is appropriate for both on-campus and off-campus students.

The design of these quizzes was deliberately chosen to avoid problems that might occur when questions are given only one at a time (students get stuck and anxiety levels increase). If students’ attempts are timed out, then a manual submission to the unit assessor may be
required (depending on reasons for the time-out). In order to prevent students printing the quiz (and circulating to friends) and also to prevent backtracking once questions have been completed, the first question is the same for all with a code inserted. Additional issues that required attention during development and early in semester included:

- Students who do not attempt the practice quiz and then find problems need to have their first attempt cleared manually [solution: make the practice quiz mandatory]
- Students need to enable Java and pop-ups prior to first marked quiz [solution: make the practice quiz mandatory; refer students to Help Desk for troubleshooting]
- If download is slow and students commence before the full page is loaded, the ‘refresh’ function can cause them to lose their work [solution: warn students of this possibility]
- Connectivity is variable, some students have firewalls at work and cannot access the quizzes in that way [solution: warn students of this possibility]
- Some students had trouble with the appearance of the equations and formulae, those who complained were allowed a resubmit [solution: this has improved with software upgrades].

### 7.5.3 Deadlines

Two issues emerged concerning deadlines. The first arose from the common perception that since online assessment is available at all times, day or night, then a submission deadline can be at midnight on Sunday to allow maximum time for students to complete before a new teaching week commences. The undesirability of this arose instantly as the ‘last minute’ factor came into play. The unit assessor (Mango) soon changed the submission deadline to 5pm on Friday, after having to manually assist between ten and 20 students on Sunday night with their first submission.

The second issue about deadlines had been a significant consideration for Mango during the assessment design. Following discussion in the AL3 set, she made the decision to allow for an automatic four-week extension for each of the fortnightly quizzes, to free her up from having to grant each extension in turn. Unfortunately, once again the ‘last minute’ factor was apparent, and rather than use the quizzes as formative ‘learning tools’ as they were intended, those students who left it till the last minute ended up completing the quizzes up to six weeks after they had covered the topics.

This phenomenon was similarly experienced by Tamarillo, who asked her on-campus students to indicate if they had been working on their learning portfolio (ultimately worth 50%) as the semester progressed. She found only two of the 80 students in class had treated the task in a developmental way as it had been intended and by far the vast majority was leaving its completion till the last minute.
### 7.5.4 Anonymous Q&A

Mango provided an ungraded Q&A discussion and made the decision to allow anonymous posts in this forum. The use of student anonymity when posting questions and comments to a discussion forum has been trialed with varying outcomes that can now be reviewed.

Sheard, et al. (2002) describe the introduction of an online anonymous feedback system at their Australian university in 1997 and the uptake if this feature inside 30 units by 2001. Their research was a little hampered by the obstacles inherent in anonymous responses, namely, ‘Is it used intensively by just a few students or widely by many?’ (Sheard et al., 2002, p. 407). However, it surveyed 436 students across eight different computer science and software engineering units and found that users of the system showed a preference for obtaining help online via anonymous feedback rather than face-to-face from teaching staff. The nature of the help they sought was most commonly to seek assistance with assessment tasks and class work, with more than 50% of requests being for this type of support. Staff expressed concerns over escalating workloads due to the necessity to reply to a high volume of questions online, and indicated that some students seemed to be bombarding a series of questions without reflecting on the issues for themselves. Another significant finding in this study was that 95.9% of cases accessed the anonymous feedback system for checking, browsing and reading. While this shows a passive use of the system, nevertheless it could also be said that providing feedback clearly benefits even those students who do not directly ask the questions themselves, as it promotes an opportunity for silent engagement. Mango’s notion of allowing anonymous Q&A was intended to also work in this way, providing an environment where students are not embarrassed by not knowing.

Silent engagement in a classroom context can arguably be viewed as passive-aggression or non-compliance but the same is not possible to convey online. Instead, the phenomenon of ‘flaming’ or ‘de-individuation’ has emerged (as feared by Fig in Cycle 2) and Sheard, et al. (2002) reported that some students posted harsh criticism of teaching staff, leaving them feeling demoralised. McKenna and Bargh (2000 in Joinson, 2001, p. 179) also said that ‘under the protective cloak of anonymity users can express the way they truly feel and think.’ Chester and Gwynne (1998) provided 20 students in a liberal arts subject with pseudonyms for their interactions throughout semester. All respected the request to make no other kinds of contact with student peers. Findings in this study also showed that two-thirds of students rated their participation online as being higher than in face-to-face classes, and this included the task-focused interactions as well as a significant component of social/playful interaction between personas. It seems to be fine line between giving students the chance to ask questions without fear of consequences or loss of face, and opening up the channels for disinhibited, even confrontational interactions. Mango was to learn how the anonymous Q&A forum would work.
7.5.5 Constructive alignment

In the course of Cycle 3 discussions, Carob was very focused on learning objectives and the revision of assessment design in keeping with the achievement of those objectives:

Carob: There’s 11 objectives that we have to work with … so Part 1 may have addressed say about three of those objectives, Part 2 may address two other objectives, but overlap in some areas, so the objectives aren’t necessarily directed … at the individual Parts… The assessment portion [of new design] addresses the objectives in different ways… I’ve been very successful in my other class where I actually said ‘we’re going to address very specific objectives’ and then everybody comes, because they know specific objectives will be addressed in the test as well, where in this subject I just get the high achievers in my tutorials … We’d talk about why that [answer] would have been ideal… and what is not ideal. So, through that whole process we still address each one of those objectives…

His final design of assessment was built on the firm belief that through use of extensive case resources as formative tasks for feedback in tutorials, students would be well prepared for the three summative assessment tasks. In such a model, Carob satisfied himself that each of the learning objectives could be successfully achieved, and with the alignment of syllabus with learning activities and assessment tasks, the unit could be said to be constructively aligned (Biggs, 1999). Similarly, Tamarillo has been aware of keeping the unit in constructive alignment and thus struggled upon learning that the quizzes had been eliminated – as they had been part of the formative process for establishing key skills early in the unit.

The use of case studies is reported as being a good method for transmitting content knowledge through realistic scenarios, thus effectively engaging students in their learning process (Barnes, Christensen & Hansen, 1994). Furthermore, supporting this process with asynchronous interaction online has also been shown to enhance the solutions developed by students in a blended cohort even though they report less satisfaction with the interaction experience (Benbunan-Fich & Hiltz, 1999). This notion therefore needs to be developed further by Carob in his future assessment design. It is also a good way for academics to understand the detail and impacts of innovative practices. In providing examples and case studies academic staff can see ideas in practice and begin to shape their thinking more creatively.
7.5.6 Reflective portfolio or tell-all diary

In addition to the disappointing removal of online quizzes from Tamarillo’s assessment design, the conflicting viewpoints she held with her co-author and assessment designer in regards to the portfolio assessment resulted in another near-disaster. Rather than a portfolio of learning resources that students were expected to submit, they understood the instructions to involve the submission of reflections on their learning, and did not seem able to relate this to the literature or learning resources they may have located. As a consequence, these learners, unfamiliar with university study and under a great deal of stress to complete the skills-based unit amongst a cohort of almost 800, shared a diversity of stresses and personal reflections in their portfolio. Due to the absence of a word limit, some markers were attempting to read literally hundreds of pages of reflective work from students. In an effort to retain these students who were really the victims of circumstance, Tamarillo instructed markers to acknowledge the contribution students made through portfolio reflections no matter what they said. The diversity of students and their preparedness for such a task was apparent to Tamarillo who noted:

*Tamarillo:* It was a reflective task, so they let it all hang out! It was very interesting because there were incredible differences between cohorts of students – there were gender differences … [it] was the only place I’ve been able to tell who was a social science student and who was a business student. I found incredible problems from the young men who just left school … it was that thing about maturity, they just weren’t up to doing it [linking their experience to the literature] … The ones who got HDs were female… It seemed very easy for them … they loved the whole thing, the whole process, they were so much in tune with it …

This was very much the same as in the study by Krause, et al. (2005, p. 18) who described the decision making processes of struggling students trying to continue:

Only one [factor], ‘emotional health’, was rated as important by more than 50 per cent of respondents. We are aware that the term ‘emotional health’ could encompass a wide range of situations and is likely to be variously interpreted, but it is apparently a term which students, and especially female students … can identify with and respond to.

… Males are significantly more likely to report having difficulty motivating themselves to study in first year. An age differential is also evident, with school-leavers 19 years and younger expressing most difficulty in terms of their motivation (Krause et al., 2005, p. 28).
7.5.7 Librarian’s expanded role

Having been especially careful to include the relevant librarian in Cycle 3, I was interested to see the difference in participation that resulted. Not only was Mandarin’s contribution valuable in practice, but I also found evidence in the literature to support this approach. The involvement of librarians in curriculum matters is also commonly associated with the generic skills and literacies that were of some concern within each of my cycles, for example Lychee (AL1), Cherimoya (AL2), and Mango and Tamarillo (AL3).

Literature on changes to the scope and nature of the role of university librarians in Australia refers to impetus from a number of sources including the seminal work by Candy, Crebert and O’Leary (1994) showing information literacy as a concept embedded within the lifelong-learning process. Also listed as shaping the current context is the Australian Library and Information Association’s 2001 Statement on information literacy for all Australians, and the Australian Government-commissioned reviews of 1998 (the West Review Learning for Life) and 2002 (the Nelson Report Striving for quality: learning, teaching and scholarship). These scholarly and policy directives have resulted in information literacy and associated graduate attributes being seen as core to undergraduate programs across the Australian higher education sector. New roles for librarians are emerging as a direct result of this emphasis and as Doskatsch (2003, p. 111) asserts, ‘collaboration between librarians and other educators is the key to the integration of information literacy within the total educational process’.

Collaborations between academics and librarians, that are commonly reported in the literature have focused largely on the design and development of resources, and the teaching of information literacy skills. However, several dimensions of this collaboration have been expounded by Bruce (2001) to include academic-librarian partnerships in policy, research, curriculum, higher degree supervision, and academic development activities. My focus in this research has been on curriculum design and development, but most specifically on the design of online assessment of student learning.

Associated issues also explored in the literature are concerned with a number of issues including: librarians’ educational and staff development levels that may qualify them to teach students (Peacock, 2001); questions of integrating other student-support mechanisms with the teaching of academic skills to ensure success in first year at university (Sutherland, Stewart & Kennedy, 2007); the importance of reflective practice in academic-librarian collaboration (Newton-Smith & Debowski, 2007); and exemplars from several universities in Australia and New Zealand where librarians have been integrated as associate teaching staff within the core first-year curriculum with transformational results (Bruce, 2001; Peacock, 2001; Sutherland, Stewart & Kennedy, 2007). With respect to this last point
though, Doskatsch (2003, p. 117) cautions ‘against the inference that the identified dimensions and synergies are systemic in every Australian university’.

In addition, adoption of online technologies in undergraduate programs is opening up opportunities for new partnerships between librarians, academics, curriculum developers, and IT staff (Bruce, 2001; CAUL, 2004; Jackson, 2007). Not only is there now a wealth of information literacy tutorials and self-paced packages for students to work through online (developed by single universities as well as consortia), but there is also a range of peak bodies and staff development initiatives that librarians interested in developing their skills in teaching and learning for information literacy can access (Peacock, 2007). Information literacy includes identifying, finding, understanding, evaluating and applying information (Bundy, 2004). It encompasses, but is much more than, competence in the use of online technologies, because with increasing digitisation of scholarly publications, expansion of online databases and repositories, and ease of access to these from one’s desktop, students are increasingly challenged to become fluent in the use of online technologies while accessing and managing information as they learn.

This reinforces the experiences of academic-librarian partnerships encountered through this research and as such provides impetus to continue with the inclusion of liaison librarians in unit development teams in future.

7.5.8 Recording tutorial feedback

One idea Carob wanted to initiate was the recording of feedback segments in tutorials in order to upload these as MP3 files to the online environment for students. While such audio download and/or podcasts were not the focus of our design and development, this is indeed an emerging practice in higher education. Audio resources can now be readily found in educational resource sites or digital repositories such as the Australian Broadcasting Corporation (ABC), the Carrick Exchange (currently in beta development), and the internationally based repositories such as the Co-operative Learning Object Exchange (CLOE), and the Multimedia Educational Resource for Learning and Online Teaching (MERLOT).

In terms of how audio recordings of the past, namely, cassette tapes and CDs, may have transformed teaching and learning to date, Krause et al. (2005, p. 83) point out that:

In 1994 we asked students how often they used tapes of lectures. Eighty-one per cent never used this form of technology. By contrast more than two-thirds of first year students frequently use the Web for study purposes in 2004.

We hoped that locating the MP3 files within the online environment would promote their use by Carob’s blended cohort.
7.6 Tending to the fruit trees

By the fourth meeting in this cycle, the online (and offline) assessment designs were ready for implementation. It was then that I provided some feedback to each of the set members as to my own insights into this transdisciplinary educational design process. With the aid of some quotes taken from transcripts I shall illustrate briefly the kinds of reflections that I shared. My purpose in this case was also to assert my own position as a participating member of the set, and while I was clearly the set advisor I thought that other set members would appreciate me sharing the insights into what I had observed.

To Macadamia, who had been alongside me through each of the three cycles, my comments were:

*Meg:* … in response to what you [were saying] about being reactive to people, I think that this has been a really clear concept about your role here – is not to lead from the front, but in fact I think it has been leading from behind in a way, because technology is always a tension for academic staff … you’re not just reacting but initiating as well.

For Mandarin, I needed to express my thoughts about the implications of including a liaison librarian in the process of educational design. My comments on this were as follows:

*Meg:* So what I’m saying is, I’ve valued your input but I’ve felt a little frustrated in myself that to make the most of it would require follow-up. It’s not just a one-off thing … I feel I’d want to build in a connection with librarians … more than before … that’s why I’ve made little moves like that in my work but I just feel the need to do more of it.

For the three academic members of the set I had the following reflections and affirmations to share:

*Meg (to Tamarillo):* I’ve really valued the fact that you’ve kept your students at the very centre of everything you’re thinking about and that’s been fantastic. It’s been a real inspiration, because I think some people, when they start thinking about going online… in the back of the mind there’s an idea that ‘maybe it’s going to save me a bit of work’, and ultimately you do want the technology to make your life easier, but it’s not the reason why you’d employ it or adopt it. It’s really gotta be making the students’ life a bit easier [too].
*Meg (to Carob):* You just knocked me over in the second week when you came in and said ‘I thought I had my assessment all sorted out, but now I’m going to change it all’ … since then you’ve really thought through a lot of the issues … being realistic about what you can and can’t do in the given time … I’ve valued the fact that you took a huge leap of faith and then you’ve worked your way through all the details to a point where you can implement some …

*Meg (to Mango):* I was very surprised to hear you say that you are uncomfortable in groups because I’ve always found in these sessions that you speak with great consideration and great clarity about what you intend to do, and somebody, was it [Mandarin], said earlier, we don’t like to admit what we don’t know … I’ve really respected the fact that you’ve said at one stage ‘look I’m not really sure what I want to do here’ and we tossed it around and tossed it around, and came up with something that was going to work for you. So, maybe it’s something about being in a situation where we all know that’s what we are here for, we’re here to toss around ideas and come to provisional solutions which are ultimately yours to take away and do with as you will, but I’d like to think that we can create these kinds of safe spaces outside of a research context and then provide people with the opportunity to say ‘well I really don’t know, give us some ideas and I’ll choose the way through this problem’.

In concluding this individual feedback, I commented:

*Meg:* I needed to say all that stuff because I stand in admiration of each and every one of you and don’t get the opportunity [normally] to say these things, so thanks.

### 7.7 Environmental impacts

Emerging from this cycle were significant institutional factors that were once again impacting on the scope and potential of the design of online assessment. In particular, because two of the three academics in AL3 were responsible for foundation units (first year, first semester), we began considering the issues they faced in terms of providing support (both pedagogical scaffolding and individual transition to university study). Simultaneously the University was moving towards consolidating student enrolments into larger foundation units in order to focus on development of generic skills (particularly, academic literacy and communication). Introduction of upgrades to the online environment
and impending ratification of a ‘Student Academic Integrity Policy’ were other institutional factors that had an influence on the progression of ideas in this cycle. The following discussion considers each of these issues in detail.

### 7.7.1 The first-year experience

A study that investigated trends and issues of First-Year students’ Experiences (FYE) in Australian universities over the preceding decade found several points that we could note in our context (Krause et al., 2005):

#### 7.7.1.1 Managing student diversity and expectations

The FYE study showed that expectations by first year students of their likely performance and success in study appears to be more realistic than previously, although more than one-third reportedly did not perform as well as they had expected. However, the ten-year trend reported ‘those receiving marks lower than expected comprise a steadily decreasing proportion of the sample’ and the suggestion is made that ‘enhanced efforts on the part of universities to educate students regarding assessment expectations and provide support structures in the first year’ have played a part in improving the match between expectations and achievement (Krause et al., 2005, p. 23). Although further evidence indicated that orientation programs had been strengthened and universities had become better overall at supporting first years in their transition to higher education, nevertheless the challenge appearing to be before us now is to develop appropriate and sustainable ways to enhance the experience of an increasingly diverse student population.

In the design of assessment by both Mango and Tamarillo, careful consideration was given to the orientation of students’ expectations. Both units were introducing generic skills (numeracy and academic literacy respectively) so explicit instructions were developed not only to convey the meaning and purpose of each assessment task but also to make clear the inherent link between each task as a means of developing skills for the unit as a whole. Different learning styles and diverse approaches to learning were accounted for by the option to exclude marks for quizzes in favour of greater weighting on exams, where this was of benefit to the student (Mango), and by the inclusion of a journal for reflecting on one’s own learning approaches (Tamarillo).

#### 7.7.1.2 Accessing study resources online

In terms of validating our approach to designing assessment for online with first-year students, the FYE study found that use of online technologies continues to increase and students are finding value in accessing the information and resources provided in this way:
• There has been a notable increase over five years in the proportion of students who access online course resources, whether at home, at university or elsewhere, to almost universal usage, with 95 per cent of first years saying they use these Web-based materials and 80 per cent finding them useful.

• Computer software designed for the course continues to be used by a little more than half of the students (58 per cent) with the vast majority of users finding these very useful for their learning.

• Just over half of students report that they use and value online resources as a tool for assisting them to learn at their own pace. (Krause et al., 2005, pp. 45–46)

7.7.1.3 Providing meaningful and regular feedback

The engagement required by students completing online quizzes and deriving feedback for these (Mango and Tamarillo) raises the issue of providing timely and constructive feedback online. It is particularly important to attend to effective design of feedback mechanisms, as the FYE study showed that students indicated a shortfall in terms of adequate meaningful feedback on progress:

Despite the many positive trends in relation to student perceptions of teaching, we note some continuing concerns. Only a minority of students feel that teaching staff give helpful feedback on a regular basis and take an interest in student progress. (Krause et al., 2005, p. 83)

Carob was not designing for a first-year cohort, though his intention to use case studies as formative activities and focus on feedback in tutorial classes is a further acknowledgement of the importance of timely and focused feedback in support of students’ learning.

7.7.2 Large classes

A particular issue arising in this cycle was the institution’s move towards large classes (of blended cohorts). In both cases (Mango and Tamarillo), a determination of core first-year units in multiple programs meant larger enrolments than previously when there had been cores to one discipline only. This resulted in growth from an average enrolment of 100 students to between 500 and 800 students. Key issues of concern were the management of student enquiries specifically to ensure retention, pedagogical issues such as how best to engage learners and strategies for handling assessment including moderation of marking. Assessment issues included efficiently and clearly communicating tasks, marking, grading and providing timely feedback. In Tamarillo’s experience markers were just as easily put off by the last-minute changes to the assessments and their intentions. With no time for moderation within the team on this occasion, Tamarillo needed to intervene as unit
coordinator and instruct markers on how to handle the interim situation till assessment
design could be revised prior to the next offering.

In terms of pedagogical approaches, while Tamarillo was insistent on delivering workshops
rather than lectures, she acknowledged the logistical problems this raised with a likelihood
of 18 computer lab sessions and 18 workshops to be held across three campuses, plus the
facilitation of the distance education cohort each week. In relation to this, the FYE study
showed that students’ views on lectures and their role of stimulating academic interest was
more positive than previously reported, suggesting perhaps that pedagogical approaches
had improved:

The positive interpretation of these findings is that lecturers are becoming
increasingly adept at engaging students through a range of techniques including
the use of multimedia and information technologies. Institutions have expended
considerable energy in the past decade to enhance the quality of large class
teaching and this result may reflect some of the fruits of these efforts (Krause
et al., 2005, p. 27).

Tamarillo was a good example of this creative teaching effort, saying:

_Tamarillo:_ I see the point in [colleagues] saying that a lecture would be a good
way to go. If it was just a matter of talking about key concepts,
then it’s the obvious way to go. But it’s not a question of that, it’s a
question of getting them to do the exercises.

### 7.7.3 e-Reserve

Initially foreshadowed by Grapefruit in AL1, the provision of readings online had been a
contentious issue over the previous two cycles. Debate at the University was concerned
with issues such as managing copyright, transferring the printing costs to students,
relying on inadequate regional technical infrastructure, and keeping the volume of
readings within reasonable limits. During this cycle the initiative was taken by University
management for printery and production staff to be allocated to manage an e-Reserve
collection of readings for every unit. This decision then made it possible for unit design
(and assessment design) to reliably expect a smooth provision of published resources.
While the FYE survey found that:

… one quarter [of students surveyed] have never borrowed a book [from
the library]. Just over one third have respectively borrowed sometimes or
frequently (Krause et al., 2005, p. 29)
[but also found that]

… More than two-thirds of first year students frequently use the Web for study purposes and only three per cent say they never use the Web for this purpose (Krause et al., 2005, p. 33).

Critics of the reportedly changing role of librarians such as Williams (2006, e-page 3) urge us to engage students in developing information-literacy skills in disciplinary contexts and ensure ‘students are able to make best use of the ever-changing information options available to them’. Therefore this e-Reserve initiative should not be criticised as ‘spoon-feeding’ students who should actually be ‘learning how to learn’, but rather enticing them into the online library environment, rich with the resources they will find useful once they are there and exploring.

7.7.4 Graduate attributes

Reference has been made in this chapter to the graduate attributes including generic skills such as information literacy and communication. I have also raised the question of graduate attributes within an increasingly diverse cohort of students. A more detailed discussion of the graduate attributes in undergraduate programs and their connections with assessment design is provided in Chapter 8.

7.7.5 Academic integrity

In any assessment design, consideration must be made for reducing the likelihood of cheating and plagiarism, and ensuring academic integrity. Not only was this a salient issue with the online quizzes where typically it is impossible to validate the identity of the end user, but this question also arose in Carob’s clinical assessment where previous assessment design demanded a high volume of submissions.

Keeping these issues in mind, Mango always intended her six online quizzes to be open-book and formative in purpose, only using the marks where they were to the students’ advantage. Carob turned the high-volume iterative case studies into formative activities, thus reducing stress on students that typically results in cheating (Morgan & O’Reilly, 1999b). Tamarillo introduced a reflective portfolio which, while proving to be authentic and preventing plagiarism, resulted in other problematic issues such as marking workload and a level of challenge already discussed in this chapter. Collectively we looked forward to the dissemination and implementation of the forthcoming Student Academic Integrity Policy for the guidance it will provide in identifying and dealing with such misconduct.
7.8 The seeds of change

Elements of an innovative educational design model that had been emerging for me over the past two years were now starting to crystallise. My reflections on practice began to focus on what I was uniquely able to bring to my professional practice, as tested and reviewed in this research. I was also fortified by the writings of Schwier and his colleagues (Campbell, Schwier & Kenny, 2005; Schwier, Campbell & Kenny, 2004) who propose that educational designers are much more than process workers applying systems of instruction, but rather have the potential to be agents of social change at the personal, relational and institutional levels. In other words I agreed with Campbell, Schwier and Kenny (2005, p. 258) that we ‘need to articulate our experiences, make connections with ourselves, challenge theory and theorise our practice before we can influence institutional change’.

From what had been my experience of the three AL cycles and the supplementary data collection before and during these cycles, I could also see that when it came to curriculum work including specific activities of assessment design, the words of Lovat and Smith (1998, preface) held true: ‘The best curriculum work represents ideology translated into explicit action informed by ongoing critical reflection’.

From this research I’d like to shine the spotlight on two key themes, each of which will be synthesised in the following two chapters: excellence in assessment designs for online (Chapter 8), and a model of transdisciplinary educational design (Chapter 9).

7.9 Returning to the garden bench

The tour of exhibition gardens described in Chapter 6 served to refresh and revitalise my energies for continuing in my own garden plot. So, feeling fresh from this tour, and with the experiences of Cycles 1 and 2 behind me, I was most sensitive in the selection of the participants for the AL3 set. I issued an invitation to Tamarillo to join the set with careful consideration as she was not someone who had just undertaken a staff development workshop. Rather, she had been finding development of a first-year unit in collaboration with an unfamiliar colleague from another school to be rather disempowering. Tamarillo also had a good deal of experience in action research and, having been awarded her doctorate some time previously, was now in the habit of reflecting on her own teaching practice. Her pre-existing ideas of action learning and action research appeared to present no immediate blocks in her expectations for involvement in my research. I thought this was enough assurance that my prompts for reflection in this cycle would not be seen as unreasonable.

I further counselled all set members on my approach by explaining that in this third cycle, our major focus for reflections would be in terms of our transdisciplinary interactions. By now I had seen the importance of our discussions across disciplinary differences, and
I let everyone know from the outset that I would be looking at a new approach to my own practice, namely, educational design in a transdisciplinary sense. Setting off in this way was clearly a significant step towards establishing change in my educational design practices, and Tamarillo echoed this in her final reflections:

*Tamarillo:* The research meetings provided a space and filled a need that was not in my School … I do think it is incredibly important to have input from other academics when planning and developing curriculum and I really do thank you Meg for providing that opportunity.

This cycle was an attempt to design pedagogically sound, technologically robust and innovative assessment tasks. As with all things in nature, it proved to be more complex than we first thought and as the semester unfolded, environmental changes once again impacted upon our intentions. One of the positive ways in which this manifested during the cycle itself was with Macadamia taking a much more proactive role to foreshadow any technical issues on the horizon from the implementation of upgrades to the Blackboard™ environment. Macadamia also returned to this cycle with insights on both the research process and her contribution, gained from the previous two cycles. In the first session she flagged technological system changes that would have likely impact on participants’ design ideas and from then on, she took a much more proactive and reflective approach throughout the cycle. Her final reflections after sessions concluded were:

*Macadamia:* Having participated in all of your sessions, I found the final group and sessions to be the most interesting and maybe even the most effective with the most visible results as far as setting up their [academics’] unit sites. You certainly came into stride yourself in managing and actually guiding the sessions, including the pre- and post-session preparation.

My own role in this set was also more balanced than in previous sets – perhaps due to the extra time available (from the start, I asserted the need for 90-minute instead of 60-minute sessions). It was true that having evaluated the literature on educational design, found out about the practices at other universities and experienced my own research to date, I was able to approach this cycle with greater confidence. I appreciated the companionship of Macadamia who had been the only other person to continue through all three cycles, and was impressed by her development through the sessions with respect to becoming more proactive in her relationship with academic staff. I also saw that I had something to offer my own sphere of professional practice in educational design terms. I had become increasingly assured with a heightened sense of self-efficacy that I was providing colleagues with a rare opportunity, and the fact that all these set members felt they had something to
gain from collaborative design from the outset, could also have played a role in the smooth expression of my role as set advisor.

In this cycle, I explicitly proposed prompt questions with each transcript as a means of stimulating reflection between sessions and was also able to follow up in the next sessions. Within each timeslot we were able to discuss the process as well as the products of design and through the previously completed tour of exhibition gardens, I had come to understand very clearly that reflection was key to good teaching (and good assessment design), not just a bonus. I thus shared my own reflections too.

In addition, through the collegial reflections I undertook within my research support group, my confidence also grew. My emerging belief in the usefulness of this research was also validated in that I saw that I was formulating a new approach to educational design that could clearly be described for further exploration. I could also see that I had grown into the role of change agent as depicted by Campbell, Schweir and Kenny (2005). My confidence, sense of purpose, capacity for informed suggestion and a contagious commitment also gave members of the AL3 set good momentum in their own design initiatives. Through the engagement with the scholarship of teaching literature, my reflective practice now also includes active scanning for opportunities to apply for research grants in areas of professional interest.
Chapter 8
Fruits of the harvest

All plants are our brothers and sisters.
They talk to us and if we listen, we can hear them.

– American Indian Proverb, Arapaho
8.0 Fruits of the harvest

My research had commenced from a desire to explore ways of improving the online assessment practices of academic staff through reflection and action research. By reflecting on my own professional practice of educational design in the course of the research cycles, I also began to concentrate on formulating a new transdisciplinary approach to practice. Before bringing together my discussion on this approach to practice, which I will do in Chapter 9, this chapter will first synthesise all the assessment-related findings arising from engaging academics in designing online assessment.

As with any technology-oriented research, the environment in which the research was based moved on and changed enormously in the course of this six-year endeavour. One important feature recently taken up by a groundswell of users can be collectively termed the Web 2.0 environment. In this thesis, no special mention has been made up to this point of the Web 2.0 features, which can include communally edited resources found within wikis, the self-publishing features of blogs and YouTube, and other social networking tools such as del.ici.ous, MySpace, Flickr, twitter and Facebook. No doubt there are ways in which these innovations present opportunities for academics in their future designs of online assessment and insofar as this was becoming apparent while drawing this thesis to a conclusion, mention is made in this chapter of such possibilities.

8.1 Picking the perennials

Theoretical domains associated with online assessment fundamentally subsume theories of student learning and assessment in general, as well as wandering over the realms of online teaching and learning. These underpinning theoretical influences were discussed to some extent at the commencement of the thesis, and were further touched on in preceding chapters. This chapter will now look at developments observed in the research and most current literature, and at the implications for theory including overarching and perennial themes of the first-year experience, assessing large classes and developing generic skills.

8.1.1 The first-year experience

In my action research, three of the nine academics who participated in the cycles of assessment design (Cherimoya in AL2, and Mango and Tamarillo in AL3) were concerned with first-year students. Their designs were shaped by a decision to provide a scaffolded approach to learning (Vygotsky, 1978) whereby early support is provided through a range of initiatives. These included:

- involvement of a librarian (not in AL2, but contacted by Cherimoya) to assist students learning to search databases, journals and Web resources
• incremental progression through quizzes, which only counted towards final grade if advantageous to the student (Mango)

• the multi-part approach to both Learning Portfolio and critical evaluation of literature (Tamarillo) where feedback was provided not only as comments to individual students on their progress but also through a clarification of marking criteria ‘on the fly’ when it became apparent that many were floundering (Darab & Phillips, 2005).

The most common approaches to providing scaffolds include through interaction, dialogue, prompting and modeling, as well as through use of technological supports to facilitate reflection and metacognition (Ge & Land, 2003; Land & Zembal-Saul, 2003). Although these latter authors introduced a technology-based scaffold design within a science-content unit in engineering and as such may not be comparable to the social science context we had with Tamarillo, their multi-part portfolio submission activity did show that over time students demonstrated an increasing understanding. Given sufficient background knowledge, the progressive portfolio submissions enabled students ‘to become more precise in their explanations, to offer justifications and to connect evidence with claims’ (Land & Zembal-Saul, 2003, p. 79). The main proviso of the study was that background knowledge was needed for students to put the scaffolds (feedback) to best use. Sadler (1998, p. 78) explains this further saying ‘it cannot simply be assumed that when students are “given feedback” they will know what to do with it’. Thus this seems to be a generalisable concern across disciplines.

The findings from an extensive literature review of non-completion by students in Vocational Education and Higher Education (McInnis et al., 2000) signalled a change in the nature of students and their commitment to learning. This was considered to be due to their increased need to be earning an income and its frequent connection with health and family responsibilities. Consequently, the quality of the first-year experience was singled out as being critical to the likelihood of students continuing and completing their undergraduate degrees. Subsequent empirical research in Australia on the first-year experience (Krause et al., 2005) has reinforced the view and highlighted students’ wish for staff to take more ‘interest in their progress’. Comments from students suggest this can be done through the provision of prompt and constructive feedback as well as through improving access to teaching staff by additional staffing resources being provided by the institution, or through better use of innovative communication strategies. This national study was further strengthened by the work of Ballantyne, Todd and Olm (2007) who surveyed their first-year cohort at the University of Southern Queensland’s new Springfield campus and also found that the first-year experience was of critical importance to students’ success. It is interesting to note that their student cohort resembled much more closely the Southern Cross student demographic than the national study in terms of having a greater proportion of students who were of a low socio-economic status and a larger proportion
of mature-age students. A well-supported first year at university seems important to most students regardless of age and background and members in my AL sets were designing their first-year assessment tasks on this understanding.

One initiative that has successfully been trialled by Boin and Rhoden (2007) made use of emerging social networking technologies in opening up a blog site for first-year students recruited during Orientation Week at Melbourne University (this is a Web-based log of students’ comments). Findings from this preliminary study show that the volunteer group of students from a range of undergraduate programs ‘quickly became a real community of support and affirmation’. With the number of visitors to the site reaching 2,400 near end of semester, 90% were lurkers/readers, 9% contributed occasionally and 1% accounted for almost all postings. The reported success of this initiative was however not simply in the number of contributors but in the sense of community fostered across disciplinary demarcations with a shared sense of facing personal challenges. Indications were that in its next implementation some who lurked were now participating in the ‘Back for Seconds’ blog for second-year students. These findings also echo those of O’Reilly and Newton (2001a; 2002) who surveyed students from a social science program that provided optional online forums in units at Southern Cross. These authors similarly found that even when students were not assessed for participation, having a space for discussion resulted in social constructivism with disciplinary relevance, peer-to-peer support, mutual motivation, social cohesion and students able to benchmark progress against their online peers.

The ‘recognition that the first year lays the foundation for learning in later years’ (Nicol, 2006, p. 589) was of central concern to assessment designs in Cycles 1 and 3. Cherimoya’s, Mango’s and Tamarillo’s students can benefit from their assessment designs that link progressive assignment tasks in a developmental way. In the future they could also benefit from an awareness that with the introduction of Web 2.0 technologies, where an informality online is the order of the day (Lefoe et al., 2007; Philip et al., in press; Phillips, Orrell & Millea, 2007a, 2007b), interaction among first-year students can play a central support role. So perhaps in this new online environment it is not only assessment that drives learning, but increasingly, peer-to-peer support networks with special relevance to first years will also be significant in retaining students and supporting them to succeed.

8.1.2 Assessing large classes

A compounding factor of significance in the first-year experience is the increasing tendency towards large class sizes. It is now quite common at Southern Cross for first-year classes to be anywhere from 100 to 800 students. Two units which have been designed to be core to a number of undergraduate programs now have enrolments as big as 1200 students in each. While early excitement for online technologies was around the enhanced interactivity this afforded for all students (especially those studying off-campus), the sheer size of these
first-year cohorts dictates a different approach to assessment. The amount of discursive work to be marked needs to be a minimum that demonstrates students’ achievement of learning objectives.

In view of this workload issue, designs of online assessment for the two larger units (Mango and Tamarillo) originally both included quizzes allowing for some degree of auto-grading and thus containing the academics’ workload. However, this strategy was lost with the elimination of quizzes from Tamarillo’s design, and resulted in markers becoming overwhelmed. The suggestion of self-regulation found in the literature (Boekaerts, 1997; McMahon & Luca, 2001; Sadler, 1998; Schunk & Zimmerman, 1994) provides a possible way forward in providing students with skills and knowledge necessary to make appropriate judgements on their performance and standard of progression. Though not without its challenges, development of self-regulation is said to rest upon initial provision of clear instruction (Rasku-Puttonen et al., 2003) and is akin to the intentions of metacognition which, as described by Darab and Phillips (2005), was designed in Tamarillo’s foundation unit as a strategy for students to learn about learning, and find a means to establish goals and maintain personal motivation.

In addition to providing scaffolding as already suggested to enable smooth progression for novice students, Tamarillo persisted in her aim to schedule workshops for all students (both off-campus and on-campus) in order to engage them in practice to the greatest degree. While no evaluation data was recorded for this aspect of the unit, these large classes may in future benefit from the approach taken with a class of 500 students by Bulmer, O’Brien and Price (2007) who sought to put into effect the theoretical research on active learning. The University of Queensland team structured their teaching space for use by students in ‘pods’ of 15–18, each clustered around a main computer with a data projector and 6–8 computers around it. Without having to replicate the investment on infrastructure this would entail, there are lessons here for Southern Cross staff who may be considering making good use of small groups when teaching large classes.

Likewise there are similarly useful strategies in the small case study given by The Learning and Teaching Support Network Generic Centre (2001) which describes a system where tutorials had been eliminated and instead, negotiation was had with students to approach their assessment in learning teams of four, working outside of lectures towards an average mark for team work but individual marks in exams. This resulted in co-coaching by all members in teams to ensure the average mark was kept up.

### 8.1.3 Generic skills

A third element linked with the first-year experience (and relevant in later years) is the development of generic skills. While the literature is clear in distinguishing between generic
skills and disciplinary skills, there is an association drawn between generic skills and graduate attributes. Some indicate that there are ‘generic graduate attributes’ (Barrie, 2004, 2006), others assert that skills are a component of discipline-specific graduate attributes (Trivett & Skillen, 1998), and still others view there to be a ‘symbiotic’ relationship between generic and discipline-based skills that map onto the attributes expected of graduates and inform specific curriculum development (Bath et al., 2004). Though generic skills may be, by definition, generic across higher education, even so they are developed within the context of the students’ disciplinary field of study. Evidence is also found in the literature that employers of graduates seek not only a suite of generic skills such as problem solving and interpersonal communication skills, but also what are called ‘softer’ skills such as an ability to work in teams, demonstrate empathy and creativity (Yorke & Harvey, 2005). These debates and distinctions are well and truly active in Australian higher education as each university defines its generic graduate attributes and distils discipline-specific attributes, skills, knowledge and values that can usefully inform the development and review of curriculum, and indeed the approaches to and design of assessment.

Most broadly, generic skills include thinking and reasoning skills, research skills and written communication skills (Clanchy & Ballard, 1995). These have been shown empirically to be best introduced into the first-year curriculum (Morgan, Dinsdag & Saenger, 1996). The FYE study (Krause et al., 2005) describes the diversity of our student population in first year as being now more complex than ever, since they bring into their university studies a wide range of backgrounds and life experiences. In view of these findings, the introduction of generic skills in the first-year curriculum deserves careful consideration in terms of their specific expression of graduate attributes. The transparency we can achieve by unpacking the expected graduate attributes and their component parts is most vital for today’s students who may be heading for opportunities in the global marketplace for employment and further study. They need to know for themselves not only what qualifications they are working towards, but also what qualities they will develop in order to become employable or to continue in academe (Yorke & Harvey, 2005).

Barrie (2006) also showed not only that there are four distinct conceptions among academics with respect to generic graduate attributes, but also that these conceptions have a hierarchical relationship. In his interviews of 15 selected Sydney University academics, Barrie (2006, p. 223) found that the four conceptions of graduate attributes ranged from simple to complex as follows:

1. precursory conception – which sees generic attributes as those which students bring with them to university study and to which disciplinary attributes are added
2. complement conception – which similarly sees that disciplinary attributes become complementary to generic attributes
3. translation conception – whereby specialised variants of the generic attributes are essential in the application of disciplinary knowledge and its translation to other contexts

4. enabling conception – generic attributes are seen as the enabling core to scholarly learning and knowledge, with a potential to support creation of new knowledge and transform the student.

Despite these complexities, future design of assessment at Southern Cross can be guided by the current initiative to map and embed attributes in undergraduate assessment and the disciplinary discussions this has sprouted along the way. There has been no similar study of conceptions from academics at Southern Cross, but it is likely that a similar hierarchy of understanding would apply. Recent policy at Southern Cross has, however, ratified the University’s statement of seven graduate attributes and has further required schools to develop course-based statements as an expression of disciplinary relevance. Thus the question of generic skills that arose in both Cycle 2 and Cycle 3 prior to adoption of this policy illustrated that a set of policies and procedures for developing disciplinary graduate attributes and mapping them against the assessment tasks within each course, came along none too soon. As far as the findings of my research are concerned, academics at Southern Cross are only just beginning to consider the issues of graduate attributes in some detail and in the first instance, the direction of the current institutional project to map and embed graduate attributes into the curriculum is now serving to direct development of foundation skills while allaying concerns of academics who teach later-year units that these foundation skills should have already been established.

8.2 Vines that entangle

There are some aspects integral to online assessment practices that are not straightforward in the role they play. These will be summarised here in terms of their implications for practice. One such aspect is the entwining of formative and summative assessment processes, which has been described in several cases (Fig, Mango and Carob). Another is the question of flexible learning and the even more gnarled question of flexible assessment (Lychee). The third aspect to be considered here is that of marking, grading and feedback, entangled with each and every assessment task.

8.2.1 Entwining formative and summative assessment

Boud’s (1995a, p. 37) assertion that it is not possible to fully separate assessment tasks for their formative or summative purposes is an argument that the assessment process always leads to learning – ‘Every act of assessment gives a message to students about what they should be learning and how they should go about it’. This is clearly a sensible point of view
but perhaps in the process of reducing the volume of assessment demands upon students in recent years at Southern Cross, such changes resulted in much fewer opportunities for providing students with helpful feedback. Now, with the affordances of online, this teaching and learning function of feedback is once again under consideration, as we saw in one of the postgraduate Southern Cross cases identified in Round Two interviews (Chapter 3, Table 3.6), and as explained here:

… the greatest contribution of IT to all this lies in the increased interactivity offered by asynchronous networks, which for distance courses was previously unattainable. Apart from the obvious collaborative work, and possibilities for enhancing feedback, you can submit iterative drafts of assignments or maybe negotiate assessment criteria (Macdonald, 2000 in McAlpine & Higgison, 2000, p. 9).

Buchanan (1998–99) lists the features of formative assessment that make it more effective: it must be timely, tailored to the individual and constructive in nature. Similarly Morgan and O’Reilly (1999b) explain the use of formative assessment as an opportunity for academics to enter into dialogue with the student, quite reminiscent of Laurillard’s (1993) ‘conversational framework’. In keeping with this notion of pedagogical dialogue, Fig’s initial aim was to design the first assessment task as a reflective process that led to the submission of a proposal by students for further exploration of an identified issue and its implications. This would be the basis for a formative review by Fig, and the major assignment would then be based on the students’ own identified issue, building on the proposal for which they had received some guiding feedback. The key to effective formative assessment therefore, is in the feedback provided for students so they can improve their understanding and correct any misunderstandings.

Findings in the literature also suggest that where formative tasks have a good relationship to summative assessment, students who are able to engage in formative processes or take practice tests will experience less stress, gain confidence in their understanding, and their performance on summative tasks will be improved (Cassady et al., 2001). Carob quickly came to an understanding of the value of formative tasks as ‘learning tools’ and rather than produce an assessment for online implementation, his work in Cycle 3 saw him redesigning the existing 98 iterative summative assessment tasks for formative purposes. The outcomes of this strategy are currently being evaluated.

Some tensions also exist when entwining formative and summative assessment and these are in relation to workload – an issue of some concern which tends to recur in discussions with academics. If formative tasks cannot be auto-graded such as online quizzes and tests, then the more narrative tasks will require academics to provide either model answers for students to self-assess or to entwine the feedback into teaching as Carob planned with
his tutorials (recorded to MP3). In order to build on this specific affordance of the online environment for enabling rapid, tailored feedback, academics need to be prepared to design their teaching around this kind of engagement whilst not reducing students’ love of learning merely to the single goal of hoop-jumping, to complete their assessment requirements.

8.2.2 Flexible learning/assessment

The term ‘flexible learning’ means so many things to so many people and its meaning is usually determined by the context in which it is implemented (Morgan, Bird & O’Reilly, 2007). Add to this the term ‘flexible assessment’ and we have a real jungle of meanings and interpretations, offering no guide to institutional planning for either flexible learning or assessment. In her empirical study, Bird (2003) found that the five dimensions of flexibility at Southern Cross were:

1. mode of delivery
2. MySCU online environment
3. student choice (over unit content and assessment)
4. place of offerings
5. time of offering.

Details of how flexible learning was supported showed that Blackboard™ was used at that time largely for delivery of content, which was in itself rarely negotiable at undergraduate level. The data also revealed ‘flexible course structures, entry schemes, pathways through programs and exit schemes’ (Morgan, Bird & O’Reilly, 2007, p. 165), with a caution that ‘more is not better’ and that ‘students enrolled in first-semester/first-year units of study ... may suffer from a unit demonstrating too much flexibility or choice’ (Bird, 2003, p. 15). In terms of assessment, flexibility was taken to mean choice between options or an opportunity to negotiate tasks as in negotiation of learning contracts. Findings at Southern Cross in this case show that on average students are provided with flexibility in assessment in less than 25% of cases, though details of how respondents interpreted ‘flexibility’ in this context are not provided. The examples I reported in Chapter 3 are thus from this 25%.

Some authors choose to define what ‘flexible assessment’ is not, that is, ‘it’s not the three-hour unseen, anxiety-provoking exam, marked by a lecturer whose comments the student never sees’ (Mowl, McDowell & Brown, 1996, p. 1). Perhaps the best reported example of flexible assessment is from Cook (2001) who developed a series of assessment options for students to choose between and gave students the best mark of the following combinations:

Option 1:  end-of-semester exam (100%)
Option 2:  end-of-semester exam (75%), mid-semester exam (25%)
Option 3: end-of-semester exam (85%), computer-managed learning i.e. 5 quizzes + Q&A forum (15%)

Option 4: end-of-semester exam (60%), mid-semester exam (25%), computer-managed learning (15%).

Findings showed that students who paced their effort over the semester, attempted all quizzes and sat the mid-semester exam, obtained better results. At the end-of-semester the most advantageous mark for students was calculated in the same way as Mango did in AL3. This may have some bearing on reasons for students in this study being less stressed about assessment tasks and more prepared to take responsibility for their own learning. It also somewhat addresses the issue for Guava who was concerned with being too flexible in terms of submission dates – as her previous practices presented greater stress for both herself and her students. Given that she was designing many small tasks for cumulative assessment, had she provided them with the choice to complete all tasks or to forego some with the knowledge that the best mark would be calculated from their overall effort, the issue of meeting deadlines for every single piece of work may have been re-evaluated by students themselves.

While Southern Cross now has a policy on flexible learning that provides guidelines, recommendations of best practice and rationales for adopting these, further investigations are still needed to inform decisions on: how to design appropriate flexibility in assessment of our diverse cohorts and with disciplinary differences; how to ensure rigor; how to validly and reliably mark these works by students; and how to contain the workload issues emerging from these innovations.

On another note, during the period of the three AL cycles, the University investigated use of e-Reserve to provide a central repository of readings. The system was trialled and ultimately all schools were able to adopt it for delivering digital readings for students to print. The flexibility this provides is that students choose which readings to print, or which to read on-screen and which to skim or skip altogether.

8.2.3 Marking, grading and feedback

Through the previous cycles of assessment design, minimal focus was given to the design of marking criteria and the approaches to grading beyond the fact that the quizzes required answers to be developed in advance for uploading to the online system. I described Lychee’s unusual approach to grading in Chapter 4. This could be termed a ‘deficit’ model where students are told they start the semester with a High Distinction and their work through semester will determine whether they maintain this mark or drop from it as a result of attaining the lesser standards that would be depicted in the rubrics provided.
The marking criteria for online discussions (Gauva, Cherimoya, Guava and Fig) were not detailed during the assessment design, though it would be the usual practice to do so within regular educational design activities. For Nectarine and Fig this was due to the forums being designed as unmoderated and ungraded (formative) activities. However, criteria for effective participation also helps students to understand the requirements in formative tasks. For Cherimoya and Guava, the development of marking criteria was the focus of one-to-one design activities outside AL meetings. In some ways this is the final keystone in terms of constrictive alignment, ensuring that the way marks are awarded is relevant to the demonstrable objectives as listed in the unit outlines provided to students.

Criteria are also important for the purpose of ensuring consistency in marking, as would have been at issue in the large units of Mango and Tamarillo. With the design of online quizzes by Mango, her workload and moderation of marking was managed through the auto-grading of quizzes. However, for Tamarillo I have already mentioned how the markers struggled to handle the enormous submissions students gave in as their learning portfolio. They seemed to get lost in both the flexibility offered to students and the detailed content they consequently provided. As described in a publication by Tamarillo, the primary unit assessor:

The [learning portfolio] assessment provided a site in which students could demonstrate development in academic and online skills, as well as content knowledge, and students were rewarded for their efforts in that any practice they undertook could be submitted for assessment … (Darab, 2006, pp. 106, emphasis added)

It was left to Tamarillo, the unit assessor, to double mark the extreme ends of the cohort in order to ensure that appropriate decisions were made for allocation of grades and that sensitive recognition was given for the ‘heightened self-awareness’ that students had both experienced and reported (Darab & Phillips, 2005, p. 68). Fail-grade submissions were also offered the opportunity to resubmit.

Another aspect of marking that came up during the AL cycles was whether the ease of copying and pasting in the online environment would allow more plagiarism than otherwise, and how indeed this might be guarded against. This was of particular concern to Tamarillo who was facing a very large cohort across multiple schools and multiple campuses including offshore and off-campus, as well as the management of a team of markers. Strategically, Tamarillo presented students with an article on alienation and plagiarism (Haynes & Introna, 2003 in Darab, 2006) as one of the options for review in their first assignment. This meant they could obtain relevant knowledge of the issue whilst also learning about critical evaluation of academic literature. Such an embedded approach is also recommended in the literature (Carroll & Appleton, 2001; Dawson, 2004; James, McInnis & Devlin, 2002; Warn, 2006).
The following statement by Becher (1987b, p. 298) stimulated some further thoughts on the marking process:

Academics in a great variety of fields acknowledge the privileges of academic independence, admit an obsessional commitment to their work, express a high degree of job satisfaction, and share a common dislike of grading student essays and examination papers.

Since this statement by Becher (1987), the introduction of a variety of innovations including not only such processes as the auto-graded quizzes online, but also more use of self and peer assessment, has provided some options to the perceived burden of marking. If grading is started early and done progressively it can support and enhance learning. Perhaps engaging students early in the teaching period in the development of marking criteria, and helping them to apply these criteria to tasks, is an excellent investment of academics’ time, and prepares students well to share the marking load through self- and peer-assessment processes.

Sadler (1998) talks about the inherent skills that academics bring to the task of assessment, in particular to the provision of constructive feedback, and to the judgements they make as to the standard at which the criteria have been met (2005). However, the concept of learning through assessing is also valued by many educators (Brown, Race & Smith, 1996; Race, 1993; Roberts, 2006) and can take many forms such as peer tutoring (Wagner, 1982), peer review in projects (Kennedy, 2005), negotiated assessment (Boud, Cohen & Sampson, 1999) and cooperative learning (Chickering & Gamson, 1987). It is also agreed that students’ involvement in self- and peer-assessment must be carefully structured in order to avoid students being required to undertake tasks of critical significance beyond their abilities (Lam & McNaught, 2006). Interestingly some of the key findings of the large meta-analysis conducted by Falchikov and Goldfinch (2000) to check the agreement between academics and student peer assessment found that: peer assessments requiring global judgements based on well-understood criteria closely resembled the assessment by academics; and that student familiarity with and ownership of criteria tended to enhance the validity of peer assessment. Furthermore, Hanrahan and Isaacs (2001) found that peer- and self-assessment are feasible strategies to implement in classes with over 200 students, but this is offset against the issues and problems raised by Orsmond, Merry and Reiling (1996; 2000) as to how students are interpreting marking criteria, even the ones that they have developed themselves.

In picking up the challenge of ensuring students are clear about what they are working towards and have an understanding of the standards of achievement as described by academics, Stefani (1998) has proposed an integrated strategy for engaging students more with the assessment process that she has termed a ‘partnership’. Stefani (1998) links the function of feedback to several indicators in an assessment partnership. Feedback needs
to provide a shared understanding of the assessment tasks, establish and reinforce clear criteria as to how achievement will be measured through provision of exemplars and comments on performance, and ultimately point to remedial actions where aspects of poor performance are identified.

Since none of the assessment designs from the three action learning cycles in my research considered self- or peer-assessment approaches, this section may seem to have digressed somewhat from the main garden path, however, the detailed review of the issue has been included here to indicate firstly a strategy for devolving the marking load to the students themselves (under the right conditions) and secondly to explore future options in assessment design for online. With retrievable archives and the ability to divide the whole cohort into small groups to work both synchronously and asynchronously using online technologies, there should be no technical obstacles to the endeavour, and it is the fundamental principles of engaging students in the processes of assessment (of themselves and their student peers) that can be followed up in my practice with academics at Southern Cross in future.

### 8.3 Showing the prize fruit

With any kind of innovation, one of the strategies for promoting uptake is through use of exemplars and sample cases or scenarios (Bennett, Priest & Macpherson, 1999; Bruce, 2001; Bull et al., 2002). This research commenced subsequent to publication of a co-authored book (Morgan & O’Reilly, 1999b) containing 31 case studies of assessment tasks, of which 17 included some online components. A number of additional papers flowing from this book specifically showcased examples of online methods of assessment and these have been listed in full in the Preface. While helpful in providing ideas when working with academics on their assessment design, it was also the case that at the time of commencement of this research not many academics had had any personal experience of being assessed or conducting assessment online. Thus, the more examples that could be found of how online assessment was being designed and implemented, the more prepared academics felt to make some decisions in their own case. It was therefore of great benefit to this research that I applied for and received two separate small grants (2004–2005) which enabled the search for case study exemplars.

### 8.3.1 Foundations of excellence in online assessment

The first collection of case studies has already been mentioned throughout Chapter 6, arising from the internal research grant for identifying hallmarks of excellence in online assessment (O’Reilly & Hayden, in press 2008). Though this publication is soon to become available to a wide audience of readers, it has in the meantime informed my work
in supporting design ideas and in identifying the academics at Southern Cross who might be termed the ‘seed trees’ – infusing others with innovative ideas and the enthusiasm for applying them in their own teaching and learning contexts. In the following sections I refer to these examples with the abbreviation ‘Hallmarks’.

### 8.3.2 Case studies

The second collection of case studies resulted from a collaborative grant received together with the University of Wollongong and the Hong Kong Institute of Education. That project was to identify, and in the first instance, to showcase a collection of exemplary cases of online assessment design to an international audience. The Hong Kong colleagues were then to engage with exemplars, their own educational design and staff development colleagues, plus myself and my University of Wollongong colleague via online forums to discuss a process of adopting and adapting these Australian ideas to their own context within Hong Kong (O’Reilly, Bennett & Keppell, 2005). The eight cases (four Southern Cross and four University of Wollongong cases) can be found online via the Southern Cross University Teaching and Learning Web site (http://www.scu.edu.au/services/tl/index.php?page_id=34&menu=2_44) and are attached as Appendix 6, and are referred to in the discussion that follows simply as Case studies. Southern Cross examples were drawn directly from connections made with academics through this doctoral research:

- Case 1 describes the assessment of Tamarillo from AL3
- Case 3 describes the assessment of Lychee from Round Three interviews
- Case 4 describes the assessment of Mango from AL3, and
- Case 6 describes Guava’s assessment in a different unit from the one designed in AL2.

### 8.4 Fruits of online assessment

The following discussion considers the principal methods of online assessment that were taken into account in the course of this action research. They are summarised in the following discussion in order to illustrate the implications for practice:

1. Online discussions in all their various shapes and forms
2. Online quizzes and their variety of uses
3. Authentic assessment, in particular workplace simulations.

#### 8.4.1 Online discussions

Overall it appears that text-based discussions are not only the most common form of online assessment but there is also a proliferation of literature discussing various findings when adopting this method. While the FYE study found that ‘the proportion of students
using online discussion opportunities remains in the minority’ (Krause et al., 2005, p. v), the discussion forum method has many forms and structures, each with its own purpose and consequences. In my research this method was adopted (or was signalled as intended) by four academics, all of whom taught later-year students (Lychee, Nectarine and Fig, and intended by Peach). An ungraded forum was also adopted by Guava as a kind of ice-breaker for her blended cohort to become acquainted before their field trip:

Guava: … in response to their [students’] need to communicate with one another … absolutely essential for the externals … So I’ve done that and I hope using the Internet brings that rather remote class together. For seven, eight weeks they don’t know one another … not only getting to know one another through our discussion … but also reporting on where they are.

The specific implications to be derived in this section concern the purpose and context of the use of online discussions forums, and again I would expect that the pedagogical rationale would dictate the characteristics of the discussion task. The tasks might be:

• graded as for Lychee, Nectarine and Fig
• ungraded as for Guava
• purposive such as client interview (Peach), alumni interview (Lychee), practitioner interview (Hallmarks 2, Law at UNE)
• providing an avenue for expert advice such as links to librarian (Lychee and Cherimoya).

Web 2.0’s emerging role in supplementing content-based discussion forums might also prove to be extremely useful for student retention and support. The full impact if this potential is yet to be seen.

8.4.2 Online quizzes

Online quizzes are also an extremely common form of assessment online. Although much work was done on ensuring technical robustness, security and authentication when online technologies first became widely adopted in higher education, this concern has to some extent lessened. The release of technical improvements over time and the realisation that, because of the eternal lack of certainty as to either who is completing the test or whether they are cheating in some way, academics are cautioned not to rely on online quizzes and tests as the core assessment process for students. As a result, the design of quizzes should also be determined on the basis of a pedagogical rationale such as:

• to reinforce foundation knowledge through small achievable quizzes (Tamarillo)
• as a learning tool so marks are not used if performance is disadvantageous (Mango)
• as self-assessment where students can aim for a mastery of content (Hallmarks 6, self-assessment at CSU and Hallmarks 8 Self-regulated quizzes at USQ)
• for formative purposes, for example case scenarios to be critically examined in tutorials (Carob)
• as a strategy to ensure regular engagement of off-campus students (Guava)
• as a means to ensure equity in challenge for off-campus and on-campus students (Hallmarks 7 Blended cohort via quiz at UNE)

8.4.3 Authentic assessment

The questions of authentic assessment were thoroughly explored in previous chapters. Presently, there seems to be such a widespread understanding of the need to engage students in authentic learning activities and where possible, authentic assessment experiences, that when we see this not to be the case, the temptation is to advise a change to ensure that authenticity is arranged somehow. For example quizzes wouldn’t seem on first glance to be an authentic representation of real-world activities but on closer inspection online quizzes that are designed in accordance with the list of intentions as shown above may be the most authentic way of eliciting a demonstration of foundation knowledge or reinforcing an emerging level of understanding. Authentic elements were mentioned in several of the assessment designs in the action learning cycles and supplementary interviews. Lychee involved alumni in an online discussion with students so they could ask what it was ‘really’ like in the world of accounting; Peach imagined she would in future design an online interview system so that final-year students could ask diagnostic questions of their client-athletes; and Guava likened the collaborative mapping activity to current workplace practices in the science field. There are other authentic assessment methods that were found in the two collections of cases from all four regional universities and two of these are discussed now: simulations and reflective works.

8.4.3.1 Simulations

Two kinds of simulation tasks were evident in the cases examined. The first involved some examples of workplace simulations as provided by Hallmarks 3 (Constructivist discussion at Southern Cross) in which school managers applied their theoretical understanding of management, curriculum leadership and financial issues to their workplace contexts through engagement with a series of jigsaw puzzle pieces; Hallmarks 5 (Simulated organisation at Southern Cross) required students to communicate and interact as if they were an organisation. Working in small teams, they first introduced themselves and completed a collaborative group project which they determined would meet the unit objectives and timeframes; and Hallmarks 11 (Critical incidents in online learning at USQ) which showed
students in a unit called Teaching Online actually facing and dealing with many of the ‘critical incidents’ that they may experience in their own teaching practice on graduation.

The second kind of simulation found is the role-play simulation in Case study 5 (University of Wollongong). It was designed for academic staff to learn about criterion-referenced assessment. In taking up a role for this online professional development, session staff new to university teaching were able to protect their identity and admit to the shortcomings of their understanding to learn more about this essential area of teaching and learning.

8.4.3.2 Reflective portfolio and journal assessment

The reflective portfolio assessment of Tamarillo has already been described in full in Chapter 7. Suffice it to say here that with a good shared understanding of the assessment requirements and marking criteria, the reflective learning portfolio is a method that can work for first-year students – enabling them to learn about their own learning needs and capabilities whilst also learning the skills to write and correctly reference their work. Hallmarks 12 (Reflective portfolio at USQ) required first year engineering students to keep a reflective portfolio in which they tracked and reflected on their progress in a team-based problem solving assessment scheme. It seemed the sooner students understood about critical reflection and critical self-reflection, the sooner they began to demonstrate higher order thinking and university-level learning.

8.5 Qualities of the fruits

In the course of this research there have been several qualities shown to be key to designing online assessment. These are encapsulated as useful guidelines in two publications (Morgan & O’Reilly, 2006; O’Reilly & Hayden, in press 2008) and summarised here in sections 8.5.1 to 8.5.12. Of note is that three Southern Cross examples have been reported in a number of contexts:

- Lychee’s Round Three example is also Hallmark 4 and Case study 3;
- Mango is also Case study 4;
- Tamarillo is also Case study 1.

8.5.1 A clear rationale and consistent pedagogical approach

The design for exemplars and case studies described in previous chapters, have all been driven in the first instance by a pedagogical rationale. Whether compelled by the need for providing immediate and rapid feedback (Mango and Carob; Hallmark 6, 7 and 8; Case studies 1, 2, 4, 6 and 8); allowing multiple perspectives (Lychee, Nectarine and Fig; Hallmark 1, 2, 3, 4, 5, 10, 11; and Case studies 3, 6 and 8); or supporting collaboration and
interaction (Lychee, Nectarine, Cherimoya, Guava, Mango and Tamarillo; Hallmark 1, 2, 3, 4, 5, 10 and 11; and Case studies 1, 3, 5, 6, 7 and 8), they each exemplify a pedagogical approach that is consistent with learning objectives and contexts of learning.

8.5.2 A facilitative degree of structure

This phrase ‘a facilitative degree of structure’ is taken from Gibbs (1995) and refers to the balance between providing structure and encouraging student autonomy. It is commonly something that we see taking place over the entire course such that in their first year, students are provided with sufficient scaffolds (as already discussed in terms of formative assessment), and these are gradually reduced in later years.

Cherimoya, Mango and Tamarillo designed for first year and aimed to provide a clear and unambiguous structure for students to follow. Tamarillo however, reported that the level of choice given to students in the development of their Learning Portfolio led to a great deal of stress, as was also suggested by Bird (2003). Tamarillo thus found she needed to provide more structure and explicit criteria to students during their work on this multi-part assessment task. The less structured assessment designs for later-year students in AL cycles included ungraded forums (Nectarine and Fig) as well as workplace related (ill-defined) assessment schemes for final-year units (Lychee and Guava).

8.5.3 Appropriate volume of assessment

Where recently academics at Southern Cross had begun to resist the propensity for over-assessment, the balance between not over-assessing whilst providing ample opportunities for students to produce work for review and feedback, has returned as a challenge given the capabilities of the online technology environment. One of the strategies we have seen in this research where academics have been able to provide sufficient and timely feedback without over-assessing students is in the introduction of self-assessed or auto-graded quizzes (Mango; Hallmark 1, 6, 7 and 8; and Case studies 2 and 4). It is incumbent upon academics to critically review the volume of assessment in such cases where several submission points are dictated in the skills development for narrative forms of assessment, or when there are so many small tasks that students are at risk of losing sight of the relative importance of each individual task (Guava and Tamarillo; Hallmark 2, 5 and 9; and Case studies 1, 5, 6, 7 and 8).

8.5.4 Awareness of students’ learning contexts and perceptions

This has been discussed in other sections such as the sections on FYE and large classes earlier in this chapter. In Carob’s assessment design, the varying contexts of students influenced his decisions since he knew that his off-campus cohort were qualified
practitioners enrolled in a conversion degree while his on-campus cohort were direct-entry students. He thus focused on only the on-campus cohort.

At Southern Cross, student perceptions are normally collected through end-of-semester feedback and in those cases where set members had been able to carry out such evaluation, the issues have been discussed through preceding chapters. In addition, the two large national studies on the first-year experience (Krause et al., 2005; McInnis, James & Hartley, 2000) helped set members to identify those issues of particular relevance in their own first-year units, and served to validate their design decisions.

The only factor that has not been touched on to any extent in terms of accounting for diversity of student contexts is the international cohort, and while the two large subjects in Cycle 3 (Mango and Tamarillo) were delivered offshore as well as to domestic students, no special consideration was given during the AL cycles of this variable other than Mango acknowledging that the design decisions had to be slightly tailored for offshore use to allow for management of the assessment process by overseas staff.

8.5.5 Certifiable as students’ own work

Not surprisingly, the process of designing online assessment raised some questions among academics of how to ensure security and authenticity of students’ work. The specific questions that were concerned with cheating came from each of the set members who was designing assessment for first year (Cherimoya, Mango and Tamarillo), as well as from Carob whose labour-intensive assessment design may have been the very reason that cheating was potentially such an issue. Interestingly, these concerns did not explicitly arise when gathering cases for the ‘Hallmarks’ collection where the emphasis had been so much on designing authentic and engaging assessment tasks that the question of academic misconduct was not in consideration. It should also be mentioned that in addition to the Case studies 1 and 4 from Southern Cross, Case study 2 (University of Wollongong) was also a first-year example and the value of the task was set at 15% in order to deter cheating, that is, it wasn’t worth the effort to cheat.

As Macadamia stated in AL3, ‘with anything online there’s always a risk to security, always’. With the literature now replete with strategies and suggestions on how to teach students academic writing and correct attribution as well as designing online quizzes to avoid cheating, there is no reason why academics might approach this area of concern uninformed. Certifying students’ own work is certainly not problem-free and though there may be those who choose to work on technical solutions, one of the key approaches to avoiding cheating is proving to be through a design approach that Benson (1996) details as:

• linking assessment tasks to each other so that each builds on the former
• allowing students to make tasks relevant to their own contexts
• adopting learning contracts where possible so students can self-regulate and develop autonomy
• using methods of authenticating students’ off-campus work such as teaching associates or assessors in the field, clinic or workplace
• revising assessment designs regularly.

8.5.6 Constructively aligned

The examples collected through each of the phases of the research – three rounds of interviews and three AL cycles, have commonly been concerned with ensuring an alignment between learning objectives, activities, syllabus and assessment. There are several indicators to illustrate these concerns, the first of which is explicit mention made in design sessions (Lychee, Peach, Cherimoya, Guava, Carob and Tamarillo). Other evidence of the concern with constructive alignment was found in both the Hallmark cases and Case studies where each academic interviewed provided clear documentation of learning objectives and discussed their relationship to the assessment tasks (Hallmark 1–12 and Case studies 1–8).

8.5.7 Explicit values, aims, criteria and standards

The expression of values, aims, criteria and standards in the context of online assessment means not only defining the expectations academics have of the output and process of the assessment task, but also the relative importance of the mediated nature of the task. Students need to know, for example, whether accessing the library remotely to locate journal articles is in itself a valued completion of the task or if there is a specific article to be located. Will it be the number or quality of resources located that will be assessed? What would represent ‘distinction’ in the achievement of this task? Making these details explicit to students has been of concern in all examples throughout this research. However, where the task is to some extent negotiable, the criteria and standards of achievement have been devised to pertain to evidence of an alignment between students’ intended outcomes and actual outcomes (Lychee and Mango; Hallmark 2 and 3; Case studies 3, 5, 7 and 8).

8.5.8 Harnessing the affordances of the online medium

Much of this research has identified and synthesised the best features of online technologies in the context of assessment. In brief these are the ability to:
• work with one blended cohort
• allow students to engage with resources and interact with peers in their own time and place
• have access to all archives of work
• track all submissions that are not anonymously posted
• allow anonymous interaction and/or role play
• link formative and summative tasks for development of skills, knowledge and attributes
• engage with students’ own contexts of learning in order that they complete authentic tasks
• rapidly turnaround feedback through auto-graded quiz answers, model narratives or screen-based marking of contributions.

8.5.9 Relevant authentic and holistic tasks

Discussion has previously been provided on the examples and principles of relevant, authentic and holistic assessment tasks.

8.5.10 Subject to continuous improvement

One of the emerging themes from case contributors was that of their scholarly approach to teaching and learning, and indeed their scholarship of teaching. Examples have been given in earlier sections showing that academics are actively publishing subsequent to their insights gained from assessment innovations. Their stories also convey the improvements they have trialled following feedback and evaluation.

8.5.11 Sufficient and timely formative feedback

This theme has appeared in association with several other themes in this research such as FYE, plagiarism, and engagement. It is important but will not be discussed again in this section.

8.5.12 Valid, reliable and transparent

Validity refers to assessment that provides the truest picture of students’ achievement on a given task – one that measures what we intend it to measure. Race (2003b) raises questions of how valid our assessment may be when we take account of students in our class with some measure of disability, be it one of a range of learning difficulties such as dyslexia, or be it a physical disability such as hearing or sight impairment. Assessment designs in AL cycles did not take account of such issues and even though, as Race explains, we need to be making any necessary adjustments in an anticipatory manner and not simply in response to the experiences of discrimination when they arise, in the case of my research cycles, we did not explicitly do this.
Reliability refers to the consistency with which a task can be seen to measure students’ achievement. It is also evidence that multiple markers can agree on the same result for an assessment piece. To be both valid and reliable, the assessment tasks should reliably measure the intended learning outcomes. Tamarillo’s experience of the Learning Portfolio was an important learning event in terms of reliable assessment, even though as an experienced and reflective academic, perhaps such chaos would not have occurred if she had been given the exclusive responsibility for making decisions about the design of the assessment tasks. Rather, she found herself with a colleague to share in these decisions and a Head of School who made confounding administrative decisions.

Transparency refers to the extent to which students can be clear about expectations. In many respects this is has already been covered in section 8.5.1.

8.6 The fruit basket

The outcomes of this research are not only with respect to assessment designs and collections of exemplars, but as the title suggests, the seeds of change that were planted in academics also bear some further examination by way of an ‘afterword’. Table 8.1 depicts the changes to academics that can be reported since their involvement with AL cycles:

<table>
<thead>
<tr>
<th>Who</th>
<th>Where are they now?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lychee (AL1, 2002–2003)</td>
<td>Continued to provide collegial support to iLO workshops 2–5; supported disciplinary colleagues to incorporate reference librarians online and to trial synchronous software as a means of dynamically interacting with students; published several articles in national and international conferences and journals; piloted the use of Elluminate™ software for live online classes and continues to inspire students and staff alike, Received the VC’s award for Teaching Excellence in 2006 and a Carrick Citation for Effective support of students through Elluminate™ in 2007 and has recently enrolled in a PhD</td>
</tr>
<tr>
<td>Nectarine (AL1, 2002–2003)</td>
<td>Continued to teach in the context of a changing school – amalgamating courses and departments, restructuring offerings across multiple campuses and seeing a change in leadership. Became terminally ill in late 2005 and sadly passed away in March 2006. The units he was teaching are now transmogrified.</td>
</tr>
<tr>
<td>Peach (AL1, 2002–2003)</td>
<td>Commenced a Graduate Certificate in Higher Education in 2004. Completed this and completed her PhD in 2006. Has now begun to publish not only in disciplinary journals but also in disciplinary education journals.</td>
</tr>
<tr>
<td>Grapefruit (AL1, 2002–2003)</td>
<td>Initiated an ‘Ask the librarian’ forum online which students access from their MySCU homepage (i.e. not from within units). Retired from the library in 2004.</td>
</tr>
</tbody>
</table>

cont / …
<table>
<thead>
<tr>
<th>Who</th>
<th>Where are they now?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macadamia (AL1, 2002–2003; AL2 2003–2004; AL3 2004–2005)</td>
<td>This staff member from IT is now Online Team leader and conducts both on-demand consultations and workshops, as well as running a series of training sessions prior to each semester. Continues to develop tips sheets for easy reference by academics.</td>
</tr>
<tr>
<td>Cherimoya (AL2, 2003–2004)</td>
<td>Continues as course coordinator for diploma program and teaches approximately half the units in the course. Is also responsible for promoting the program through regional engagement initiatives and liaison with international colleagues.</td>
</tr>
<tr>
<td>Guava (AL2, 2003–2004)</td>
<td>Continues to teach with innovative, authentic and community-engaged assessments. Also maintains research activity and scholarly publications, including those in the category of scholarship of teaching. Received a seeding grant in 2004 to assist development and evaluation of a student-run conference for one of her units, and received a Carrick Citation for Teaching Excellence through Vertical Integration of an Undergraduate Major in 2007.</td>
</tr>
<tr>
<td>Fig (AL2, 2003–2004)</td>
<td>Continued to teach in the context of a changing school – amalgamating courses and departments, restructuring offerings across multiple campuses and seeing a change in leadership. Has now completed her PhD.</td>
</tr>
<tr>
<td>Orange (AL2, 2003–2004)</td>
<td>Continues in the role of Manager, electronic resources and systems. Does not have much to do with teaching and learning initiatives.</td>
</tr>
<tr>
<td>Mango (AL3, 2004–2005)</td>
<td>Continues to trial innovations in teaching including the use of Elluminate™ with the statistics unit. Enrolled in the Graduate Certificate of Higher Education in 2004 and has now completed the requirements for graduation in September 2007. Has written a journal article soon to be submitted for review, and shows signs of wanting to continue in a scholarship of teaching.</td>
</tr>
<tr>
<td>Carob (AL3, 2004–2005)</td>
<td>Is in the process of conducting an evaluation of the conversion of the CD–ROM-based unit to an online-based unit. The report of these results at end of 2007 will account for the seeding grant issued in 2004 for this innovation.</td>
</tr>
<tr>
<td>Tamarillo (AL3, 2004–2005)</td>
<td>This academic member already had completed her doctorate and had years of teaching experience. She has continued to teach in the ever-changing school context, and has published three papers from the unit designed in this cycle. These were partly to account for the seeding grant also received in 2004 but partly to explore the issues of plagiarism that were of interest. Her current research interests are to explore impacts of the welfare to work and WorkChoices programs.</td>
</tr>
<tr>
<td>Mandarin (AL3, 2004–2005)</td>
<td>Is very involved in supporting health sciences academics and providing advice for the foundation skills in the graduate attributes projects for this Faculty.</td>
</tr>
</tbody>
</table>

Table 8.1: Members’ current activities
8.7 Limitations

As with all research, there are limitations that are inevitable. It is important to make mention of these, particularly where the research may have been enriched by contesting these limits.

8.7.1 Limits in action learning

Participants in the three AL sets cannot be said to have been involved with all phases of the research cycle. They did not help in defining key research questions (they defined what they wanted to design, not the process for designing it with input from the set); development of their assessment was done in the set meetings but implementing was naturally carried out without the input or collaboration of the AL set. Evaluation was reflected upon with the group. Though Stokols (2006) warns that this intermittent involvement with the research process itself may lead to a lesser likelihood of success compared to cases where the contact between researchers and participants is sustained over time, each of the AL sets met over a period of sufficient duration to design assessment for the forthcoming semester. Our successful outcomes resulted from the commonly shared pressures of time and the necessity of focus.

8.7.2 What diversity?

While there was a tacit awareness within the AL sets of the diversity of the Southern Cross student population as a whole, during our AL meetings, we spent little time on specific design concerns that took account of international students and those with any measure of disability. Network access was also expected in all these designs and those participants (Peach, Cherimoya and Carob) who were designing for on-campus cohorts justifiably grappled with the authenticity of using the online medium for communication.

8.7.3 Standards-based/criterion-referenced

As previously noted, the questions of marking criteria were not dealt with during AL meetings but were handled independently in the usual one-to-one educational design process. However, the questions of standards-based assessment tasks really could have been discussed in more depth during the cycles for the benefit of each of the participants.

8.7.4 Graduate attributes

The institutional momentum for the development, mapping and embedding of graduate attributes began in earnest in the latter half of 2005 when my data-collection cycles were complete. Mention has been made of the connection between these mapping and
embedding initiatives and the concern from within the design cycles for generic skills. However, the reality is that these connections happened after the event and they continue to drive course development to date as will be further noted in Chapter 9.

8.7.5 Web 2.0

Finally, as mentioned at the start of this chapter, the emergence of Web 2.0 technologies on the scene of higher education is promising to form another new wave of development and refinement of approaches to teaching, learning, assessment and indeed for the understanding of student support and support networks. For now, the mention has only been made here as seen fit in the writing up of the thesis and cannot be seen as reflecting anything emerging from the data at the time. Future work in this area could also explore the emergence and impact of virtual learning environments.

8.8 Taking in the whole view from the garden bench

At this point, the many elements that have been considered throughout this research can be seen coming together as an interrelated whole. To a large extent the preceding chapters have threaded the research narrative in a chronological order. Nevertheless, certain issues appear to be very ubiquitous and continue to call for attention. Others are more like the trunks and stems of the plants – going off in a multitude of directions and actually bringing some order to a garden of seemingly wild growth. I have highlighted the connections between online assessment and the first-year experience with its need to establish foundation skills in both a generic and disciplinary sense. I have also explored the impact of large classes on the design of online assessment with particular reference to the issues of plagiarism and the workload implications when entwining formative with summative assessment types.

The action research process in this chapter has encompassed the steps of planning, acting, observing and reflecting in association with the distillation of themes emerging from online assessment practices in a broader context. I refer to the collection of case studies in two funded projects, one to explore the hallmarks of excellence in online assessment and the second to provide a showcase of examples from Southern Cross and Wollongong universities. In observing and reflecting on these examples, many forms of assessment have been exemplified, as have been the academics who have designed and implemented them. Several key features of online assessment have also been detailed and synthesised. Design ideas continue to emerge at Southern Cross and with my newfound resolve to continue to collect examples for the clear benefits they provide to staff, much more can be learnt in future. The plan for further reflection in action is thus evident in this intention.

In this chapter I have also demonstrated how my role in academic staff development can be expressed through educational design activities. By this I am referring to more than
the inherent staff development that occurs through engagement with academic staff in curriculum development in general. I am also referring to the task I undertook in association with this research of gathering examples of innovations in online assessment from several sources in the sector and developing snapshots for use in professional development contexts, not only at Southern Cross but also more broadly. My active role in publishing a variety of case studies in books, book chapters, journal articles and conference papers is a clear indication of my own scholarship of teaching and learning, just as it is with the peak performers I encountered during my tour reported in Chapter 6.

In returning to a consideration of my educational design role into the future, the following chapter brings together my conception of a transdisciplinary approach to educational design.
A good question is never answered. It is not a bolt to be tightened into place, but a seed to be planted and to bear more seed toward the hope of greening the landscape of idea.

John Ciardi (1916–1986)
9.0 **Designing a sustainable approach**

This final chapter ties together the implications for educational design theories and practices that have been derived from this research, reflecting in particular on the impacts upon my own professional practice. A newly developed and sustainable approach to transdisciplinary educational design practice is presented with its implications and the contribution to knowledge I believe this makes. Connections are also drawn to ongoing institutional agendas of graduate attributes, scholarship of teaching and the teaching–research nexus as an indication of the changing landscape in which to continue seeding change of academics’ perspectives on assessment (and curriculum) design. But, as the opening chapter quote suggests, there is no final answer to the research question and no better conclusion to the thesis than to watch the continuation of ideas seed and take root in other contexts, with other educators in other circumstances. So, not only are possible directions for future research noted in concluding the chapter and this thesis, but the initiatives already emerging from this research are reported as an illustration of my continuing passion for seeing plants grow and blossom in my garden of professional practice.

9.1 **Crossing disciplinary boundaries**

Earlier, in Chapter 4, I made mention of the importance of disciplinary domains and how they play a part in orienting academics to their teaching and assessment practices. In addition, the complementary activities of research and teaching are fundamental to the nature of universities. Many argue that these functions ought not to be separated and the so-called ‘teaching–research nexus’ is discussed in greater detail later in this chapter. But first, I want to consider the importance of disciplinary structure on the mutual activities of research and teaching (that also includes learning and assessment). Disciplinary cultures are defined through research when academics work within established structures and traditions. Disciplinary discourse naturally permeates the curriculum which itself is further informed by the contributions of research (Gibbons, 1997). I have already referred to Becher’s (1989) analysis of ‘academic tribes and territories’, their distinctions, boundaries and insularities, and explained that I saw this as providing a benchmark in the subsequent examinations by theorists in this area who researched how crossing or ‘transgressing boundaries’ occurred in the social construction of knowledge (Nowotny, 2003). As my exploration of transdisciplinarity emerged throughout this research, I was mindful of the firm basis provided by Becher’s description of a continuum of knowledge from ‘hard’ to ‘soft’ disciplinary domains, and their ‘pure’ and ‘applied’ modes of research.

Furthermore, in order to consider what is occurring when academics step outside their own disciplinary norms or they transgress disciplinary boundaries in their creative
innovations, I have explored the notion of Mode 2 knowledge production in Chapter 6. I have thus presented Mode 2 knowledge production as an all-embracing means of achieving pedagogical solutions to commonly identified issues (such as online assessment design).

9.1.1 Transaction of knowledge

When standing outside of one’s own discipline in this kind of transdisciplinary paradigm, the transaction of knowledge appears to be even more fluid than generally pertains in the discipline-oriented academic context. Knowledge as praxis refers to the way in which academics bring knowledge to their own familiar and new contexts of engagement. The process of knowledge sharing and development therefore needs to be seen as a transdisciplinary one – bringing to bear the various perspectives of a range of colleagues, students and community stakeholders. It is also a transactional process with its inherent challenges such as those of: exchanging the tacit knowledge that is embodied within each of us; making evident the disciplinary knowledge that may be relevant under the circumstances; making explicit the collective epistemologies and their relations to power and politics; and finally transacting the forces of relational knowledge with respect to the ‘others’ with whom we are interacting (Ravn, 2004).

Ravn’s detailed conception of the collaborative knowledge development process is also reinforced by the work of Frost et al. (2004, p. 462), who ‘believe that intellectual work across boundaries is at the heart of new intellectual communities in the academy’. I would concur with their findings, which were based on an examination of intellectual life through eleven research projects, each spanning across at least two disciplines, that transdisciplinary initiatives are both ‘fragile’ from a lack of traditional departmental support and ‘resilient’ through their fluidity and flexibility. In terms of the transdisciplinary model of educational design that I have come up with in this research, I am also aware of institutional forces as pinpointed by Nowotny (2003, p. 4). She writes that a transdisciplinary approach requires that ‘negotiations take place and new institutional arrangements be invented and implemented’ in an iterative and adaptive way. Since the practice of bringing together transdisciplinary educational design teams has not been commonplace at Southern Cross till now, the pursuit of such an initiative will certainly require institutional change (or at least support) and my own impetus as change agent.

9.1.2 Systems of communication between disciplines

In Chapter 4 I also presented Jantsch’s framework of how we might see dialogue occurring across disciplinary divides. It was then that I was able to see that my initiative in working with academics from a number of disciplines and support areas was not a simply a multi-disciplinary approach or a cross-disciplinary imposition of one paradigm onto another, but rather it was a transdisciplinary collaboration. Jantsch goes on to explain: ‘The
essential characteristic of a transdisciplinary approach is the coordination at all levels of the education/innovation system toward a common purpose’ (Jantsch in Apostel et al., 1970, p. 114). Although Jantsch was referring to the entity of the university as a whole, the principal of purposive transdisciplinarity appears to be applicable to the educational design process being formulated in this research, and furthermore is in keeping with the Mode 2 approach to knowledge production. Klein (2004, p. 524) also asserts that a particular strength of transdisciplinarity is that:

Forms of multi-, pluri-, and interdisciplinarity do not call into question disciplinary thinking. Transdisciplinarity does, through the principle of articulation between different forms of knowledge. Of necessity, transdisciplinary work is based on disciplinary practice.

Both academic and non-academic members of the action learning sets (described in previous chapters) all spoke consciously about the disciplinary differences in the lead up to their engagement with each others’ suggestions, prefacing their comments with statements such as: ‘in my experience for example’ (Nectarine, AL1); ‘we’ve always had a philosophy in our School’ (Cherimoya, AL2); ‘you’ll probably get some students with special considerations … I’d expect it anyway’ (Tamarillo, AL3). In this way, their interactions might be said to represent either multidisciplinary or interdisciplinary work (depending on how much influence academics were able to negotiate or derive from each others’ ideas), aiming towards shared understandings of online assessment and student learning. The bringing together of academics from across a number of disciplines in order to discuss their approach to designing assessment enabled individuals to draw from the interaction not only the ‘know-what’ of their discipline, but the ‘know-how’ of their common purpose (Jantsch in Apostel et al., 1970, p. 116).

Thus the transdisciplinary discussions, such as those established during the AL cycles, directly enhanced the pluralism within each set whereby individual AL members were able to acknowledge more than one ultimate perspective and communicate in relation to this pluralism. For example, the ideas that were adopted in each cycle as a consequence of being inspired by colleagues outside their own disciplines included: Nectarine’s intention to learn more about reducing the use of paper and increasing the use of online means of communications (based on Lychee’s practices in AL1); Cherimoya’s development of a developmental approach to linking assessment items (based on Fig’s stated intentions in AL2); and Carob’s conversion of his multitude of graded assessment tasks into formative learning tools (based on Mango’s assertion at the outset of AL3 that her quizzes were intended as learning tools). A reciprocal connection was developed between members, but as pointed out by Apostel, they needed to be organised:
… the necessary coordinations will not occur by chance interaction alone ... useful interactions between [disciplines] far apart in the institutional structure of a given period will not occur as often as they should to optimalise research and education, and moreover, higher order interactions (interactions between interactions) will not occur as often as they should. If this is true ... a general plan for the whole of interactions of any order should be prepared (Apostel in Apostel et al., 1970, pp. 153–154).

The indication in my thesis is that the ‘general plan’ of transdisciplinary educational design can offer such an approach and provide academics with the kinds of opportunities for creative assessment design that was seen in several of the cases described. Thus, transdisciplinarity is a ‘new way of knowledge production that fosters synthetic reconfiguration and recontextualisation around problems of application... and collaborative partnerships …’ (Klein in Nowotny, 2003, pp. 11–12). Klein (2004, p. 516) goes even further in her definition of this perspective by saying:

Transdisciplinary vision, which replaces reduction with a new principle of relativity, is transcultural, transnational, and encompasses ethics, spirituality and creativity … [it is]... the science and art of discovering bridges between different areas of knowledge and different beings [through] communicative action.

A collaborative or team-based approach is, as Briggs and Michaud point out ‘an obvious pre-requisite’ for any interdisciplinary research (Briggs and Michaud in Apostel et al., 1970, p. 198), and, I would assert, for future transdisciplinary educational design – not only of assessment, but potentially of the curriculum and the teaching and learning activities as well. In addition, the ‘know-why’ of their approach is something explored only by those academics who have begun to perform as scholars of their own teaching. Discussion on the scholarship of teaching will be taken up later in this chapter.

### 9.1.3 Transdisciplinary AR and transdisciplinary AL

In an article exploring action research Stokols (2006) describes a conceptual framework for establishing a science of ‘transdisciplinary action research’. In my case, the selection of academics from a range of disciplines together with technical and library staff for each action learning set exemplified Stokols’ concept of ‘community problem-solving coalitions’ (2006, p. 65), and here it is the academic community of the university. Stokols proposes that the sustainability of community interventions (in this case, the design of online assessment) is enhanced through successful transdisciplinary action research. I would add that the cycles of action learning allowed myself as researcher and the practitioners (academics and service providers) to reflectively collaborate in order to integrate and extend the discipline-based concepts, theories and methods in the context of
assessment design. I’d also like to draw the connections here between Mode 2 knowledge production, its transdisciplinary nature, and the processes of inquiry represented in action learning and action research methods. Levin (2004) notes that like Mode 2 knowledge production, action research is fundamentally driven by a need to improve practice and, in this process the generation of knowledge is founded on systematic and collaborative reflection which serves to shape the pragmatic outcomes. In the action learning context of working with university staff, set members undertook a ‘seamless integration of practical problem solving and intellectual reflection’ (Levin, 2004, p. 155).

As I found with my transparent start to Cycle 3 – explaining my focus on transdisciplinarity from the outset – transdisciplinary collaborations require preparation of members to ensure they have appropriate expectations and are ready to embark upon ‘resolute openness, tolerance and respect towards perspectives different from one’s own … and a commitment to mutual learning’ (Stokols, 2006, p. 68). If this rigorous conception is adopted, then transdisciplinary action learning can help to transcend traditional disciplinary boundaries.

Factors which increase the likelihood of successful transdisciplinary collaborations involve the readiness of team members to collaborate and they also rest on such factors as: the presence or absence of institutional support; the breadth of disciplines encompassed by the project; the degree of prior collaborations among team members; the extent to which team members’ offices are proximally located; and the availability of electronic communications. These factors exert a synergistic influence on the processes and outcomes of transdisciplinary action research:

The more contextual factors that are aligned at the outset to support goals and activities of transdisciplinary research teams, the greater the prospects for achieving and sustaining effective collaboration across multiple fields (Stokols, 2006, p. 69).

The fact that my principal strategy for selection of participants was through the channel of iLO workshops meant that prospective members of each set could be identified in terms of their readiness for collaboration, that is, they proactively sought professional development support. The support I provided academics in each AL set, though different in nature from the usual one-to-one support commonly provided, was nevertheless seen as part of my portfolio of educational design responsibilities and was thus endorsed by the institution. The additional involvement of service providers in AL sets was not the common practice at all, but was enthusiastically embraced by the Heads of both service areas, and indeed is now a much more commonplace approach as will be detailed later in this chapter. The fact that academics in my research were not disciplinary colleagues meant that they were less likely to meet in informal contexts and they therefore held the structured AL meetings in high regard as their principal opportunity for creative dialogue and Mode 2 inquiry.
9.1.4 The nature of transdisciplinary participation

AL meetings represented our shared reflective processes while actions of individuals or transformations to their practices generally took place outside of meetings, thus representing an ‘outside inquiry’ with ‘closed boundaries’ (Heron & Reason, 2001), as foreshadowed in Chapter 2. The level of cooperative and cogenerative participation of all set members was evident through the cyclical processes of discussing and developing assessment designs. During these cycles personal concerns were voiced many times, thus through this process of reflective collaboration the action research also enabled the legitimising of ‘personal feelings and emotions engendered by the broader university culture/climate’ (Scott & Weeks, 1998, p. 245). The action learning sets within this research were all support networks and worked similarly to the research support group to which I belonged. Each set member was equally committed to formulating and solving their individual problems within a mutually supportive framework. One of the most important features highlighted of action learning was that it allowed time and space for participants to stand back from their daily work and to think (aloud, at times). It also legitimised the reflective processes that occurred with colleagues who brought a diversity of disciplinary perspectives (Weinstein, 1995). The extent to which the three action learning cycles of my research enabled members of the sets to participate can be judged by the following few features:

(a) Invitations to participate – all participants were personally invited and full details were provided regarding nature, purpose, anticipated commitment and freedom to withdraw at any time.

(b) Shared reflections for decision making – our meetings were our opportunity to share individual and collective reflections in order to take stock of the situation and prepare to make decisions. Usually individuals then followed through on these informed decisions between AL set meetings.

(c) Sharing the interpreting of data – each meeting was recorded and transcribed. These transcripts were circulated for review, and discussions at subsequent meetings indicated the importance of previous comments made. Interpretations were discussed in the AL sets and members were given the chance to comment on any draft publications prior to submission.

(d) Co-authoring – the opportunity for co-authoring was on the table from the very start of the research and several stages towards this have been achieved such as my collegial support for three successful applications for internal innovations and development funding; mutual review of draft publications with one participant; and drafts of two co-authored articles yet to be published. (One of these was submitted for review in November 2007.)

(e) Empowering participants – since ‘not all participation is empowering’ (Elden & Levin, 1991, p. 133), I attempted to maintain the trust of members of each AL set as
well as to provide the trust for them to take as much initiative in their own decisions and within the group, and to conceive of their own professional development as their personal action in the process (Hughes, Denley & Whitehead, 1998). In so doing, the diversity of experiences and transdisciplinary perspectives within each AL set was seen as offering enrichment for all involved. Additionally, the credibility of this action research relies on achieving a level of improvement to professional practice and thus enhancing each participant’s control over their own issues of concern (Levin & Greenwood, 2001).

This research thus used action learning sets within three cycles, but it should be acknowledged that Revans’ ‘gold standard’ as described by Willis (2004) may not have been met in terms of my own level of participation. While most features described by Revans (1978) can be found in this research, including the transdisciplinary and self-organising focus of each set, a heightened sense of self-efficacy by set members and the authenticity of problems being addressed, the main difference however, was the level of initiative I brought as the set advisor. Due to the duality of my roles as both educational designer and set advisor, my input was seen as having import at both the macro- and micro-levels of research.

9.1.5 **Macro and micro levels of research**

Returning to my initial statement in Chapter 1 that the research could be seen to operate at two levels, the macro and the micro, I’ll briefly reiterate how this transpired in terms of my role in the process. At the macro level, I initiated all research activities. For each of the three AL cycles 1, 2 and 3, where an assessment design was developed by each of the nine academics in total, I selected potential participants and invited them to join the action learning process for a commitment over two semesters. Only one participant, Macadamia, the technical support staff, was involved in all three of these action learning cycles. For the other supplementary activities (see Chapters 3 and 6), my decision to conduct Web-based surveys and follow-up interviews was determined by what the reflective process yielded along the way. It was therefore I, as principal researcher, who moved the data collection along and carried forward the reflections and insights gained in the process. I also provided each cycle with the benefits of my educational designer’s perspective on the supplementary data collected by that time.

Reflections and insights shared by the technical staff were used as data in the same way as those of other members. This is in keeping with Winter’s (1996, p. 22) remarks that ‘[t]o treat all viewpoints as a collaborative resource is thus to suspend the conventional status hierarchy which gives some members’ viewpoints greater credibility than others’. In the third cycle in particular, I not only drew assistance from Mango who helped to convene a number of the meetings by finding a mutually suitable time for all of us, but I
also contributed to the collaborative reflections. In this way my role as advisor was more balanced than in the earlier cycles.

At the micro level, within each of these AL cycles 1, 2 and 3, all of the members were expected to undergo their own learning process, and in accordance with Winter’s (1996, p. 14) suggestion, were involved in self-evaluation and professional development while ‘attempting to have new thoughts about familiar experiences’.

9.2 Transdisciplinary educational design

As discussed in the opening chapter of this thesis, educational design theories have only recently begun to draw the critical attention of educators, having been tacitly accepted (but perhaps quietly refined) for the latter half of the 20th century. The two models that were visually presented in Chapter 1 (specifically, the R2D2 model of Willis, 1995 and the Eternal Synergistic Design and Development Model of Crawford, 2004) both represent the process of educational design in its full context of designing, developing and evaluating the teaching, learning and assessment activities in a unit. While my research focused fundamentally on the design of assessment as an element which all educators share, and explored this in the context of online learning, the approach that I have formulated deserves to be further explored and developed for application as a holistic educational design process and not one restricted just to the design of assessment.

Before inserting the illustration of my transdisciplinary approach to educational design, I will briefly comment again the shortcomings of the original systems model and the two previous models mentioned. As discussed in Chapter 1, the systems-based model of educational design was founded on the basis of behaviourist learning theories and developed as a linear and systematic approach to instruction. With the evolution of learning theories and in particular the constructivist and authentic approaches to learning design, the linear model was widely critiqued and professional practices developed in tandem with the emergence of appropriate alternate theories (Campbell, Schwier & Kenny, 2005; Duffy & Cunningham, 1996; Duffy & Jonassen, 1992; Herrington et al., 2000b; Herrington, Oliver & Reeves, 2003; Jonassen, 1994; Jonassen et al., 1995; Schwier, Campbell & Kenny, 2004). My view of these models, however, is that although they are clearly not linear, they still fail to demonstrate the progression that occurs through consecutive cycles of educational design. The iterative model, such as the text-based pattern language tool being currently developed by Goodyear (2004; 2006/2007) also falls short in describing the practice conceived here in that it has no consideration of a team-based approach to design, let alone engaging a transdisciplinary team for the task.

A different suggestion in the literature includes students in collaboration with educational designers and academics in design and development of the learning environment. Called
a Combination of Perspectives (COOP) model of design (Könings, Brand-Gruwel & van Merriënboer, 2005), the authors propose an approach which they merit for its inclusion of the students’ perspective and the reciprocal relationship between designers, teachers and students during the development process. The authors hope to explore this idea further as one of their concerns for limitations of this model includes the variety of students’ conceptions of learning and the online environment, and the prior learning experiences that they will bring to bear on the collaborative design process. I would like to think that a student voice could be incorporated into my model following further exploration in the future, it has not been considered by the current research.

9.2.1 A transdisciplinary approach to educational design

The transdisciplinary approach to educational design that has emerged from my research is an iterative process and engages several stakeholders in the stages of design. The process as a whole is located within a broad context that includes the influences of the institution or organisation, the discipline/s and the overarching influences at play within the higher education sector. These are depicted in Figure 9.1 as the overarching backdrop for the research. Each of these influences has been confirmed in my research as having significant impact upon the potential for creative and effective assessment design. The strength of these external influences also has an impact on change in the broader sense as indicated by Bull et al. (2002), and reported at the outset of this research. Any approach to educational design that hopes for change or innovation must therefore take account of these influences of the sector, the discipline and the institution before engaging in a process of collaboration within a transdisciplinary team.

Every iteration of transdisciplinary educational design must incorporate the full cycle of design, development, implementation and review (or in action research/action learning terms they are the stages in the cycle of planning, acting, observing and reflecting). Figure 9.1 thus illustrates this iterative approach to practice as it emerged from my research for designing assessment. These can be seen in each of the three cycles depicted. The iterative approach contrasts with other approaches found in the literature in that the spirals represent a movement or progression from one cycle to the next, rather than continuing on the same path with recursive design processes. This sense of progression is a vital component to make best use of critical reflection as it occurs within each cycle. The principles of educational design can thus remain consistent and cohesive in each cycle, but the processes are free to incorporate the specific influences brought to bear by the individuals involved, the overall context and timeframe.

Management of the cyclic process is also of importance in this approach to transdisciplinary educational design. The educational designer (shown in Figure 9.1 as the central stakeholder on the cyclic pathway) might take the adviser role as I did in this research, and thus manage
the process through an action learning/action research focus. In this case the adoption of
two roles through the design process is feasible as evident from this thesis, and while it
may need particular care during a research project bringing with it considerations about
methodological reliability, it is rather more typical in a developmental context. There are
many examples to be found in the evolution of the educational design profession, where
educational designers are also project managers or team leaders. Thus, in the context
associated more with curriculum development as opposed to research, the educational
designer may take the role of project manager/team leader to a point that is appropriate in
the organisational context in which they work. With some fluidity in this suggestion, it is
clear from my research that the process of transdisciplinary educational design requires
sensitive and responsive management for productive outcomes. Consideration must also be
given to the careful screening of suitable members of the team (as with the iLO workshops),
the inclusion of an appropriate number of members, establishment of ground rules such
as attendance, allocation of manageable session times and duration, and the agreement
to observe silences as creative spaces. The screening process has been illustrated with a
broken line across the entry pathway for each of the stakeholders in the process.

The processes of critical reflection are also of prime importance in this approach of
transdisciplinary educational design. Throughout this research, the value of reflection was
emphasised by set members, even though it required me to explicitly and consistently
manage and encourage the practice. Perhaps due to its importance and simultaneous
under-utilisation, this is one area of high stakes that educational designers can and
should influence. Reflection is shown here in Figure 9.1 as an underpinning feature of
transdisciplinary educational design.
Figure 9.1: The transdisciplinary approach to educational design
Figure 9.1 shows that the members in each cycle can include one or more academics (represented by the letter A). Where there are several academics willing to participate in the cycle, benefits are gained by incorporating members from a range of disciplines. In addition, of critical importance to the task of designing the teaching, learning and assessment for the online environment is the inclusion of IT support staff (indicated by the letters IT) and a liaison librarian (shown as the letter L). These members of a transdisciplinary team bring specialist expertise not found through the inclusion of other academic colleagues. Figure 9.1 also shows through use of dotted lines that there is potential in future to also include industry representative/s (shown as the letter I) and students (shown as the letter S), for the synergies in design this may bring. A full complement of these stakeholders in any transdisciplinary educational design projects in future would make for a rich discussion on design of assessment and teaching and learning activities.

Transdisciplinary dialogue can thus be fruitfully facilitated when members of the design team are carefully selected for their immediate needs, screened for their expectations and readiness to commit to a collaborative design process. It is essential that educational designers bring a transparency to the process in terms of making explicit the benefits of open and respectful collaborations in Mode 2 style of problem solving and knowledge production from the outset. This further ensures that the members of the design team are clear about the bounds of the project at hand and realise that the primary activity is to develop the educational design and not the interpersonal relationships themselves, though these may develop and linger from mutual interest.

Transdisciplinary educational design could also potentially be explored for its relevance across the full spectrum of unit design or curriculum design activities. If the design of assessment is used as a starting point as it was in my research, then the educational design process has the potential to also address the constructive alignment of all pedagogical elements. Remembering Biggs’ (1999) motto that it is what the student does that ultimately assures their learning, it is by using the design of assessment as the starting point that the alignment of learning objectives, curriculum, and teaching and learning activities can be achieved with the students’ perspective in mind. If we keep to the forefront what the student aims to do in order to successfully complete their unit of study, then we can design authentic and appropriate assessment for student learning at the same time as developing a good unit of study in all its elements.

The idea of approaching educational design using assessment design as a starting point, has also been suggested by Cowan and Harding (1986) and subsequently developed by Stefani (2004–05). Using Stefani’s (2004–05) version of Cowan and Harding’s (1986) ‘Logical Model of Curriculum Development’, members of the design team would commence their collaborations with a focus on the design of assessment. This ‘logical’ approach runs counter to the traditional ‘chronological’ approach where assessment design is left till
last. However, as mentioned above, it is firmly in keeping with the students’ approach to learning as they typically want to know as their first priority what they must ‘do’ to pass this unit.

Figure removed due to copyright restrictions

In addition to illustrating the entry into the design process from the point of assessment, Figure 9.2 also illustrates the central importance of learning outcomes, which further reinforces the concept I have discussed of the student focus on outcomes and on the assessment tasks. The central importance of assessment thus to both the design and the learning processes, suggest that there could be some merit in overlaying the two ideas together (the transdisciplinary approach to educational design and the ‘Logical Model of Curriculum Development’) for further examination of implications for practice. With further refinement of the transdisciplinary approach to educational design, it may be possible to move towards a new model of educational design that reflects the managed, recursive, collaborative and logical process beginning with design of assessment and progressing through a full curriculum development cycle.

9.3 Implications for professional practice

The potential at Southern Cross to adopt either the transdisciplinary approach to educational design or the combined transdisciplinary approach and the logical model of curriculum development is currently quite real as the institution is concerned with imperatives such as performance-based funding. This focus has been brought about
directly through the Carrick Institute grants, fellowships and awards schemes for excellence in teaching, as well as the Learning and Teaching Performance Fund which is awarded at the institutional level. These current funding initiatives have brought pressure to bear on the quality of teaching and learning (and assessment) practices, such that any focus on improving aspects of curriculum and course developments are viewed favourably across the sector.

In addition, the approach proposed is fundamentally about development teams. The benefits of team-based development include the strengths of rich and diverse interactions with a sharing of perspectives when they are brought to bear to solve a problem. Bringing together colleagues from heterogeneous domains and adopting a transdisciplinary approach is likely to result in assessment or unit design that has coherence, creativity and integrity which are inherent in Mode 2 knowledge production processes. Klein’s claim (Klein, 2004, p. 524) makes the adoption of the transdisciplinary approach to educational design seem like an inevitability for my own professional practice:

Transdisciplinarity was one of many terms. It has become a major imperative across all sectors or society and knowledge domains, making it more than a fad or fashion. It has become an essential mode of thought and action.

Indeed, as the thesis draws to an end, I can say that current practices among my colleagues have already changed, and many of the curriculum development projects that are now conducted are initiated as team-based approaches where the teams consist not only of the disciplinary expert and the educational designer, but also include a disciplinary associate (who, by virtue of the small size of Southern Cross, will usually represent another sub-discipline), a liaison librarian, and an IT specialist. Liaison librarians are also training themselves to engage with students online and several have become proactive in getting online inside the pedagogical context (within a unit of study and not just within the library domain).

As I personally engage in such initiatives, it is also of importance to me that a reflective and scholarly approach be taken in these development processes. A self-aware and learner-centred view will be core to my future practice and one which I will help academics link into their curriculum design activities.

9.3.1 The ever-changing institutional landscape

As indicated, the national funding agenda as well as the quality assurance agenda currently play big roles in the way that teaching, learning and assessment are carried out at the grassroots level. Southern Cross is now on the cusp of another review by the Australian Universities Quality Agency (AUQA). One of the aspects to this review is that of
benchmarking, and this process should provide a basis for broad information sharing across disciplines and institutions. Issues concerning assessment policies and both the vertical and horizontal alignment of practices are high on the AUQA list of considerations. Outcomes of the panel’s interviews and the report of their review should inform my colleagues and myself inter alia just how to continue maximising the benefits of transdisciplinary educational design.

9.4 Contributions to knowledge

The primary purpose of completing doctoral research and reporting results is to make an original contribution to knowledge (Perry, 2002). This research has developed a clear perspective on a range of issues confronting the design of online assessment as well as advancing the practices of educational design in this context. The latter innovation has been achieved through proposing, testing and critiquing a transdisciplinary approach to educational design. An original model of this approach has been developed and presented in Figure 9.1 and this approach continues to be implemented not only in my own professional practice but is also infusing that of my colleagues. The originality of the elements of this model pertain to (a) the design of online assessment in team-based groups, (b) the selection of team members with a variety of disciplinary backgrounds, and (c) the inclusion of technology specialists and liaison librarians to support the team-based approach to design.

Contributions made to knowledge in the process of this research include original advancements to theory and professional practice, as well as a unique application and presentation of methodological approaches. These contributions are illustrated by the progression of themes in the 24 publications arising from the lead-up to and during the research period and shown in the Preface in chronological order.

9.5 Planning for the new season

In addition to the five-yearly cycle of external quality review that I mentioned is upon us at Southern Cross at this time (referred to earlier as a review by AUQA), there are other institutional initiatives I will now describe as part of the future into which I take my practical, theoretical and methodological approaches gained through this research. These are:

1. the mapping and embedding of graduate attributes in all undergraduate programs
2. academic staff development
3. the teaching–research nexus.
9.5.1 Graduate attributes

Very early in this thesis I mentioned that online technologies were seen (in 2002) as the ‘Venus fly-trap’ which was able to ensnare academics (who unsuspectingly thought they could simply seek advice and assistance to ‘put their unit online’) into reflecting upon their teaching and learning practices. In the same way, the current institutional initiative to develop discipline-specific statements of graduate attributes and then to collegially map and begin to embed these within the curriculum through assessment practices, has resulted in a legitimate and ubiquitous approach to assessment review and renewal. Furthermore, as the development of graduate attributes is not a solo process and is found in the context of a semester and the course as a whole, the design and development discussions concerning assessment (whether online or not) have been occurring in team-based arrangements. Inclusion of a liaison librarian and technology specialist in these teams has further ensured that the attributes of information and academic literacy are being appropriately scaffolded throughout the undergraduate programs. It is envisaged that these development teams will be sustainable in the longer term for the multitude of benefits they bring.

9.5.2 Academic staff development

Chapter 2 of this thesis detailed the rationale for developing a program of immersion in the online context (iLO) in order to assist academics to become familiar, comfortable and competent in the facilitation and management of online tasks including assessment. This online staff development workshop ran for five iterations and is no longer available as a facilitated activity. Although it was offered (as an option for the negotiated project) in the Foundations to University Teaching program, at the start of 2007 there were no takers. The resources can still be accessed via the Teaching and Learning Centre (TLC) Web site, but it is likely that use of this resource in future would follow from a significant revision. For the research period, it served well to channel academic members into my action learning sets.

Current approaches to academic staff development have recently expanded to include the development of ‘how-to’ tips, decision making support tools and resources that have been made available online, and the delivery of mediated sessions on teaching with technology which are variously shared between information technology staff, the Flexible Learning Development Services (FLDS) team and the TLC staff. These sessions may be conducted face-to-face, via the desktop systems or by video conference, and as academics become more familiar with each of these technologies, their design for teaching, learning and assessment is able to take account of the variety of affordances these each bring.

The Graduate Certificate in Higher Education (Learning and Teaching) is another ‘staff development’ initiative that has commenced since my doctoral work began. Of the four
units in the course, I am responsible for the development and teaching of the capstone unit called *The Scholarship of Teaching*. It is fundamentally reliant on the students (who are staff with a current contract at Southern Cross) having completed a small research or evaluation project in one of the three previous units. Their semester with me enables them to consolidate their insights from inquiry and take these to a wider audience of professional peers for critical dialogue. This scholarly activity may be undertaken through the publication of a journal article, refereed conference paper, departmental discussion paper, proposal for funding to a granting body, or similar. The main thing is that academics bring a reflective approach to their practices and begin to function as scholars, not only within their disciplinary domain, but also in the domain of teaching and learning in higher education. Those academics who have managed to engage their peers in a critical dialogue have demonstrated many benefits not only for themselves in attending conferences and symposia, but in also furthering the agenda on quality enhancement of assessment within their own disciplinary contexts. Further discussion on the scholarship of teaching as it pertains to assessment is included later in this chapter.

### 9.5.3 Exemplars

It was mentioned in an earlier sections, use of exemplars was considered of such value by academics who were exploring new approaches to online assessment that I obtained two small grants in order to allow the collection of useful case study examples for sharing and analysis in the action research process. This strategy of using examples and snapshots of practice is also reinforced by others in the field. Seagrave, Holt and Farmer (2005) indicate that two of the six strategic academic professional development initiatives for enhancing professional capacities are (1) providing exemplars through story telling of cases of innovative practice, and (2) demonstrating exemplar developments. If we as educational designers and academic staff developers can have these exemplars at our fingertips, then this means that when academics are wondering about exploring innovations, we can readily illustrate and demonstrate new possibilities.

Wilson, Thomson and Malfroy (2006, p. 893) have gone much further than devising principles of practice. Indeed they have developed a database of exemplars of assessment called ‘Assessment Snapshots’ which they use in their induction workshop for new staff, in other professional development workshops and in curriculum renewal work. Their rationale is well argued in that:

> Cases can show the advantages of a new practice or approach to teaching and learning. They can emphasise the compatibility of an innovation with current values and approaches to teaching. They can be used to acknowledge the complexity or level of difficulty potentially faced by staff taking up the change to teaching practice. They can also show staff who may be reluctant to change
current practice that others have made the change. Finally, providing examples through case studies makes it easier for staff to see how an innovation or change in teaching practice really works.

I would strongly advocate for the continued use of case study examples in association with the TED model, and suggest that I can facilitate the currently operating transdisciplinary groups at Southern Cross to begin to establish a database of such examples to share in curriculum development and academic staff development processes.

9.6 Teaching–research nexus

In my quest to find examples of innovative online assessment, the ‘peak performers’ that I encountered have evidently engaged in the reflective practices as in the scholarship of teaching. The scholarship of teaching itself can also be seen as one element of the teaching–research nexus. Some would argue that the existence of a nexus between teaching and research is a fundamental characteristic of academic work (Boyer, 1990) and that synergies between the two activities are ‘essential’ (Ling, Flood & Green, 2007), while others caution that such a relationship is not intrinsic (Angelo & Asmar, 2005; Jenkins & Healey, 2005) and is rather ‘an enduring myth’ (Hattie & Marsh, 1996).

Throughout the Australian higher education sector, research activity as separate from teaching is still clearly seen as having pre-eminence when it comes to institutional rewards and recognition (Griggs, 2005). In this context where the Research Quality Framework is now looming large, debate on the policy and planning implications of how and why to link teaching and research is ongoing:

Despite the commitment to staff being teachers and researchers/scholars, modern pressures on time and competing work demands are clearly leading to a resurgence of old debates about whether we should move, or be permitted to move, to greater specialisation between teachers and researchers: in effect that the teaching–research nexus should be loosened or even abandoned (Anon, 2003, p. 4).

Connections are drawn in the literature between the massification or commodification of higher education over the past decade, and the disappearance of ‘the golden age’ (Jenkins & Healey, 2005) where staff once had time to both teach and research effectively (Griggs, 2005). Following their meta-analysis of 58 articles of published literature on this topic, Hattie and Marsh (1996) reported a ‘near zero’ correlation between research and teaching. However, despite this outcome, frequently cited over the past decade, questions on how to have an impact on teaching effectiveness continue to proclaim the value in an explicit inter-relationship between research and teaching as ‘mutually reinforcing endeavours’
(Anon, 2003). This reinforcement, however, requires nurturing through the curriculum, department, institution and the sector as a whole (Jenkins & Healey, 2005), with the aim at each level being to ‘increase the circumstances in which teaching and research have occasion to meet’ (Hattie & Marsh, 1996). Summing up:

… the idea of balancing teaching and research does not mean finding the time to do each of them separately, but finding ways of creating synergy between them so that one is regularly involved in a research-teaching nexus (Wee, 2004, p. 1).

### 9.6.1 Related developments in UK and NZ

A report by Jenkins and Healey (2005) that was endorsed by the UK’s Higher Education Academy, provides a comprehensive account of national efforts to create a meaningful relationship between research and teaching through institutional policies and practices. A key point in their summary of issues is the notion of ‘re-engineering the teaching–research nexus’ (Ramsden, 2001 in Jenkins & Healey, 2005) as an indication that where once a connection may have existed, there is now a need to not only revitalise it but also ‘embed’ it within processes and practices.

In the New Zealand context, the Education Amendment Act (1990) requires universities to ensure that ‘research and teaching are closely interdependent’ and that their programs are ‘taught mainly by people engaged in research’ (Woodhouse, 1998 in Willis, 1998). The New Zealand Qualifications Authority more recently described its role in a Tertiary Education Strategy 2002/07, to ensure ‘that there is adequate academic support for research students … and that the links between research and teaching are maintained’ (NZQA, e.p.). Institutions have now adopted these principles through Teaching Excellence Awards, embedding criteria such as ‘Excellence in Research-Led Teaching’ (VUW) and, for example ‘Establishing a nexus between teaching and research that enhances students’ learning’ (AUT). Massey University has also developed performance indicators for the ‘Interdependence of Research and Teaching’ that focus on the institutional, academic and student levels (Paewai & Suddaby, 2001, e.p.). In other cases Research Management Plans also prioritise the nexus for example, ‘Goal 2 (research-teaching synergy: To provide adequate resources and infrastructure to enable staff to undertake research required to inform their University teaching)’ (University of Otago, 2006). The imperative to maintain a nexus is clearly evident through the sector in NZ.
9.6.2 Institutional policies

In addition to these activities in the UK and NZ, there seems to be a growing number of higher education institutions throughout the world that are devising strategies to more closely align the core activities of research and teaching (Angelo & Asmar, 2005; Jenkins & Healey, 2005; Lyall, 2006; Zubrick, Reid & Rossiter, 2001). A recent international colloquium brought together academics and policy makers from the UK, USA, Australia, New Zealand, Canada, South Africa, Portugal, Germany, Hungary, Sweden, and Sierra Leone, with the aim to:

… develop international understanding of the ways in which institutional and state/system policies can, and arguably should, be developed or modified to promote the integration of the core activities of teaching, research and scholarship and, increasingly ‘service’ or ‘knowledge transfer’ (scholarship of engagement) (R&T Colloquium, 2007, e.p.).

In 2001, research was also funded by the Australian Government to examine examples of three different types of universities from the Australian sector – the University of Ballarat (a regional university), the University of Western Australia (a Group of Eight university) and Curtin University of Technology (an Australian Technology Network university). These universities were examined in terms of whether, and if so how, the relationship between research and teaching was being enhanced in policy and practice under the different institutional circumstances (Zubrick, Reid & Rossiter, 2001, p. 3). A key question of this investigation was:

… whether all Australian universities, whatever their particular mission, history, physical size, location and scholarly orientation, can reasonably be expected to foster the same sort of relationship between teaching and research…

Zubrick, Reid and Rossiter (2001) found that several kinds of interconnections between research and teaching existed in the three institutions. Furthermore, senior executive staff were seen to play an important role in informing policy and strategic initiatives that enhance the teaching–research nexus for the benefit of students, staff and the institution as a whole. Also of significance was the provision of appropriate incentives, rewards and recognition that ‘reflect the increasingly diverse forms of scholarship’ (Zubrick, Reid & Rossiter, 2001, p. xii).

Mission and vision statements that are devised with the intention of articulating institutional imperatives also play a part in facilitating the nature and implementation of a research–teaching nexus. As suggested by the President of the University of British Columbia:
The re-emphasis of undergraduate education is probably the most pressing issue that universities must face in the next decade. The challenge is to demonstrate that the learning and research environments, at the undergraduate level are not competitive but complementary (Piper, 2001 in Jenkins & Healey, 2005, p. 8).

9.6.3 The scholarship of teaching

Following Boyer’s (1990, p. 16) challenge to the international academic community that ‘the time has come to move beyond the tired old teaching versus research debate’, activity in North America has developed into an approach and a community of practice termed the scholarship of teaching and learning (SoTL) and this has now gradually expanded to other parts of the world including Australia where the International Society for the Scholarship of Teaching and Learning (ISSOTL) held its first southern hemisphere conference in July 2007. Boyer describes academic work as having four distinct yet overlapping functions that can be summarised as:

- scholarship of *discovery* – original research and advancement of knowledge
- scholarship of *integration* – connecting and synthesising ideas across disciplinary boundaries
- scholarship of *application* – development of knowledge through engagement with intellectual and ‘real world’ problems in the service of community (known also as scholarship of engagement)
- scholarship of *teaching* – transforming and extending knowledge through communicating the scholar’s understanding to enhance the student’s learning.

Boyer’s framework of scholarship thus recognises the value of both teaching and research; acknowledges that teaching, at its best, shapes research and practice; and reveals both activities as they form ‘an interdependent whole’ (Boyer, 1990, p. 25) within the role of an academic. While discipline-based research has tended to be the central focus of research-active staff, research that concerns itself with enhancement of students’ learning in a disciplinary context is the ‘scholarship of teaching and learning’ and represents an internationally evident expression of the research–teaching nexus. Australian authors Trigwell, Martin, Benjamin, and Prosser (2000) have similarly developed a four-dimensional model of scholarship which describes the process of coming from an *informed dimension* through *reflection* to *communication* and resulting in a *shift in one’s conception* of teaching.

It is this paradigm that I encountered through an awareness of the approaches taken by academics in the course of my research. Once aware of such practices, what impressed me in my encounter with both Boyer’s seminal work and the subsequent developments in the literature was how well they described a process adopted by the reflective academics
and also how closely related they seemed to be to the action learning and action research cycles. Returning to Boyer’s (1990) four forms of scholarship, the activities of the action learning sets may be best described as the scholarship of integration. The reason is that:

… the scholarship of integration relates to the interpretation given to the new emergent data or artistic forms as they are integrated with other results and compared with other creations. This allows academics to make connections between knowledge and models gained from different disciplines (Nicholls, 2004: p. 32)

### 9.6.4 Publishing and international impacts

Apart from the many academics represented in the two case study collections funded in connection with this research, several of the participants of my AL sets have also demonstrated their development beyond simply reflective practice and have published in the academic literature. Lychee, Nectarine, Guava, Fig, Mango and Tamarillo have become active publishers in their disciplinary, teaching and learning, or educational technology domains. Their publications include conference papers, and refereed national and international journals articles.

### 9.6.5 Scholarship of assessment

Further to the notion of a scholarship of teaching and learning, there are some who have also integrated assessment into this paradigm. At the 2001 forum for ‘Enacting a Scholarship of Assessment’ the American Association for Higher Education posed several questions pertinent to this discussion. In terms of technology and assessment, two of the questions they asked were: ‘Can technology provide a stimulus for rethinking assessment?’ and ‘What is the impact of technology on alternative assessments?’ (AAHE, 2001, p. 13). These have at least in part been answered in this thesis.

Additional questions of transforming the institutional culture of assessment, recognition of scholarship of assessment in promotion and tenure, and the academic staff development processes that may be associated with enhancing and embedding assessment as a reflective and scholarly practice are beyond the scope of this thesis but most certainly deserve further consideration in practice. For the moment it is as Stefani (2004–05, p. 53) reinforces:

It would be a great step forward to hear academics discussing the scholarship of teaching, learning and assessment, as this would give greater recognition that teaching and learning are complementary activities and that assessment is an integral component of teaching and learning … it is fundamental to effective
teaching that assessment is seen as an integral part of the teaching and learning contract, and thus crucial that a scholarly approach is applied equally to the facilitation of student learning and to the assessment of student learning.

### 9.7 Limitations

On completion of a thesis I imagine it is typical to feel that there is a great deal that has not been read, analysed, considered and integrated within. Indeed there is a wealth of literature as yet unread and a plethora of evidence of good professional practice on which to still draw for my next encounters with innovators, peak performers, service providers and academic staff in general. At this point I am content to admit that this research has not attended to all possible details. Perhaps one of its particular limitations is that I have remained somewhat general in my view and have not gone into the deep details of learning theories, disciplinary epistemologies and discourses, and I have not probed the technical or pedagogical critiques of the assessment methods explored.

With the model of practice that I offer, it is still to be seen how sustainable it might be within my own institution let alone across other contexts. Currently, with the graduate attributes mapping project across all undergraduate programs, it has become apparent how little staff talk among themselves even when it concerns the overall student experience within the confines of one semester. Thus, the current questions at Southern Cross of retention, scaffolding the development of skills, knowledge and values far outweigh the questions of value-adding on the assessment tasks. While valuing the central role of assessment, focus on convening meetings of colleagues within disciplines in order to discuss the student workload and overall assessment regime has become the imperative, of much greater importance than getting creative interaction across disciplines. That may be the blossoms that may come once the basic growing season is underway.

My action research and action learning methodology has stood me in good stead in terms of pace, flow and integrity of data collection, analysis and synthesis. With the benefit of hindsight I will in future be able commence such a process with a clear commitment to structuring adequate time for a truly transdisciplinary range of inputs (not always emphasising the academics’ view above the service providers’). For a fuller evaluation of success of the transdisciplinary collaborations, Stokols (2006) also suggests considering both the measures of transdisciplinarity achieved as well as the efficacy of the mission accomplished.

I also know now how critically important the silences are within action learning sessions and I will in future know that it is critical to prompt reflections between sessions even while acknowledging that I may be working with adults who have an understanding of reflective practice. We will all be aware of our accountability to each other. Peshkin puts
the process nicely into view:

If you are a good listener, you will know it because you will find yourself being thanked by the interviewee, for giving them the time that you do … You are giving them access to their own lives in a way that they may not have otherwise (Peshkin, 2001, p. 13).

9.8 Closing the garden gate

Taking up the challenge of a doctoral project is by no means a minor or fleeting matter. During this sustained process, the drain on all levels in my demeanour – scholarly, emotional and pragmatic, has been extensive. Having come this far over six years part-time with this research, it is already clearer to me why the conferral of a doctoral award holds so much caché in academe. In presenting this thesis, I have adopted the metaphor of a garden and to have envisaged my project thus, with all its associated elements both anticipated and unanticipated, has proven to be a very meaningful expression of my undertaking. It has helped to illustrate the circumstances of constant change that are prevalent in higher education and to which Southern Cross is extremely vulnerable, given its relatively young age within the sector. It has also allowed for a reflective approach that is not always concerned with what went wrong and what could be improved. Indeed, there have been several tall poppies and strong weather patterns to admire along the way. In addition, the action research and action learning approaches have also allowed for a dynamic momentum in this research, which matched the sense of constant change in the garden and sometimes drove the project along irrespective of my energy and momentary focus, or lack thereof.

My practice as an educational designer has been extended in its character, supplemented by new strengths in a scholarship of teaching and rewarded by also seeing participants and colleagues make changes to their own practices in keeping with the ‘seeds of change’ planted through close contact with this research. They are the embodiment of the teaching–research nexus. I believe my research has made a real difference not only to the people with whom I worked closely through three action learning cycles, but also to my colleagues at Southern Cross and elsewhere with whom I share reflections on our professional practices of educational design. If, as the quote at the start of the chapter suggests, ‘a good question is … a seed to be planted … to bear more seed toward the hope of greening the landscape of idea’ then the creative and collaborative design process explored here will be ongoing and this research will have been the stimulus. This garden gate is simply closing for the time being, till the next planting season arrives.
References


Allen, M (1996) A profile of instructional designers in Australia. Distance Education, 17(1), 7–32


Auer, N & Krupar, E (2001) Mouse Click Plagiarism: The role of technology in plagiarism and the librarian’s role in combating it. Library Trends, 49(3), 415–432


Ballantyne, R, Bain, J & Packer, J (1997) Reflecting on University Teaching: Academic’s Stories. Canberra: Committee for University Teaching and Staff Development


Bates, A (1995) Technology, Open Learning and Distance Education. London: Routledge


Boyer, E (1990) Scholarship Reconsidered New York: Carnegie Foundation for the Advancement of Teaching


CAUL (2004) Best Practice Characteristics for Developing Information Literacy in Australian Universities: a guideline Council of Australian University Librarians


Collins, M (1998) I know my instructional technologies: It’s these learners that perplex me! *Deosnews*, 8(9), e.p.


Evans, T (1994) *Understanding Learners in Open and Distance Education*. London: Kogan Page


Inglis, A (1996) Teaching-learning specialists’ conceptions of their role in the design of distance learning packages. Distance Education, 17(2)


Meacham, E (1982) Distance Teaching: Innovation, Individual Concerns and Staff Development. *Distance Education, 3*(2)


Montessori, M (1958) *Pedagogie scientifique* (5th edition) Desclée de Brouwer


Morgan, C & O'Reilly, M (1999) Assessing Open and Distance Learners. London: Kogan Page

Morgan, C & O'Reilly, M (2001) Chapter 16— Innovations in online assessment. In F Lockwood & A Gooley (Eds) Innovations in Open and Distance Education (pp. 179-188) London: Kogan Page


O’Reilly, M (2002a) Improving Student Learning via Online Assessment. In C Rust (Ed) Improving Student Learning Using Online Technologies (Vol. 9) (pp. 269–280) Oxford: Oxford Centre for Staff and Learning Development


O’Reilly, M & Hayden, M (in press, 2008) Hallmarks of Excellence in Online Assessment. In S Frankland & J Lee (Eds) Enhancing Teaching and Learning through Assessment, Experience from the Project (pp. 219–245) Dordrecht: Springer


Parer, M (1989) *Development, Design and Distance Education*. Churchill: Centre for Distance Learning, Monash University


Taylor, J (2001) Fifth Generation Distance Education. Keynote address at International Conference on Distance Education (ICDE), Düsseldorf, Germany


Yorke, M & Harvey, L (2005) Graduate attributes and their development. In L Harvey (Ed) *Workforce Development and Higher Education* (pp. 41–58) New Directions for Institutional Research


Appendices

Appendix 1
Improving the online assessment practices of academic staff through reflective practice and action research

About the research

You are invited to participate in an action research project about your own assessment practices. I am undertaking this project as part of my doctoral research at Southern Cross University. Through the project it is hoped to develop a shared understanding about:

- how staff are adapting to the changing situation of teaching and learning in the context offered by the online environment
- staff awareness of assessment possibilities offered by online approaches to teaching and learning
- how staff reconceptualise and improve assessment practices for the online context
- how to support staff in authoring and publishing their own action learning activities in journal articles and conference papers.

If you decide to be involved, you will be invited to meet with other academic staff from Southern Cross University fortnightly for one hour over 3 months (or one semester) to discuss approaches to assessment arising from your own journal writing and discussion. At the initial meeting I will explain the reflective practitioner guidelines, and action research aims, processes and strategies. Once we have agreed on how we want to work together, you will also have the opportunity to negotiate how best to maintain effective and trusting group processes so that we continue to be facilitative in our regular meetings and focus on the practice problems at hand.

If you decide to be members of the group you will be asked to share in group discussion and engage in action research and reflective practice activities, such as journalling and story telling. Meetings will be audio taped and transcribed, and agendas and minutes will be kept to track the group’s progress and as a data source. You will be able to share with peers in the fortnightly group meeting, the non-confidential part of your journals. All records will be kept in strict confidence.

Questions which might be posed around improving online practices of student assessment might include: ‘What changes are happening in my School?’, ‘What are the reasons for …?’, ‘What are my experiences of …?’, ‘What factors are influencing my practices…?’ ‘How might things be different?’ We will discuss our experiences and generate an action plan of strategies to improve practices. Observation of the effects will follow, before further reflection leads to further action in future semesters. In this way we will evolve a collaborative working process for managing assessment practice issues of concern to each of us.

If you sign this consent form and change your mind later, you can withdraw at any time you choose and there will be no problem with that at all. If you have any questions to ask or comments to make, please feel free to phone me on 3064, and if you get the voicemail, please leave a message and I will call you back.

Signed:

Meg O’Reilly

You will be given a copy of this form to keep.
Improving the online assessment practices of academic staff through reflective practice and action research

The Informed Consent Form

I have read the information contained in a separate information sheet entitled About The Research “Improving the online assessment practices of academic staff through reflective practice and action research”, and agree to participate in this study. I am over the age of 18 years.

I understand that the research project:

• is about improving online assessment practices
• involves meeting with other academic staff at SCU on a fortnightly basis for one hour over 3 months (or one semester)
• involves sharing in group discussion and engaging in action research and reflective practice
• involves the keeping of records which will remain in strict confidence
• includes the possibility of writing for publication.

Name of Participant: ______________________________________________________________________

Signature of Participant: ___________________________ Date: ______________________

Note: Any complaints or queries regarding this project that cannot be answered by the person responsible for this research project should be forwarded to:

Mr John Russell
Graduate Research College
Southern Cross University
Ph (02) 6620 3705 Fax: (02) 6626 9145 Email: jrussell@scu.edu.au

I certify that the terms of the form have been verbally explained to the participant, who appears to understand the terms prior to signing the form, and that proper arrangements have been made for an interpreter where English is not the participant’s first language.

Signature of the Researcher: ___________________________ Date: ______________________
Appendix 2

Questionnaire for Web delivery

0. Name of University:

1. What is your gender? [drop down menu]
   - Male
   - Female

2. What is your age? [drop down menu]
   - Under 25 years
   - 25–35
   - 36–45
   - 46–55
   - 56–65
   - >66 years

3. What is your current academic level of appointment? [drop down menu]
   - Associate Lecturer A
   - Lecturer B
   - Senior Lecturer C
   - Associate Professor D
   - Professor E
   - Other – please indicate

4. What is your current term of employment? [drop down menu]
   - Full time continuing
   - Part time continuing
   - Full time fixed term
   - Part time fixed term
   - Full time casual
   - Part time casual
   - Other

5. How long have you been teaching in universities and/or higher education contexts? [drop down menu]
   - Less than 1 year
   - 1–2 years
   - 2–5 years
   - 5–10 years
   - >10 years

6. What is the name of your disciplinary area [drop down menu using DEST categories]

7. What is the level at which you teach or supervise students? [radio buttons]
   - Undergraduate
   - Postgraduate
   - Both

8. Do you currently use any online approaches to assessment? [radio buttons]
   - Yes [go to next question]
   - No [skip to Question 15]

9. Please briefly describe these online approaches to assessment [text field for typing answer]
10. What has prompted you to adopt these online approaches to assessment? [check boxes so more than one reason can be selected]
Organisational requirement
Faculty or School requirement
Attempting to address an identified problem in the unit
Responding to interest expressed by students
Personal interest
Other [text field]

11. Indicate the kind and level of organisational support provided for your initiative in designing, developing and implementing online components of assessment [check boxes to choose as many as relevant]

<table>
<thead>
<tr>
<th>Organisational support</th>
<th>Too much</th>
<th>Just right</th>
<th>Too little</th>
<th>None</th>
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<tbody>
<tr>
<td>Technical training</td>
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<tr>
<td>Technical support for troubleshooting</td>
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<tr>
<td>Professional development for design of assessment</td>
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<td>Collaborative support for designing assessment</td>
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<tr>
<td>Time release or reduced teaching load for designing online components of assessment</td>
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<tr>
<td>Production support for development of assessment components</td>
<td></td>
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<tr>
<td>Tutor support for implementing online assessment</td>
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<tr>
<td>Marker support for managing the assessment process</td>
<td></td>
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<tr>
<td>Support for evaluation of effectiveness of innovations</td>
<td></td>
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<tr>
<td>Other [text field]</td>
<td></td>
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</tr>
</tbody>
</table>

12. Have you evaluated your online assessment practices? [radio buttons]
Yes [go to Question 13]
No [skip to Question 15]

13. From your own experiences, what do you see as the strengths of the online components of assessment? [text field for typing answer]

14. From your own experiences, what do you see as the weaknesses of the online components of assessment? [text field for typing answer]

15. Do you regularly evaluate your assessment practices? [radio buttons]
Yes [text field – if yes, how?]
No

16. Any additional comments? [text field for typing answer]

17. Would you be prepared to answer questions on these issues in a follow-up interview? [radio buttons]
Yes [see below]
No

17a. Only if agreeing to a follow-up interview, please provide your name: [text field]
    Email address: [text field for typing answer]
    Phone number: [text field for typing answer]

Thank you for your time
Appendix 3

Working with Educational Designer – Questions

1. Which disciplinary domain do you teach in?

2. When re/designing your teaching/learning/assessment approaches to units, what kind of consultation processes do you go through? Disciplinary colleagues, technical staff, reference librarian, ed designers?

3. Have you worked with an educational designer on a one-to-one basis?

4. How often have you worked collaboratively in design/development teams?

5. What has been the configuration of stakeholders in these teams e.g. academic, technical, library, student support, other staff?

6. Have you worked in cross-disciplinary teams of academics to design and develop courses/units? Please provide brief details/strengths/weaknesses

7. What kind of research (if any) have you carried out in the course of your work? Is this scholarship of teaching published?
Appendix 4

The questions explored in the educational designer interviews:

1. Is your position classified as academic or professional staff?
2. Do you work in a defined disciplinary domain? Which one/s?
3. Is your educational design work with academic staff, primarily on a one-to-one basis?
4. In what circumstances might you work with groups of academic staff?
5. Please describe your role (e.g. design, development, evaluation, academic staff development, teaching, project management, any other institutional/academics responsibilities)
6. What relationship does your role have to academic staff development activities in your institution?
7. What kind of research (if any) have you carried out in the course of your work? Is this published?
8. How long have you been employed as an educational designer?
9. How often have you worked collaboratively in design/development teams?
10. What has been the configuration of stakeholders in these teams e.g. academic, technical, library, student support, other staff?
11. Have you worked in cross-disciplinary teams of academics to design and develop courses/units? Please provide brief details.
12. How does your institution approach the design of online assessment?
13. How do you approach the design of online assessment?
14. Can you please refer me to exemplary cases of online assessment design, that you are aware of, either in your own institution or elsewhere? Who might I contact to follow-up on details of these examples?
Appendix 5

Educational design as transdisciplinary partnership: Supporting assessment design for online

Meg O’Reilly
Teaching and Learning Centre
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The design of student assessment for the online context can be a disquieting experience without the support of colleagues and a group of peers from across a range of disciplines with whom to share ideas. This paper reports on interviews conducted with academic ‘peak performers’ as well as some educational design practitioners about the current practices of designing for online assessment. A transdisciplinary approach to educational design is proposed for further exploration.

Keywords: educational design, transdisciplinary, crossdisciplinary, partnerships, online assessment, Mode 2 knowledge production.

Introduction

Educational design is a professional practice with its roots in the systems model of instructional design (Gagné & Briggs, 1974). Educational design practitioners come to their profession through a range of qualification pathways and are well informed by theory, diverse though this may be (Schwier, Campbell, & Kenny, 2004). In general, designers work intensively with the immediate pedagogical questions of curriculum and assessment design. They usually do so in direct collaboration with the subject matter expert and occasionally, within multidisciplinary teams that include technical as well as academic staff. The key concern of designers is to ensure educational rigour through the integration of appropriate learning theory into the learning materials and events being designed.

A long standing associated role of educational designers has been that of academic staff development – empowering academic staff to design, develop, evaluate and reflect upon the quality learning experiences of their students. While this facilitation role is commonly acknowledged by educational designers themselves, even in terms of being agents of social change, Schwier et al. (2004, p.94) state “it isn’t enough to work quietly and effectively in the shadows”. Increasing demands on all academic staff in the tertiary sector have meant that an educational design method which seeks to work collaboratively across disciplines would leverage the creative inputs of a range of staff and ensure the sustainability of educational design activities while preserving academic standards.

An earlier paper (O’Reilly, 2003) describes an action learning approach to educational design in which academic staff are brought together from across diverse disciplines to work in small teams comprised also of reference librarians and technical support staff in the process of designing, developing, evaluating and reflecting upon strategies for online assessment. This paper builds on that earlier work through an examination of academic “peak performers” across a range of disciplines, and educational design practices in four regional universities within eastern Australia. Discussion considers the potential of educational designers to provide leadership in moving beyond the comfort zone to explore the issues emerging from designing across a widening curriculum and the concomitant production of transdisciplinary knowledge.

Transdisciplinary partnerships

Distinctions between disciplines and their particular knowledge structure have traditionally made it possible to argue the connection between teaching and research in universities. Academics research within their disciplines clearly knowing this structure of knowledge and the nature of the disciplinary discourse with which they are engaged. However, in many domains knowledge production is now “cutting loose from the disciplinary structure and generating knowledge which so far is not being institutionalised in the conventional way” (Gibbons, 1997, p.5). Cooperation among disciplines is being explored increasingly in the higher education sector with a more recent blurring of disciplinary boundaries and genres. Klein (1990) breaks down the difficulties in defining what she terms...
“interdisciplinarity” into three major components – general uncertainty about what the term means, lack of professional identity within the context and a dispersed discourse arising from the latter two confusions. In order to consider how disciplinary relationships might be defined in current evidence, let’s consider Jantsch’s earlier distinctions between the terms in common usage:

- **Multidisciplinarity** – a variety of disciplines occurring simultaneously without making explicit possible relationships or cooperation between them
- **Pluridisciplinarity** – various disciplines grouped in such a way as to enhance the cooperative relationships between them
- **Crossdisciplinarity** – various disciplines where the concepts or goals of one are imposed upon other disciplines, thereby creating a rigid control from one disciplinary goal
- **Interdisciplinarity** – a group of related disciplines having a set of common purposes and coordinated from a higher purposive level
- **Transdisciplinarity** – the coordination of disciplines and interdisciplines with a set of common goals towards a common system purpose (from Jantsch, 1970, p.106)

With the benefit of these clearly articulated distinctions, the previous work in exploring “cross disciplinary” action learning sets (O'Reilly, 2003) should be redefined as a transdisciplinary partnership activity – engaging academics from a variety of disciplines in the common purpose of designing assessment for online and with an aim for a common system purpose (rather than a common product outcome). The transdisciplinary partnerships that developed in this problem focused action research process were described by participants as highly creative and have provided much appreciated opportunities for cooperation free from disciplinary constraints.

The role of educational design in these partnership relations is of primary interest here, since it could be described as having a bird’s eye view of disciplinary practices within higher education institutions. This paper offers insights from the author’s professional experience of facilitating collegial interaction at a regional university where educational design resources are rather too scarce to be exclusively based within one disciplinary context – an approach which it seems is echoed at other regional universities. The educational design process is explored in the context of designing assessment for the online environment as a strategy to support both classroom and distance education. The focus on assessment rather than on the design of all teaching and learning elements has meant that a deep exploration has been possible in relation to assessment and its connection to teaching and learning as a whole.

**Beyond academic disciplines to intellectual communities**

Within the academic profession historically, there has been a struggle to distinguish amongst formal intellectual activities in terms of defined disciplinary differences. Becher described different disciplines as forming the basis of different types of communities based on specific modes of work, organisational patterns and common values (Becher, 1987) in which different modes of research and teaching bring about different social perceptions of being an academic. However, it has been argued that Becher’s distinctions do not reflect the boundaries that various disciplines draw between themselves (Høstaker, 2000). Increasingly, knowledge development across traditional boundaries is being considered by academics as a valid transaction between diverse players (Ravn, 2004) and a demonstration of the dynamics of new intellectual communities in the academy (Frost, Jean, Teodorescu, & Brown, 2004).

University academics can be facilitated into a shared context for knowledge development and thus find themselves involved in shared praxis. Educational designers are well placed to facilitate such interdisciplinary or transdisciplinary activities for creative collaborations to address complex questions of learning and assessment design. The costs of ignoring commonalities in this kind of educational design process can be considerable such that escalating workloads as well as the proliferation of “islands” of design activities can be the result.

**Convergent epistemologies – Mode 2 knowledge production**

Becher’s (1987) descriptions of the distinctions between “hard” and “soft” disciplines, and the division between “pure” (development of knowledge) and “applied” (knowledge developed for application to a purpose) research modes, was helpful in that they have set a stable context for raising questions of the social construction of knowledge and knowledge as praxis arising from interaction. In “soft” disciplinary
fields, complexity is acknowledged as an integral part of the research and teaching, while approaches such as action research are often the methodologies chosen to investigate such complexity. Action research commonly demands a level of involvement from those central to the inquiry, and the methodological processes work to preserve a sense of interconnectedness and complexity while maintaining validity and reliability. Knowledge construction in this case is typically a social, negotiated and iterative process, which incidentally, is very suited to the professional practice of educational design.

Another perspective on the construction of knowledge is provided by Klein who considers the “nostalgia for lost wholeness” as one of the pressures on traditional knowledge development in the disciplines and speaks of explorations of interdisciplinarity as “evoking a common epistemology of convergence” (Klein, 1990, p.11). New knowledge development processes have also been discussed by Gibbons and associates since the 1990s. Gibbons agrees that disciplinary specialism has long been seen as a secure and reliable way to advance knowledge – and calls this “Mode 1 knowledge” (Gibbons, 1997, p.7). Mode 1 knowledge is “generated within a disciplinary, primarily cognitive context,” while “Mode 2 knowledge is created in broader transdisciplinary social and economic contexts” (Gibbons et al., 1994, p.1).

By comparison Mode 2 is more socially accountable and reflexive (Gibbons, 1997, p.9). It is characterised by being produced in the context of application and having a transdisciplinary function. Typically this kind of research and knowledge production occurs when temporary networks of people come together for a purpose and who disperse once the problem is either defined or solved. By virtue of such a multidimensional approach, a greater sensitivity to the impact of research is conceived from the outset. “Mode 2 does more than assemble a diverse range of specialists to work in teams on problems in a complex, applications oriented environment. To qualify as a specific form of knowledge production it is essential that inquiry be guided by specifiable consensus as to appropriate cognitive and social practice.” (Gibbons, 1997, p.11)

The transdisciplinary approach to educational design being suggested in this paper, illustrates the integration of a diversity of disciplinary perspectives into the problem focused action research practice of collaborative design, particularly for assessment as it is facilitated in the online context.

Peak performers and innovations in assessment

Much is currently being explored in terms of the opportunities and constraints afforded by the online context for assessment of student learning (for example Booth et al., 2003a, 2003b; James, McInnes, & Devlin, 2002; Morgan, Dunn, Parry, & O’Reilly, 2004). While acknowledging the many issues of concern in this emergent practice, this paper will focus simply upon the support that can be provided to academic staff (the subject matter experts) by educational design processes when designing assessment for online. Overall it can be said that the subject matter experts who have been involved in assessment design for online have been “peak performers” as described by Hersey, Blanchard, & Johnson (2000). Their common interest and willingness for reflecting upon their experiences of teaching in order to be continuously improving is most evident, and stands as a contrast to those of their colleagues who remain fixed in their approaches to teaching. Educational designers are charged with supporting all comers – the willing and the not so willing, and the interesting thing emerging from the data which follows is about the perceived benefits of working in partnerships, networks and teams for design and development activities. This transdisciplinary partnership also means that staff with diverse capabilities and levels of commitment are in a position to be influenced and mentored by the peak performers in the group.

During this data collection, the process of locating exemplary online assessment design led to the identification of several academics who were known as the early adopters in their universities, and who had by now found themselves mentoring and influencing others. As Rogers and Shoemaker (1971) reported, “the earlier adopters are less dogmatic than later adopters. Dogmatism is a variable representing a relatively closed belief system…” (p.187). As the following case studies will show, these peak performers were not rigid at all and were even inspired to reflect creatively within the course of the research interviews!

Educational design models

From its beginnings in the earliest days of Skinnerian psychology, instructional design practices have their roots in a very behaviourist tradition. This kind of linear model was seen in the advent of “programmed instruction” and some of the early approaches include Mager’s (1984) focus on instructional
objectives, Dick and Carey’s (1978) systems approach for designing instruction and the applied approach of Gagné and Briggs (1974) which ensured that instructional theories informed the practice of effectively designing “events of instruction”.

From these theoretical beginnings as linear behaviourist models of practice, thankfully, changes in the professional practice of instructional design have accompanied the emergence of contemporary learning theories. Recent changes evident in the profession in Australia also include a renaming of the role in many institutions to that of “educational design” (Bird, 2002). This is often attributed to the new processes required when considering greater flexibility in learning and teaching, and when including the use of the Internet with its resultant technological considerations in pedagogical design.

Since the constructivist learning theories with their implications for teaching and learning have been on the horizon (Kuhn, 1970; Wittgenstein, 1965), impacts on educational design models of practice have been widely considered (Duffy & Cunningham, 1996; Jonassen, 1994). Willis (1995) and more recently Crawford (2004) also discuss theoretical models based on constructivist learning theories and thus emphasise the iterative and the negotiated nature of the educational design process.

Willis (1995) states that general education design experts are a “myth” and designers who can effectively work from a constructivist interpretivist perspective must be immersed in the discipline in order to be of genuine assistance. This is not a position easy to support in Australian practice as evidenced by the data that follows. In the regional universities examined in this study, educational designers are not appointed to work as discipline based advisers. Rather, as Willis (1995) goes on to say, educational designers do not expect to maintain control of the outcomes. They work as consultants and facilitators to subject matter experts who actually design the instructional material themselves.

Crawford’s (2004) contribution to the field builds on the previous work of Willis (1995) in that it does not eschew complexity in practice, and provides another non-linear model that depicts the continuous nature of educational design, making explicit the critical role of evaluation within the scope of practice. The Crawford (2004) model also refers particularly to the online context for learning and teaching.

Likewise, the impetus for transdisciplinary educational design in partnership with teams of subject matter experts from diverse disciplinary backgrounds has emerged at Southern Cross University from the need to find sustainable development of effective, efficient and pedagogically sound assessment designs for the online context. In this context, questions of authentic, discursive, semiotic and reflexive assessment (Duffy & Cunningham, 1996) can also be collegially and comprehensively explored. This study also asks – in the context of designing assessment for online, are educational designers exploring creative and recursive approaches to practice? Are transdisciplinary educational design activities being undertaken?

**Methodology**

The work reported here follows from earlier components of an action research project at Southern Cross University. Some background is provided to put the current sample of interviews into context.

Beginning from a voluntary web survey conducted in four regional universities in eastern Australia between June 2002 and June 2003, questions of how and why assessment was being designed for online implementation were explored. A small number of academic staff responded from the target institutions – University of Southern Queensland, University of New England, Charles Sturt University and Southern Cross University. Where respondents indicated agreement to a follow up interview, these were conducted by phone during first semester, 2004.

Follow up interviews were conducted to explore the nature of assessment design and to follow up on questions of educational design input to the design process. Furthermore, in order to identify those academics who are designing for online assessment and who are considered by their peers as inspirational, the snowball method was used as the process of sampling additional academic staff. In this way each academic interviewed about their own approach to designing assessment for online also suggested a colleague they considered to be carrying out innovative work in this regard. In all, 22 interviews were conducted and Academic cases 1 and 2 reported below, were derived from this sample.
Questions arising on the level and nature of educational design input to the process of designing assessment for online led to the need to interview educational designers themselves. A purposive sample of educational designers in these four regional universities was interviewed in small focus groups (videoconference, teleconference or face to face), and in one case by one to one discussion on the phone. The recorded interviews were transcribed and where on two occasions, recordings failed, reference was made to written notes taken at the time. All four Design cases reported below were derived in this way. A draft of this paper was circulated to those concerned for checking and all feedback has been incorporated.

In the meantime, two action learning cycles have been completed with staff at Southern Cross University (semester 2, 2002 and semester 2, 2003) in which cross disciplinary action learning sets sought to reflect upon the design, development, implementation and evaluation of their assessment of students for the online environment. Some results of these explorations are discussed in O’Reilly (2003) where transdisciplinary teams of five staff worked together with an educational designer to produce subject specific assessment designs for three fields of study (in each of two action learning cycles). Academic case 3 reported here is derived from this aspect of the research.

The method of sampling has meant a very selective process and the interviews reported in this paper include (a) those academics who are interested in reflective practice and those open to innovation in assessment as core to teaching and learning, and (b) a self selected group of educational design practitioners at the same four regional universities from which the sample of academic staff was drawn.

Case studies of peak performers

Each of the three case studies that follows has been taken from interviews conducted at a different regional University in Australia. Only three of the four universities in the study, yielded exemplars of online assessment through the sampling method used. Pseudonyms have been used to preserve anonymity and to respect confidentiality.

Academic case 1
Interviewee 1, an academic from the disciplinary field of education who was co-teaching a group of 50-60 students, reported on decisions made to design online collaborative activities and software based activities for assessment of students. In the process of designing these assessment regimes (one undergraduate and one postgraduate) this academic valued opportunities to consult with and seek validation from her primary team teaching colleague who was also qualified to provide technical support. When questioned on the influences upon their assessment design, Interviewee 1 referred to reflections on past teaching experience as well as students’ feedback. Influences from the relevant literature encountered since the introduction of these subjects in 1999 included key publications about online communities of practice and the process of scaffolding student learning in the context of group work. In addition, discussions with another ‘critical friend’ colleague were important to the creative process of designing challenging and effective assessments and as such, illustrate a multidisciplinary approach (Jantsch, 1970).

An educational designer did have some involvement in development of subject outlines and a follow up role included verification of alignment between assessment activities and stated subject outcomes, as well as advice on developing appropriate marking rubrics. There were no further opportunities provided or organised for this academic to consult with a cross disciplinary team of colleagues, though once this question was raised in the interview this most open to suggestion academic considered an additional disciplinary input she would seek in her next revision of these subjects. She commented… “teams of assessment consultants sounds like a good idea… In terms of principles of collaborative practice… it would be nice to look at feedback from the business world”.

Academic case 2
Interviewee 2, an academic from the disciplinary field of engineering who also manages the team teaching of 300 students, named the design, development, implementation and review of assessment in his subject as a “multi-disciplinary team” approach. Seven academic staff from two faculties (engineering and science) are involved and supported by educational design and technical support staff. Regular team meetings have been a feature since the introduction of this subject in semester 2, 2002, and the strengths of this collaboration, which brings together a diversity of perspectives from within the engineering and science domain, are highlighted in the comment “people with different expertise bringing complimentary
strength to the team”. Due to the scale of the initiative, and in accordance with problem based learning, the “staff team also need to function as a team, similar to a student team”. Any differences between staff experience, capabilities, relative levels of contribution and workload allocations must also be managed.

In Jantsch’s (1970) terms this example reflects an interdisciplinary approach and opportunities for input from a broader disciplinary base were explored in interview. This academic proposed the value of future consultation regarding the design of assessment with staff from psychology and perhaps the field of arts.

**Academic case 3**

Interviewee 3, an academic from the field of management and commerce, has moved from solo activities in design, development, implementation and evaluation of assessment strategies through a period of working in cross disciplinary design teams, to ongoing reflective practice activities.

From 1999, when the multi-disciplinary approach to design, development, implementation and evaluation of assessment for online was supported by university executive, this academic began to maximise opportunities to consult with colleagues from other disciplines, educational design, technical design and support staff. Following participation in an in house online staff development workshop, Interviewee 3 took on board the suggestion by library staff (also involved in the workshop) that they be included in the teaching process. His teaching innovations continued to develop through collegial exchange of ideas via school based workshops and university wide seminars hosted by the Teaching and Learning Centre.

This case contrasts with the first two cases described as this academic participated in the cross disciplinary action learning sets as described elsewhere (O’Reilly, 2003). On interview for this component of research, Interviewee 3 commented that he saw his involvement in a cross disciplinary action learning set for creative design of online assessment, as supplementary to his personal (broadly consultative) approach. He appreciated that through action learning “suggestions were made to pursue ideas… ideas became clearer particularly regarding the group activities [assignment]”. He stated that “not enough is facilitated like this’ in order to provide more staff with the opportunity to consider multiple perspectives on their own approaches to assessment, and to conceive of their work in transdisciplinary terms.

**Transdisciplinary partnerships from an academic perspective**

The academic staff interviewed in this small sample all made explicit their attempts to consult with colleagues and peers during the process of designing assessment for online. In each of the three cases the collaborative activities reported were initiated by the academics themselves. Clearly this interest in having a “critical friend” with whom to reflect on assessment design is an indication of the reflexive processes and the quest for continuous improvement inherent in exemplary teaching practice. Such efforts are evidently constrained by structures within each university that may allow interdisciplinary discussions but prevent easy access to transdisciplinary consultative processes. Reports of broader consultative teams extended only to involvement of colleagues from allied disciplines. Where educational designers might have had a role in facilitating transdisciplinary interactions, there was little evidence of academics engaging with them in a timely and recursive way, as suggested by the Willis (1995) and Crawford (2004) models.

**Canvassing perspectives on educational design**

In order to further field test the questions of the education design potentials for facilitating transdisciplinary consultation in the design of online assessment, focus group interviews were conducted with educational designers from each of three universities, and a one to one phone interview was conducted with an educational designer from the fourth university. Interview protocols used were consistent with qualitative research though most of the audio and video recordings of interviews were hampered by technical problems, so extensive reference was made to written notes taken at the time.

**Design case 1**

Two “instructional designers” were interviewed from Interviewee 1’s institution and they both agreed that no real crossdisciplinary or transdisciplinary design work has been occurring within their university as exemplified by the comment that “largely most of the design work has not been team related”. Design activities occur in the traditional mix of one to one and faculty based methods. Classification of designers at this university is that of general staff rather than academic, hence their title “instructional designers”. This classification further contrasted with the usual involvement of educational design staff in that the
The process of design was often restricted to the latter end of the writing process i.e. the creative planning and design of assessments would have already occurred prior to the involvement of instructional designers. Academics with innovative ideas on teaching, learning and assessment are required to find their own creative support networks either within the university or through published literature. However, if instructional designers have established good relations with academic staff they can be called upon to advise, provide ideas and informal feedback. There has recently been recognition for university-wide teams in some development initiatives such as a pilot project focused on learning designs, and these teams are mooted to include instructional designers, IT services staff and production staff in future.

The expanded role for these instructional design practitioners includes project based responsibilities such as “media manager” and “coordinator of MCQ testing tools”. Critical feedback from instructional designers is regularly sought by teaching staff to inform future improvement of classroom teaching practices. Academic staff development occurs in both formal and informal settings at this university, where these events support an exchange of ideas from across a range of disciplines. Cross campus exchanges of ideas occur on a more formal basis around identified issues of interest.

Design case 2
The educational design role at Interviewee 2’s institution was described by four (academic) members of the team as primarily a centralised service. Each of the four educational designers worked with academic staff within a number of disciplinary contexts and described the current institutional emphasis as being on a CD and print based “hybrid model”. Online design features were utilised in off-campus study packages and, to some extent, for the assessment process in both submission and feedback stages. An emerging model of assessment for online was still to be discussed at a management level, but its limited use for the moment was described as being determined by authentic and relevant learning contexts.

The educational designers at this university also each carried additional portfolios such as academic staff development, involvement in a university-wide graduate attributes initiative, teaching and learning inductions for new staff (conducted centrally and thus transdisciplinary), and the development of tertiary preparation courses. It is through the tertiary preparation courses such as those on English language ability for overseas students and those on advanced information literacy for postgraduate students, that a transdisciplinary perspective was brought to the design process. Staff development seminars and workshops also provided the most convenient forum for cross fertilisation between disciplines around specific topics and “on a needs basis”. Otherwise the model of educational design at this university was more of a traditional mix of one to one and “groups from Faculty” as determined by project needs.

Design case 3
A focus group of two educational designers was conducted in person at Interviewee 3’s institution, where the role is an academic one based within the Teaching and Learning Centre. Each of the educational designers interviewed described their work as primarily taking place on a one to one basis in conjunction with academic staff designing their teaching, learning and assessment. One of the educational designers commented that she works with the more problematic cases as the “innovators need us least”.

The online context for assessment is only incorporated where special or authentic objectives prevail, such as in the case of programs delivered to students who travel for their employment and need to study and carry out assignments while in transit. Design work was also said to occur with small groups and school based groups of staff. There were no crossdisciplinary or transdisciplinary design activities reported (beyond those of the researcher’s own) as these were said to be “not the bread and butter of our educational design work”.

As with earlier cases, additional staff development responsibilities for educational designers at this university generate opportunities for crossdisciplinary dialogue amongst academic staff.

Design case 4
Though no academic staff emerged as exemplars from this institution due to the sampling method used, Design interviewee 4 is included to provide a designer’s perspective for all four universities in the study.

The instructional designers in this institution work as general staff from a centralised Teaching and Learning Centre through a series of arrangements covering individual support, funded faculty projects,
and large cross faculty projects supported via annually awarded VC’s teaching development grants. Collaborative development teams including academic, instructional design, library and technical staff are occasionally convened for development of teaching, learning and assessment strategies within generic academic support or study skills packages.

The question of combined degrees in this university has raised the possibility of cross disciplinary collaboration in assessment design but such initiatives are not yet evident. There are however, some cases where units core to multiple programs provide assessment options according to disciplinary focus of the students e.g. a geology subject may have different assessment options for geography students as compared to those indicated for the science students.

Further investigation is needed to discover how the large cross faculty projects approach the shared process of assessment design at this university. One example given of a collaborative project was where “both groups [science and education] were quite knowledgeable about teaching strategies and theory, and one of the scientists had done some additional studies in the area of assessment, so it was probably successful for other reasons in terms of the educational developer input…”.

Reflections on case studies

While the major caveat for the discussion that follows is the small size of the research sample reported, there are some interesting reflections to be shared from the interview data. Overall the findings confirm the view that prevailing educational design practices do not conform to the proposed transdisciplinary approach. Potential benefits for this approach are evident from the interviews with academic staff and it is suggested that educational designers consider taking up the challenge to explore for themselves the potential value of facilitating team based design of assessment in settings that allow a diversity of disciplinary perspectives.

Interviews conducted with academic staff who were identified through a process of snowball sampling to be innovators in online assessment, revealed that while they consulted to some extent with their discipline based colleagues and an educational designer (particularly with designers classified as academic staff), they did not often consult with colleagues from outside their own disciplinary area. These academics were also found to be reflexive and actively engaged in reflections on practice.

Teams of academics who are reportedly brought together for design, development and implementation of assessment strategies, tend to only include a small cross section of allied disciplines as well as technical advisors. Although librarians seem to be commonly involved in the provision of preparatory courses across disciplines, the inclusion of reference librarians in assessment development teams was not found in any initiatives other than the researchers’ own work (O’Reilly, 2003). The desirability of their inclusion at a design stage is reinforced by a national exploration of librarians’ role by Doskatsch (2003, p.113) who states librarians need “confidence to collaborate with faculty in designing learning activities…”.

Through purposive sampling, groups of educational designers at four regional universities in eastern Australia were interviewed. It was found that the predominant experience of crosdisciplinary and transdisciplinary dialogue within any “intellectual communities” tends to occur at academic staff development seminars and workshops. Some transdisciplinary design initiatives were reported such as tertiary preparation, information literacy and language proficiency courses, though some tailoring for specific disciplines is often embedded within the teaching strategies of such courses. As a general rule, educational designers did not feel in a position to convene crosdisciplinary and transdisciplinary design meetings. However, it may be that educational designers could be further encouraged in their own reflective practices in order to be of some assistance to the peak performers who at this point in time seem to get by with a minimum of educational design support.

Partnerships or perish

From the evidence found in interviews it is difficult to see Mode 2 knowledge development in practice, except perhaps in the centralised academic staff development activities described, or in the creation of generic skills packages. However, it is the view of this researcher that educational designers are extremely well placed to facilitate the necessary discourse between and across disciplines. When aiming
towards the design and development of assessment for online, the questions of technological and pedagogical affordances and constraints can frequently benefit from a range of perspectives brought to bear upon the issue. The image of educational designer as change agent also returns us to work of Schwier et al. (2004) who investigated educational designer’s perceptions of themselves and found that “there was a need for the types of social change that ID [instructional design] can provide” (p.91).

“The rubric of survival in academic research is changing from ‘publish or perish’ to ‘partnerships or perish’.” (Gibbons, 1997, p.16), and although this statement refers to the conduct of research, in accordance with this sentiment by Gibbons, there is an imperative for universities to consider partnerships in educational design processes. In the absence of evidence to show widespread adoption of constructivist interpretivist, recursive and reflexive models of practice, it is being proposed here that the creative process of educational design be strengthened and sustained by transdisciplinary partnerships in certain design activities such as assessment.

In this small study, transdisciplinary partnerships have been reported as an effective way to inspire innovations in assessment (Academic case 3) and seemed to the academic peak performers interviewed as promising greater benefits in the collaborative design process (Academic cases 1 and 2). If we are to implement Mode 2 knowledge production through the educational design process, we can bring staff together in reflective contexts to solve the design of assessment for online for each individual, while at the same time finding a consensus on ‘cognitive and social practice’.

It is suggested in the writings of Klein (1998) that opportunities to bring together individuals for creative cross fertilisation and innovations also result in convergent epistemologies, however this assertion needs further investigation. At the base of all such explorations is the welcome suggestion that creative assessment design by staff can stimulate enhanced learning by students. One thing is certain, the educational design practices of today at some Australian universities might still show enduring signs of their roots, but there is now increasing evidence to suggest that a more transdisciplinary problem focused action research practice of collaborative educational design warrants much more investigation for the creativity and intellectual leadership it promises.

References


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Appendix 6

Case studies of online assessment

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Abstract

This paper outlines the progress to date of a project to compile, analyse and share examples of innovative online assessment activities using; online testing; teamwork and collaboration; simulations and role plays, and dialogue with experts and across cultures. The aim of this research is to provide teaching academics and educational developers with examples of assessment strategies that have been successfully applied in higher education, and to derive a number of key principles about online assessment that will be useful for future research. The project involves case studies from two Australian universities, which have been used to develop an initial set of eight exemplars and analysed to identify commonalities and differences. In the next phase of the project, these will be shared with teaching staff from two Hong Kong Universities, who will be asked to assess the applicability of the assessment designs and approaches to their teaching contexts.

Keywords

online learning, assessment, case studies, research

Background

It can be argued that over the past two decades the academic practices in higher education have been transformed by the adoption of the online environment as a medium for teaching, learning and assessment. It is also commonly observed that while assessment drives student learning, the design of assessment for the online context has been the last core activity to be adopted across the board (Alexander & McKenzie, 1998; Howell, 2003). Perhaps because of its critical importance to learning, the adoption of innovations in online assessment has been slow to diffuse through higher education. There is simply too much at stake if the technology should let us down or problems beyond the academics’ control should interfere with the assessment process (Collis & Moonen, 2001).

However, the reliability of online networks and the availability of student access to them have been steadily increasing over the past five years (GlobalReach, 2004). Since the view still holds that assessment is the ‘de facto curriculum’ (Rowntree, 1987), designing assessment tasks that take advantage of the affordances of the online environment while also overcoming its limitations is a key challenge in becoming an online teacher (Bennett, 2004; Bennett & Lockyer, 2004; O’Reilly & Hayden, in press).

Initiatives aimed at examining the impacts of online assessment design are seen in Keppell, et al’s work (Keppell, Au, & Ma, 2005; Keppell, Au, Ma, & Chan, 2004). The authors undertook a development-based research approach to examine learning-oriented assessment in a project that focussed on redesigning four modules on innovative online assessment and four modules on collaborative online assessment. Although “networked courses require the course designers to rethink the assessment strategy if it is to reflect the aims of the course and appropriately assess the skills developed during the course” (Macdonald, Weller, & Mason, 2002, p. 9), Keppel et al. found that focussing on changing the assessment to a learning-oriented approach resulted in a change of pedagogy, aims and objectives. Changing assessment thus represents an important way that educational designers can assist academics in designing to utilise innovative teaching and learning principles.
Academic staff who are developing their assessment ideas in keeping with opportunities offered by flexible modes of study will often request exemplars to consider. Educational designers are often in a position to provide examples drawn from other disciplines and known resources. The development reported in this paper in the form of a collection of case studies from two Australian universities, highlights a number of concrete examples of collaborative design and effective assessment strategies that academics can adapt to their own practices.

**Project description**

The collection of Australian case studies in this paper represents a pilot component of a larger research project that involves Southern Cross University and the University of Wollongong Australia, as well as the Hong Kong Institute of Education and the University of Science and Technology, Hong Kong. The four-way research project aims to develop exemplars of online assessment and distil a number of key principles about online assessment useful for future research where academic staff from the participating institutions can refer to these exemplars and principles in collaborating on the design of online approaches to assessment. It is envisaged that the resources developed through this project will also be of benefit to a worldwide audience.

The significance of this project is in the showcasing of innovative online assessments across two Australian institutions that are both in a process of collaborating further with two Hong Kong institutions. In a flexible educational context where academic staff gain enormously from cross-cultural and cross-disciplinary exchange of views, this project showcases eight case studies that are broadly applicable. The research also builds upon the work of the principal researchers in terms of questions being explored on the collaborative and transdisciplinary design of assessment (O’Reilly, 2003, 2004), those of the design research approach to investigating development of online assessment (Bennett, 2004; Bennett & Lockyer, 2004), and implications of the learning oriented approach to assessment design (Keppell et al., 2005; Keppell et al., 2004).

**Methodology**

The project adopted a design research methodology to ensure that ultimately, staff across the four institutions and a number of disciplinary fields, who will, in future, be responsible for the design of valid, reliable and sustainable assessment tasks can do so within the bounds of an iterative and collaborative strategy. The development of a website to showcase the first eight case studies was included to facilitate a reflective approach to the next stage of design, development, evaluation and review in accordance with the established elements of the design research method. Each of these steps will inform the larger scale project which will also use the action research approach (cycles to plan, act, observe and reflect).

The methodology for this pilot study uses a variation on the design research methodology (represented in Figure 1), which involves iterative cycles of analysis, development, evaluation and reflection. This process allows problems, solutions and methods to be refined on the basis of the data collected. The timeframe for this pilot study has allowed for the first iteration of the cycle, the second iteration is to be implemented through the larger project and the longer timeframe. The eight case study exemplars identified in this cycle had already been developed, implemented and evaluated by subject assessors. The cycle was thus commenced at the reflection stage and the website resources showcasing these exemplars have been developed to be used as a stimulus for shared reflection across the four institutions involved. In addition the website is of potential interest to anyone looking for ideas in online assessment design (see http://www.scu.edu.au/services/ti/index.php?page_id=34&menu=2_44).

![Diagram](attachment:image.png)

*Figure 1: The design research cycle (Adapted from Reeves, 2000)*
Design research is well suited to a study such as this one because it provides a systematic approach that draws upon and expands theory while also contributing to practice. Also called development research, this methodology has three key characteristics (Design-based Research Collective, 2003; van den Akker, 1999):

- it involves collaboration between researchers and practitioners to characterise problems in terms of previous research and practice; identify possible solutions; and test those solutions within real life contexts
- it is an iterative process in which evaluation feeds back into the design process and issues that emerge during implementation can be addressed
- the outcomes of design research lead to the generation of new knowledge in the form of design principles that can be explicitly linked to underpinning theory.

The use of the design research approach ensures that the product of the larger cross-national project (i.e. assessment design) is based on the best available research, with extensive input and testing by practitioners to ensure that it is usable and relevant. The initial aim of showcasing eight Australian case study exemplars as innovations in assessment is in preparation for cross-national collaboration to design and develop further innovations in online assessment in the latter part of 2005 and through early 2006.

**Results**

Initially ethics clearance was obtained from both Southern Cross University and the University of Wollongong where the project details were provided and an explanation given as to the appropriateness of revealing participants’ names on a public website. Academic staff from both these Australian universities then agreed to contribute case study details and be involved in the cross-national research through a series of steps.

Each subject assessor (and assessment designer) first completed a proforma detailing assessment tasks and the design process. Depending on the need for clarification, one or two follow-up personal meetings with researchers were undertaken to progress discussions about assessment design, pedagogical rationale and lessons learned. Two documents were drafted for each case from these details (a) a brief summary and (b) a full description of the assessment design, pedagogical rationale and lessons learned. Clear credit has been included for each contributor of the eight exemplars. Refer to website for exemplars.

**Cases**

The eight cases shown on the website cover several disciplinary areas including social sciences, business, science and education. The exemplars cover first year through to final year undergraduate cases. Brief details are provided below, for full description of the cases readers are encouraged to visit the website.

1. **Accessing and critically evaluating information: Learning and communication**

‘Accessing and critically evaluating information’ is the first assessment task for a first year, first semester subject for beginning students in both the School of Social Sciences and the School of Commerce and Management at Southern Cross University. The core unit, ‘Learning and Communication’ is designed as a scaffolded learning experience. The unit aims to equip beginning students, whether school leavers or mature age students, with generic research and study skills for their entire undergraduate program.

The focus of this case study is the assessment task ‘Accessing and critically evaluating information’, which is the students’ first preparation challenge. The case study describes students’ development in acquiring research and critical evaluation skills using online search tools and strategies. At the same time students are learning to access the unit and its components online. The assessment task sets the students up with the necessary research and technological skills to complete the remaining assessment items of the unit. These skills further support their whole program at university and ultimately transfer to their role in the community and workplace.

2. **First year online quiz: Chemistry**

The online assessment design, online quizzes, is designed as an aid to study in first year chemistry, to assist the student’s processes of understanding concepts and problem-solving skills. In a different process to gaining knowledge, the online quizzes encourage students to read the relevant textbooks in order to think about the topics covered and test their understanding of the main concepts. The online assessment task prepares students with skills to undertake further quizzes used in other science subjects.
3. Graduate discussion forum: Advanced auditing

This forum assessment task aims to enhance students’ learning experience by providing them with the option of direct contact with current practitioners in the relevant business environment, using computer-based technology. The ‘optional’ online learning strategy links theory to practice through an authentic, or ‘real world’ learning environment, where students can learn about the nature of work in professional practice. The question and answer discussion forums provide students with access to the diversity of professional perspectives in the field of standards and codes of practice. Three discussion forums are conducted online. The first engages students in discussion with recent graduates who are employees of public accounting firms and the second with partners of regional public accounting firms. A third forum is set up for students to enter their reflective summary of the learning activity.

4. Online multiple-choice tests: Quantitative analysis for Business

This case study provides an example of online assessment design that facilitates the students’ learning by giving continuous assessment and immediate feedback. The online multiple-choice tests are a series of six online tests spread throughout the semester that are ‘optional’ and encouraged by the lecturer, who considers assessment as learning. This practical mode of learning assists the students’ reinforcement of definitions and concepts applicable to their business studies, and also helps them to gain experience in time and priority management. Where students choose not to take the tests, their final exam is weighted more heavily.

5. Online role play: Introduction to tertiary teaching

The focus of the online role play assessment task is to assist in clarifying the complexities related to assessment, particularly in identifying issues underlying criterion-referenced assessment. Specifically, the role play aims to assist participants to adopt a criterion-referenced assessment approach used at university, through participation in a realistic scenario. This case study outlines how the online assessment design offers some advantages over face-to-face role play by potentially reducing some of the stressful aspects. Further, through the online activity, participants learn to use the online discussion forums and associated facilities on the university’s learning management system, WebCT.

6. Research groups and conference teams: Ecological restoration and monitoring

This assessment scheme aims to equip students with the skills necessary to design and execute a research project, prepare and review a research paper for publication in the proceedings of a conference, and to present project outcomes to an audience. The end of semester conference is attended by students, lecturers, individuals from the community of practice and members of the public. This case study outlines an intense and exciting conference event and the lead-up to it including research undertaken by students in collaboration with community stakeholders, peer collaboration, peer review and the editorial process for published conference proceedings. All tasks associated with the conference are supported by online technology, for example exchange of messages and documents for teamwork. Communication and document exchange for research groups is also carried out through computer-mediated means. Students undertake an evaluation of the conference activities. The multiple learning processes are synthesised by students through their activities in both group research and conference team work.

7. Teamwork: Accounting

The online assessment design titled ‘Teamwork’ is linked to the graduate attribute of teamwork in the discipline of Accounting. It aims to practically assist students to work in groups, ensuring an equal and visible contribution of each student towards the group assessment item. This case study outlines how the online assessment design provides a new type of collaborative writing online whereby students contribute to develop a report together. The online component offers an opportunity for students to link theory with practice resulting in a group contribution towards a web-based document. The final product incorporates a practitioner-focused subject with current issues related to the field, in this case, a government review of the Corporations Act. This assessment task enables students to access other students’ work in the course for information, and further offers an online forum for group communication and discussion.
8. Visual design gallery space: Education/instructional design

The online assessment design, ‘Visual design gallery space’, aims to provide students, working in an instructional/visual design capacity, with an online gallery space to view, develop and collaborate on their visual design works in teams and individually. This case study outlines the ways in which students are provided with opportunities to collaboratively develop and discuss their works in a visual design assignment through online access to a range of design exemplars. Students in this setting are exposed to: broader frameworks for research in the field; real life examples of design; a wider capacity for the generation of ideas, development of materials and design elements; and a greater diversity of cross-cultural elements of design. Further, the students learn technological skills needed for implementing their visual design ideas. The gallery space significantly offers students ongoing online support and dialogue between lecturers and students for the reflection and development of good design principles.

Pedagogical principles

Beginning with a clear pedagogical rationale is the first key quality of online assessment. The pedagogical rationales have been included in the details for each case and in all instances this was the driver for the design of assessment tasks, i.e. the online technologies were always used as a tool to put into practice a range of pedagogical principles. Explicit values, aims, criteria and standards are provided to students in their task descriptions. Preliminary analysis indicates that principles of online assessment design emerging from the exemplars further reflect the ten key qualities discussed by Morgan and O’Reilly (2005), including those concerned with providing rapid feedback for developing skills and understanding, the dynamic experiences of role play and teamwork, and authentic learning enabled through assessment tasks involving external experts, the professional community of practice or the workplace context.

Rapid feedback

The use of online assessment in the form of quizzes provided a well-scaffolded approach to facilitating the development of generic foundation skills in Case studies 1 and 2. The pedagogical rationale in these cases is based on the facility for rapid feedback via online quizzes and thus this principle also applies to Cases 4 and 6 that also involve the use of online quizzes. Though Case 8 does not include the use of a quiz, nevertheless, the capability for rapid feedback through online methods was described as a key feature of this design subject where sufficient time was needed to incorporate peer assessment into students’ grades. Providing sufficient and timely feedback, together with a facilitative degree of structure, are also two of the key qualities of assessment online.

Access to multiple perspectives

An awareness of students’ learning contexts and perceptions underscores any decision to incorporate a greater diversity of perspectives in the learning experience (Morgan & O’Reilly, 2005). The use of external experts and the contribution to discussion from a diversity of perspectives, including different cultural, political, social and values-based perspectives, are a particularly important feature of Cases 3, 6 and 8, which highlight one of the clear affordances of online technologies. No longer does the ‘expert’ need to be available in the same place and at the same time as the students for their learning to gain from such a rich experience.

Support for collaboration and interaction

Teamwork and role play as forms of assessment are not restricted to the online environment, but in Cases 5, 6, 7 and 8, the way these features are used, take full advantage of the unique features of the online environment where anonymity can be controlled during role plays and, conversely, where the relative input of team members can be made transparent. These cases also illustrate another valuable aspect of the online environment, i.e. its inherent novelty and capacity to support learning within a context of having fun. The engagement of learners that occurs when they are having fun leads to a further key quality of assessment for online, i.e. designing relevant, authentic and holistic tasks (Morgan & O’Reilly, 2005).

Authentic learning

Authentic learning, as evident through the assessment tasks in Cases 3, 6, 7 and 8, is also shown to be an important principle in the effectiveness of online assessment design. The connection to real-world activities in each of these cases further reinforces some of the other strategies already mentioned, i.e. the use of real-world experts (Cases 3 and 6), working with members of the professional community (Case 6) and working with real artefacts of the profession (Cases 7 and 8). Such authentic learning cases (in particular, Cases 3 and 6) also rely on constructivist learning approaches to ensure greater autonomy in student engagement with the assessment tasks.
Practical implications

Implications for administration of assessment processes have also been showcased in these cases. With the exception of Case 5 ( premised on anonymity) and Case 7 (an on-campus subject), all other cases featured a blended cohort of students — mixing together on-campus and off-campus learners in an online environment. Depending on different institutional arrangements, this has potential implications for administrative systems such as processing submission of assignments that have been streamlined by restricting options to electronic submission. Alternatively, institutional systems are often bypassed in offering more flexibility to students when allowing them some choice in timing their asynchronous contributions to discussion. These types of graded submissions are not necessarily logged centrally however, as in all instances, faculty remain accountable for their validity and reliability. A consistent administrative feature in all cases was the easy access to supplementary web resources provided to students in order to complete their assignments.

The design processes described in these eight cases included an acknowledgement by all case contributors that their ideas were developed over a period of time. What is showcased on the website arises from an iterative design process, so although the assessment design for Case 1 was implemented for the first time, faculty involved identified that their ideas had been drawn from previous teaching experience and that they would be returning to the current design with a view to improvement in the ensuing semesters. Furthermore, all case contributors acknowledged the input they had received over time from colleagues in their own disciplines or from colleagues outside their disciplinary domains. Educational designers were also acknowledged as having a valuable contribution to make in designing assessment for online, as were the graduates ( Case 3), the community of practice ( Case 6), the technical staff and students themselves ( Case 8).

Future developments of the online assessment designs showcased that were flagged by the case contributors include the need to address the issue of authenticating students’ identity when submitting online quizzes, building or requesting technical solutions to the quiz format (where mathematical symbols are involved), developing the art of constructing valid and reliable quiz questions, and the impact on one’s marking practices if marking discursive online submissions either on-screen or off-screen. This kind of concern, with continuous improvement via evaluation and quality enhancement expressed by case contributors, is the final of the ten key qualities of assessment for online ( Morgan & O’ Reilly, 2005).

Next steps

1. Hong Kong cases

In support of the professional development aspect of this project, a further four cases of effective online assessment are being developed by the two Hong Kong partners for inclusion in the website and it is expected that these cases will be completed by the end of August 2005. It is important for the Hong Kong partners to build upon the collection of the first eight cases, so that their target group for professional development are able to reflect upon the cross-national nature of discussions as support for their own online assessment design process.

2. Identify 3–4 novice online assessors

A small number of staff who are new to designing assessment for online learning will be invited to develop their own innovations with the support of the principle researchers who can collaborate on the basis of their role as educational designers. The small number of say, three or four staff, from the two Hong Kong institutions will be able to work by computer mediated communications after an initial face-to-face meeting with the Australian researchers in late August.

3. Professional development via discussion forum

Drawing upon the twelve case study exemplars and the emergent principles of online assessment design, four check-ins are planned to take place within the online Discussion Forum. This forum is being hosted in Hong Kong, and educational design staff involved in the project will facilitate discussions on design of assessment for online. Reference to all eight Australian cases plus the four Hong Kong cases which will be on the website by that time will help to inform discussions. The four check-in sessions will address:

i. Process and timeframes to be agreed.
ii. Blueprint of the online assessment design.
iii. Early draft.
iv. Final draft.
4. Review by initial case developers

On completion of the final draft of the online assessment design and prior to its implementation, the original case study contributors will be invited to review the details developed by novice staff in conjunction with educational design support.

The novice staff will provide feedback to the twelve case study providers including comments on what was useful and what may have been clearer in the case descriptor, as well as further ideas of development in regards to the pedagogical structure of the assessment tasks itself. Common practices and shared ideas for innovations in online assessment will be explored.

5. Implement January 2006

The newly developed and peer-reviewed assessment designs will be implemented in the next teaching session in Hong Kong beginning in January 2006.

Conclusion

This paper has outlined completion of the pilot phase for a larger research project, as well as detailing the next steps that are scheduled for completion. The initial pilot phase has resulted in the development of a website to showcase eight cases of online assessment within two Australian Universities. The eight cases cover a range of levels in undergraduate study across a number of disciplines. The design of assessment tasks have included quizzes, role play, teamwork, and discussions with experts. The following stages of the project will rely on the website and its further development to support discussions and design processes for staff new to designing assessment for online. Initially intended for a target group of Hong Kong academics, the expanded website is hoped to be of benefit to a wider audience. The professional development process to be completed is hoped to be of mutual benefit to all academic peers involved.

References


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