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Conducting assessment online:  
educational developers' perspectives

Peter Anthony Donnan  
University of Wollongong

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# **Conducting assessment online: Educational developers' perspectives**

A thesis submitted in fulfilment of the  
requirements for the award of the degree

**Doctor of Philosophy**

from

**University of Wollongong**

by

**Peter Anthony Donnan**

MDistEd(Deakin), MLitt(UNE), GradDipREd(Signadou), BA(Sydney), DipEd(Sydney)

**Faculty of Education**

**2007**

## **Certification**

### **Candidate's declaration**

I, Peter Donnan, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Education, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Peter Donnan

30 May 2007

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## Glossary

Acronyms & Abbreviations	Meaning
ACODE	Australasian Council on Open, Distance and E-learning
ATN	Australian Technology Network
AUTC	Australian University Teaching Committee
CAA	Computer Assisted Assessment
Carrick Institute	The Carrick Institute for Learning and Teaching in Higher Education
DEST	Department of Education, Science and Training (Australian Government)
EDs	Educational developers
Go8	Group of Eight Universities
ICED	The International Consortium for Educational Development
ICT	Information and Communication Technologies
IRU	Innovative Research Universities
NGU	New Generation Universities
SCROLLA	Scottish Centre for Research into On-Line Learning and Assessment

## **Publications related to this thesis**

Donnan, P. (2004). e-Learning Assessment: Instructional design pathways. Paper presented at International Conference on Computers in Education (ICCE). In E. McKay (Ed) *Acquiring and constructing knowledge through human-computer interactions: Creating new visions for the future of learning*. RMIT, Melbourne, Nov 30th - Dec 4th, 2004. CD-ROM. Altona, Victoria. Common Ground Publishing, Melbourne.

Donnan, P., Brickell, G. & Brown, C. (2006). Conceptualising assessment for online delivery: Educational developers' perspectives. In S. Frankland (Ed) *Enhancing teaching and learning through assessment: Approaches in practices. Assessment Series*, (pp. 110 – 119). Volume Three, Hong Kong: the Assessment Resource Centre, The Hong Kong Polytechnic University.

## Abstract

This study investigated educational developers' perspectives on the conduct of assessment in Australian universities when online components were introduced into courses or subjects. To advance the inquiry, four research questions were developed that focussed on: the characteristics of educational developers that influenced the assessment advice they provided to academics; significant influences upon educational developers' thinking about assessment; critical assessment issues they identified when online components were introduced; and how to represent their thinking about assessment when it was conducted partially or fully online. The method of research was located within a qualitative, interpretive paradigm based on multiple case studies associated with the six participants who were employed in different Australian universities. Data collection involved three interviews with each participant, conducted in three consecutive semesters between June 2004 and July 2005. Data were digitally recorded during each interview, transcribed and then electronically imported into the qualitative software program Nvivo. Techniques of qualitative analysis were used to identify, describe and interpret critical components in participants' thinking about forms of assessment they were encountering online. The main conclusions of the inquiry were that (1) although the characteristics of educational developers in the sample group were described, their relevance became more apparent within the larger university contexts in which they worked; (2) significant influences upon educational developers occurred at an individual, as well as an institutional level and these were represented in a model that encapsulated key components in respondents' perspectives; (3) critical issues identified by respondents revolved around the difficulties of establishing the identity of online students, how to assess online discussions appropriately, use of the term 'interactivity', the value of online quizzes, determining transparent criteria for assessing online group work, embedding generic attributes in online assessment, criterion-referenced assessment, assessing international students online and the impact of university assessment policy; and (4) educational developers' perspectives on assessment were represented in three models: assessment online in traditional campuses, assessment online with a supported model in traditional campuses and a strategic, off-campus/off-shore model for assessment conducted online.

The most significant finding from a theoretical perspective was in relation to the term *e-assessment* or *online assessment*. Despite widespread usage of the term in the literature on assessment, respondents did not recognise e-assessment as a separate category of assessment. Assessment that was conducted in an online environment was conceptualised by educational developers in the same way as assessment in face-to-face settings, or assessment conducted in

print, or any other mode. After the primary learning and assessment issues had been resolved, however, a secondary consideration was how to design assessment most efficiently for the online environment to optimise the enabling features of the technologies and the learning affordances they offered. It was only in this context that the term *e-assessment* was significant.



## Chapter One: Introduction

### 1.1 Preview

In this chapter the aim is to:

- establish the field of study around the intersection of assessment, conducting assessment online and educational development;
- describe the origin of the study and the central research problem;
- present an overview of the study's aim, research questions, significance, scope and limitations and terminology used; and
- explain how the thesis is organised and structured

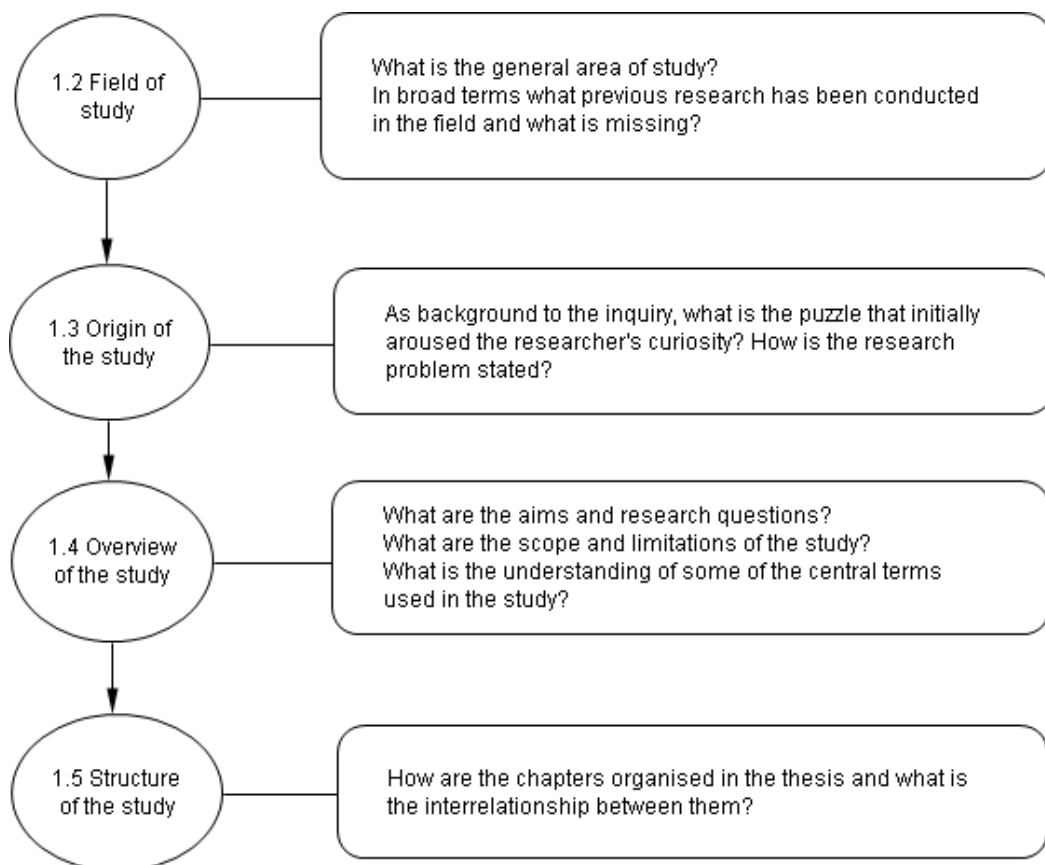


Figure 1.1. Preview of Chapter One

### 1.2 Field of study

Online teaching in higher education in Australia has been adopted increasingly to either complement or supplement learning in traditional on-campus, face-to-face classes. On a lesser scale there has been a burgeoning of fully online courses, either taught off-campus within

Australia or off-shore, generally in Asia. In earlier decades technology-mediated teaching was particularly associated with distance education in Australian universities (White, 1983) that sought to address the learning needs of off-campus students who were located beyond the institutional geographic student catchment area. With dramatic advances in modern telecommunications and the Internet in recent years, there has been a convergence of on-campus teaching and distance education (Bates, 2005; Cunningham, Tapsall, Ryan, Stedman, Bagdon & Flew, 1997).

A catalyst in the growth of online teaching, independently of any association with distance education, has been the widespread adoption of learning management systems within universities, and examples include Blackboard (2006b), WebCT (2006) and Moodle (2006). A national survey of learning management systems in Australian universities (ACODE, 2006) indicated that WebCT, institutional purpose-built systems or Blackboard were established in most Australian universities. Another study, commissioned by the Australian Government Department of Education, Science and Training (DEST) (Bell, Bush, Nicholson, O'Brien & Tran, 2002), confirmed these categories, as well as the prevalence of each system: WebCT (29 universities), in-house systems (20 universities) and Blackboard (17 universities). These learning management systems have become the popular carriers for the online component of multi-modal course delivery and are constantly evolving, with new versions being regularly released onto the market. The merger of Blackboard and WebCT (Blackboard, 2006a), announced during 2005, has implications for e-learning in many Australian universities and is likely to change the distribution of learning management systems that has evolved in the decade 1996 to 2006, particularly following Blackboard's (2006) announcement of its patent on some elements of its learning management system and its initiation of legal proceedings to protect this patent.

The field of this study is primarily online teaching and assessment occurring within university courses that have complementary or supplementary online components to support face-to-face teaching; in addition, but to a much lesser degree, it includes courses that are delivered fully online. The DEST study (Bell et al., 2002) identified only 207 fully online courses offered by twenty-three Australian universities, mainly at the postgraduate level.

In all courses formal assessment has always been a critical component, with obvious impacts on the principal stakeholders: students, teachers and employers. Assessment practices have been evolving within universities that incorporate online delivery but adoption of educational technology to mediate teaching has been recognised as a complex process (Gunawardena, 2001; Hall & Hord, 2001; Reeves, 1996). While this study focusses on assessment it does not

assume a special category of assessment entitled *online assessment* or *e-assessment*.

Assessment has been conducted in face-to-face settings, in print form, online and in many other modes but, regardless of the environment, the principles, purposes, forms and processes associated with assessment can generally be ascertained. There have been many forms of assessment but an important assumption in this study, well supported in the literature (Biggs, 2003; Brown, 1999a; Race, 2003; Ramsden, 2003) is the relationship between assessment and student learning.

In this inquiry, teaching staff in Australian universities are understood as academics who are responsible for the courses they convene but it is recognised that the extent to which they access available forms of support, including advice about technology-mediated teaching, varies considerably. The available forms of support and uptake of such support by teachers are described by Byrnes and Ellis (2006) in a survey of Australian academics conducted in 2004: Categories of support consisted of Information Technology Units, Teaching and Learning Units, Flexible Delivery Units, schools/faculties, product support associated with the learning management system distributor and other types of support not covered in these five categories; e.g., individual colleagues who provided advice on an informal basis. Byrnes and Ellis (2006) report that 78% of respondents were aware of a support group who could help them with putting materials online, 6% indicated that there was no support group, and 16% cent did not know and they concluded that:

*Statistical tests revealed that the only significant difference existed between the scores for the Flexible Delivery support group and the Teaching and Learning support group. As the mean score for the Flexible Learning support group is higher, it is concluded that respondents are more satisfied with the support provided by this group than with the Teaching and Learning support group. Given that the precise nature of the groups in the survey that were categorised under Flexible Delivery and Teaching and Learning is unclear, it is difficult to draw any definite conclusion from this result. (p. 118)*

It is the educational development support associated with the Teaching and Learning Units (mean score 3.42) and the Flexible Delivery Units (mean score 4.13) that is important in this study but as Byrnes and Ellis indicate, the precise nature of the groups is unclear. Within many Australian universities there are Teaching and Learning Higher Education (TLHE) units, often centrally located, that house academic staff developers, educational developers, learning technologists and instructional designers who are available to support teaching staff to implement a diverse range of assessment approaches.

This study focusses on educational developers in higher education within Australia although global issues blurred the boundaries on occasions. Staff in this category often work in Australian University Teaching and Learning Centres or in Technology or Flexible Learning

Centres. The archived website of the Australian Universities Teaching Committee (AUTC, 2005) contains a national listing of Teaching and Learning Centres in Australian universities and this is presented in Table 1.1 to illustrate some preliminary issues in scoping the field of educational development. It should also be noted that some institutions, such as Victoria University of Technology, the University of Tasmania and the University of South Australia are not listed because publication was based on institutional self-nomination. A predecessor to the Carrick Institute for Teaching and Learning (2005), the AUTC ceased operating in December 2004 but the last webpage update was Monday, 17 October 2005.

*Table 1.1. AUTC listing of Teaching and Learning Centres in 2005*

Table 1.1 indicates there is a considerable diversity of practice in the naming of Learning and Teaching units. Some institutions nominate two centres for their respective university: Macquarie University, for example, includes both the Centre for Professional Development and

the Centre for Flexible Learning; similarly, Murdoch University includes the Teaching and Learning Centre and the Multimedia Education Unit (MEU). Questions arise about the institutional nexus between academic staff development and educational technology units supporting staff in e-learning. What are the understandings of educational development underpinning the websites? More extensive examination of the institutional websites reveals that educational developers are listed as members of academic and general staff. While most are centrally located, there are instances such as Charles Sturt University (2006a) where educational developers are distributed within faculties/schools.

The role of educational developers has often included various degrees of staff development, instructional development, academic development or faculty development and while these terms carry different meanings, the International Consortium for Educational Development in Higher Education (ICED, 2005, p. 71) notes a common core in describing the work of developers in studying and enhancing the work of university academics. Despite a wide range of titles in these position descriptions, the convention adopted in this study is to use the term *educational developers*. The reasons for that will be explained in Chapter Two. Since educational developers work with a cross-section of teaching staff from a broad range of disciplines in universities, an assumption of this study is that they encapsulate a rich repository of perspectives on assessment that is conducted online.

### **1.2.1 Previous research**

Assessment is a high stakes core activity within universities (Bull, Conole, Davis & White, 2002). Indeed James, McInnis, and Devlin (2002) believe the values underlying approaches to assessment are so deeply embedded in academic culture that it is often extremely difficult to change practice without challenging fundamental and often competing assumptions about the nature of teaching and learning across the institution. For Ramsden (1992) assessment defines the actual curriculum for students and in his view this is where content resides for them. This is supported by Biggs (1999) who argues that what and how students learn depends to a major extent on how they think they will be assessed.

At the time of conducting this inquiry from 2001 to 2006, voluminous research on assessment was published in an extensive range of journals. Even in specific areas such as technology and assessment the literature was substantial. The UK Computer-Assisted Assessment group at Loughborough University (CAA, 2006) for instance, has made all of its annual conference publications since 1999 freely available online.

In the last decade the literature on online teaching and assessment has been expanding rapidly but it should be noted at the outset that this literature is often unrepresentative of the broad range of assessment and teaching at the grassroots in many universities. It tends to be dominated by early adopters within Information Technology and Education and in a review of over 100 papers on online learning Coomey and Stephenson (2001) observe:

*Samples often contained less than 15 learners and the quality of programs is unknown. In many cases there is little information on learner and teacher familiarity with the medium. A number of cases involved computer and multimedia students with a predisposition to using the medium effectively. (p. 38)*

Despite the volume of research, assessment is a problematic area in higher education. Reeves (2002) observes that assessment was a weak component in both traditional and digital education; Alexander, Kandlbinder, Howson, Lukito, Francois and Housego (2002) report that in an analysis of 3,200 written comments by students at the University of Technology (Sydney) 20% related to assessment and it remained a major area of complaint by students when asked about the quality of university teaching. Mason's (1998) view is that:

*Current assessment practices in higher education are long overdue for a rethink. ...[and] many online courses are leading the way in devising assignments and assessment procedures which reflect the call for higher education to teach IT literacy, team working ability and knowledge management skills. (p. 4)*

Many academic staff have never themselves been students in online environments (Orrell, 2001) and there is evidence (Reeves, 2002; Sims, Dobbs & Hand, 2002) that online assessment is often conceptualised simply in terms of automated marking of multiple choice tests and short answer questions.

One of the clearest findings to emerge from a national study of online education conducted by Postle, Sturman, Mangubhai, Cronk, Carmichael, McDonald et al., (2003) is the lack of any pedagogical framework for online education. Since assessment is such a critical issue in the learning and teaching process and there is increasing adoption of online elements in many courses, this is a significant field for investigation.

## **1.3 Origin of the study**

### **1.3.1 The researcher's background**

As an educational developer with a background in open, distance and flexible learning, the researcher was interested in the qualities and characteristics of staff in Australian universities who advised lecturers about conducting assessment online. Was it different across Australian universities or were there some common patterns? Were there certain strategies, models, institutional agendas, or other significant factors that underpinned the way staff development

was conceptualised and implemented in this field? What was the underpinning thinking that influenced educational developers' advice? Were there distinctive intellectual traditions which informed their advice about assessment to teaching staff? Was the quality of their advice generic or was it highly contextualized and embedded within particular intellectual traditions or organizational cultures? Was it highly individual, varying with each educational developer? Were traditional assessment practices simply being transferred to the online environment? Was the distinctive potential of the Internet being optimised in terms of assessment advice? Was there an acceptance that high quality conceptual change learning, including critical thinking and problem solving skills, both at an individual and group level, could be assessed in Web-based environments? To what extent was educational developers' thinking influenced by strategic thinking, leadership and culture within the institutional settings in which they worked? Were educational developers' perspectives influenced by how their roles were formally described and conceptualised within their organisational unit?

Clearly there is a multiplicity of directions in investigating this cluster of questions so the challenge was to design a study that was focussed, structured and able to collect data that would provide a valid basis for clarifying the issues.

### **1.3.2 Statement of the research problem**

The study focusses on the significant roles of educational developers in providing advice to teaching staff within universities about assessment and specifically, assessment conducted online.

Dramatic advances in the adoption of teaching online in recent years, the growth of flexible delivery and convergence of on-campus teaching and distance education are developments that make the design of appropriate assessment a significant issue in technology-mediated teaching.

Despite the growth of online teaching, it is quite clear that many teaching staff have never been students in e-learning environments. Formal assessment is a component of all university courses and general assessment theory is well established but in the conduct of assessment online serious questions are being asked about how it is conceptualised and the pedagogical frameworks that support it.

Educational developers provide advice to a broad cross-section of academic staff about the conduct of assessment online in many universities and for this reason they embody a rich repository of thinking and constitute a small but influential group within a university that can help to illuminate the design of appropriate assessment in this rapidly growing area.



The research problem which this study investigates is: what are the critical elements in the perspectives of educational developers about assessment when it is conducted partially or fully online?

## **1.4 Overview of the study**

### **1.4.1 Research questions**

The purpose of this inquiry is to explore educational developers' perspectives about the conduct of assessment online.

To assist in the investigation, it is essential to recognise that there is a wide diversity in how educational development is conceptualised and practised within universities. Some educational developers are commonly involved in the design of assessment for flexible delivery; others may also contribute to the development of assessment policy at a faculty/institutional level, and it is quite common for educational developers to present workshops or teach subjects on assessment within training programs, induction sessions, foundation units or within accredited courses. Educational developers may be members of academic or general staff and they are employed under a variety of position titles such as academic staff developers, learning technologists and instructional designers. The institutional contexts in which they work, as well as the roles and activities they undertake in their organisational units, will influence their perspectives about assessment online.

Each of the following sub-questions has been developed to recognise the importance of educational developers' personal and institutional contexts; each question is nested within the fundamental research question and is integral to the design of the study.

Q1) What characteristics of educational developers influence the assessment advice they provide to academics?

Q2) What are significant influences upon the thinking of educational developers about assessment when it is conducted partially or fully online?

Q3) What are the critical assessment issues identified by educational developers when online components are introduced?

Q4) How can educational developers' perspectives about assessment conducted online be represented?

### 1.4.2 Significance and scope of study

How teaching staff in Australian universities are advised about the incorporation of online elements to support assessment in their subjects remains a significant issue. Successful dissemination of the findings of this study should:

- contribute to the development of theory and the literature on educational development in the field of conducting assessment online;
- identify effective online assessment strategies that are associated with good practice by educational developers;
- support the development of a framework for representing how educational developers structure their thinking in the field of conducting assessment online; and
- provide recommendations based on findings of educational developers' perspectives about conducting assessment online that have implications for policy and practice in the field.

Participants in this study were six educational developers who worked collaboratively with lecturers in Australian universities that were adopting online elements in some or all of their teaching. Each participant in one way or another was involved with supporting the integration of Information and Communication Technology (ICT) into learning and teaching.

The scope of this study extends beyond the Australian context because online teaching is a global phenomenon and educational development originated in the United Kingdom.

In terms of assessment conducted online, the focus of the inquiry is on educational development and teaching perspectives rather than the student perspective. To investigate the learners' perspective requires a different type of study, necessitating such elements as student participants and other types of data.

The decision to adopt a qualitative, interpretive paradigm based on a series of multiple case studies involving the six participants precludes the generalisation of any results. The diverse contexts and organisational cultures of Australian universities, however, supports such a research approach. Ongoing research invites a combination of quantitative and qualitative studies, ideally within a longitudinal framework.

### 1.4.3 Terminology

Table 1.2 lists some important concepts that reoccur throughout the study and presents an explanation of the meanings of these terms as they are generally understood in this inquiry.

Table 1.2. **Terminology used in the study**

Term	Meaning
Affordances	refers to the enabling features and design capabilities inherent in educational technology.
Assessment online	refers to forms of assessment conducted partially or fully online.
Blackboard/WebCT	are differentiated as separate learning management systems, despite the completion of a company merger in 2006, because at the time of the data collection participants recognised Blackboard and WebCT as separate products.
Blended learning	introduces educational technologies and e-learning elements into traditional on-campus teaching. The term <i>hybrid learning</i> is occasionally used in this study as a synonym for blended learning.
e-assessment	the most commonly used terms are 'assessment conducted online' or 'assessment online'.
Educational developers	covers position titles associated with instructional development, staff development, academic development or faculty development and describes the work of developers in studying and enhancing the work of university academics (ICED, 2005).
Formal assessment	is the process of determining final grades based on marking of the assignments or stated learning activities in the Syllabus or Subject Outline.
Flexible delivery	refers to how universities implement principles of flexible learning and provide students with choice in access to elements of study such as resources, technologies and communication.
Flexible learning	"is enabling learners to learn when they want (frequency, timing, duration), how they want (modes of learning), and what they want (that is learners can define what constitutes learning to them)" (Van den Brande, 1998, p. 3).
Fully online subjects	replace or reconstitute all elements of on-campus teaching in an online environment.
Instructional design	refers to the process of designing learning environments based on theoretical approaches (e.g., cognitive, behavioural, constructivist) and framed or constrained by the formal course structure and mode of delivery.

Online learning	refers to learning that is mediated by a computer network linked to the Internet or an intranet.
Partial online subjects	are primarily taught face-to-face but incorporate some online components which complement, supplement or replace elements of on-campus teaching.
Reliable assessment	refers to the consistency of marking and grading assessment items.
Valid assessment	assesses the learning outcomes that are intended to be assessed.

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## **1.5 Structure of the study**

This chapter has introduced the field of study around the intersection of assessment, the conduct of assessment online and educational development. It has summarised a statement of the research problem at the core of the study, the research framework and the four questions integral to the inquiry.

Chapter Two reviews relevant research reported in the field: this includes educational development studies, general assessment literature and studies relating to the conduct of assessment online. In seeking to identify gaps in previous and current research in the field of study, contemporary research conducted in Australian universities is highlighted. After critically reviewing previous research, a framework of forms of assessment conducted online was derived from the literature and this was used in the research design and in the interviews that were conducted with participants.

Chapter Three details the decisions underpinning the determination of the research design that was most appropriate to address the aims and questions of the study. There was a consideration of quantitative research methods, diffusion theory, communities of practice, action research, ethnography and grounded theory before a decision was made to adopt a multiple case study approach. The purposeful selection of the sample group of six educational developers in different universities is explained; and there is an overview of the details of where, when and in what form the data were collected. Processes to ensure the trustworthiness of the data, including four opportunities for participants to respond to transcripts, are described. The design and conduct of the eighteen digitally recorded interviews and their subsequent transcription and importation into the software program Nvivo are part of the analysis and interpretation stages. Other processes to support the integrity of the findings, including careful observance of ethical guidelines, are also described.

Chapter Four presents a detailed exploration of the six case studies that inform this inquiry. Interview data are analysed to highlight emergent themes aligned with the four research

questions relating to characteristics, influences, assessment issues and the representation of educational developers' thinking about assessment conducted online. While the discussion of each case study is confined to its own context in this chapter, there is a cross-case analysis of the six case studies conducted in Chapter Five and the analysis is also related to the previous research findings and the literature review presented in Chapter Two. Three frameworks are developed based on educational developers' perspectives that have the potential to considerably assist assessment practices conducted online. Findings about the four research questions are summarised.

In Chapter Six the theoretical implications of the study are discussed and major recommendations for university leaders and managers, educational developers and teaching staff are proposed. Some gaps in the findings are identified and recommendations to address these in future research are suggested.

## Chapter Two: Review of the Literature

### 2.1 Preview

This chapter reviews relevant research and literature around the intersection of assessment, assessment that may be conducted online and educational developers' perspectives about assessment. The intention in this chapter is to:

- differentiate the categories of assessment literature that are relevant to this study;
- review research associated with the conduct of assessment online;
- identify forms of assessment in the literature that may be conducted online; and
- outline gaps in previous research in the field of study.

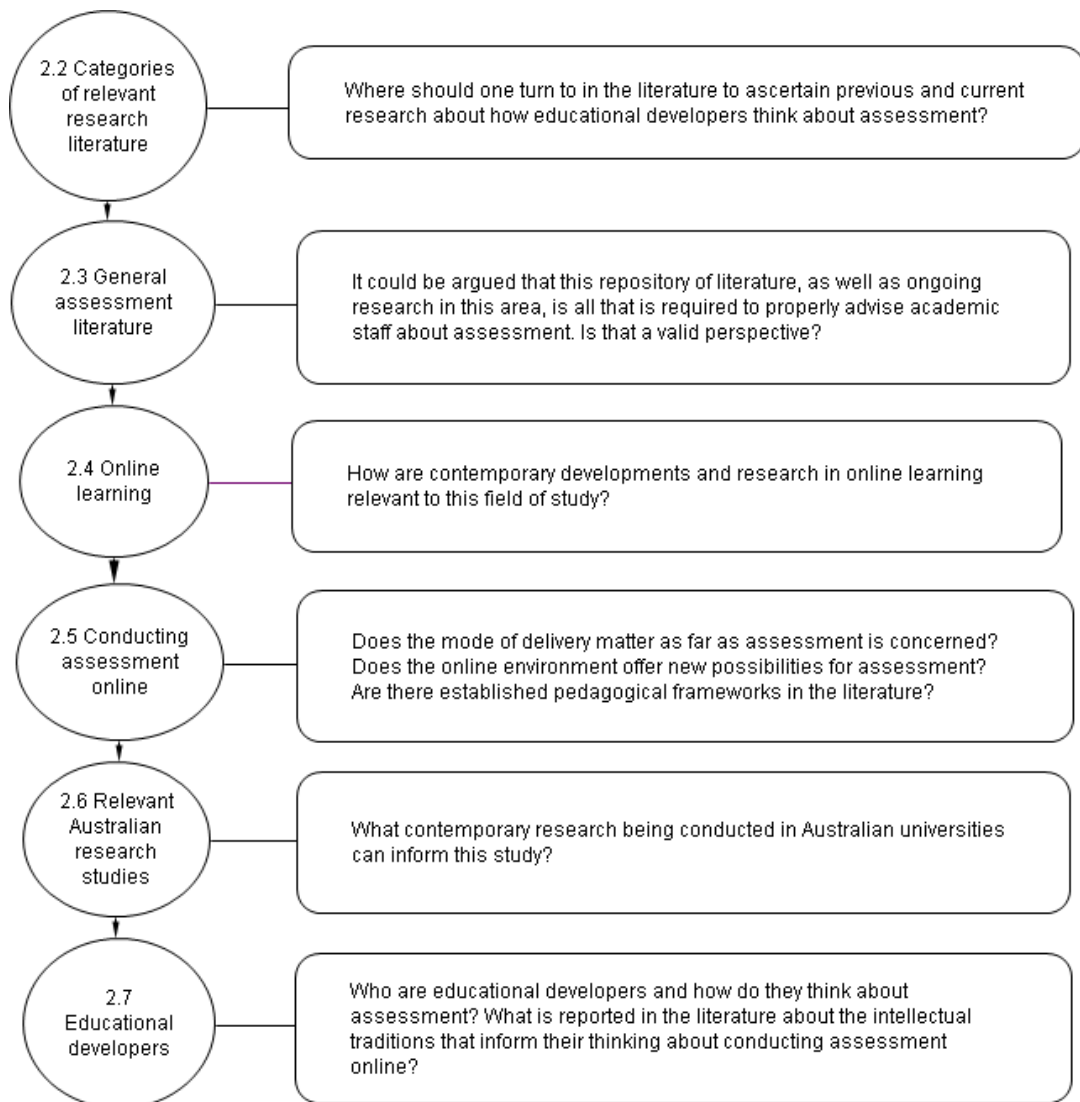


Figure 2.1. Preview of Chapter Two

## 2.2 Categories of relevant research literature

This study seeks to advance upon existing research findings around the intersection of assessment, online assessment and educational development and so the broad scope of the literature in this field is relevant.

Formal assessment is a critical area of higher education, for both staff and students, and it is an integral component of most university courses, so it is to be expected that the literature in this area is extensive. An initial problem was how to make sense of the quantum of research that has been conducted in the area, to determine which areas of literature are most relevant to this study. At the outset, it was clearly worthwhile identifying the general categories of assessment literature critical for the purposes of this study. Table 2.1 presents a spectrum of the literature categories related to assessment, educational development and conducting assessment online. In the Examples/Comments section representative examples rather than a comprehensive listing are provided.

**Table 2.1. Overview of the literature on assessment relevant to this study**

Category	Examples/Comments
Influential theorists (Assessment)	Biggs, J.(2003); Ramsden, P. (2003); Boud, D. (1995)  This is a selection of writers who have had a significant impact on thinking about assessment in higher education in Australia.
Established journals on assessment	<i>Assessment and Evaluation in Higher Education</i> <i>Assessment in Education</i>  These are two examples of established refereed journals that contain a long tradition of scholarship and research in the area of assessment. Increasingly, new issues are beginning to address assessment in online environments.
Established journals on educational development	<i>The International Journal for Academic Development (IJAD)</i> <i>Higher Education Research and Development (HERD)</i>  These established refereed journals focus on educational development, as well as issues of learning, teaching and assessment.
Established journals on educational technology, e-learning	<i>British Journal of Educational Technology</i> <i>Educational Technology Research and Development</i> <i>Australian Journal of Educational Technology</i>

## Educause Review

### *ALT-J, Research in Learning Technology*

A substantial number and range of papers in these journals are related to the integration of ICT into learning, teaching and assessment. This is a rich category of the assessment literature relevant to this study.

Ten years of  
conference  
proceedings on  
computer aided  
assessment

On the CAA Loughborough University website (CAA, 2006) there are ten years of conference proceedings available either in print or online form, from 1997 to 2006.

This field of literature and research is generally confined to automated marking of assessment items.

Emerging online  
journals

*Electronic Journal of e-Learning*

*The Journal of Technology, Learning and Assessment*

*Journal of Learning Design (2005)*

*Journal of University Learning and Teaching Practice (2006)*

These are examples of newer, peer-reviewed online journals, only in their second or third issue in 2006.

Research sites on e-  
assessment

SCROLLA – Scottish Centre for Research into On-Line Learning and Assessment.

This is an example of a centre that focusses more specifically on researching assessment in online communities and has an active community of practice associated with it.

Websites on  
assessment

*Assessing learning in Australian Universities*, an AUTC project hosted at the University of Melbourne (James et al., 2002).

*Assessment Resource Centre (2005)*, an emerging website that is an inter-institutional collaborative project involving the Hong Kong Polytechnic University and the University of Hong Kong.

Conference  
publications on  
assessment/  
assessment online

The Higher Education Research and Development Society of Australasia (HERDSA), the Open and Distance Learning Association of Australia (ODLAA), and the Australasian Society for Computers in Learning in Tertiary Education (ASCILITE).

The conferences of these professional associations result in an enormous volume of papers that have relevance to learning,



teaching, assessment and educational development.

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Checking of particular publications in Table 2.1 reveals an emerging stream of research associated with institutions, government funded projects or professional associations. Although the scope of this project was principally focussed upon Australian practice, the hyperlinks of references in the table indicated how difficult it is to maintain discrete geographical areas of research. Membership lists of the editorial boards of some of the journals, as well as their tables of contents, indicate that a significant number of Australian authors are involved in research, publication and conference presentations at an international level. *The International Journal for Academic Development* (IJAD, 2006) is a clear example at the time of writing. Hard boundaries between scholarly publications are difficult to establish and the cross-cultural influences are intricately intertwined, even more so in an online environment.

## **2.3 General assessment literature**

The theoretical foundations for the thinking of many learning and teaching specialists working in higher education are drawn from general assessment literature. This literature makes little reference to conducting assessment online or to using technology to enhance assessment practice because its domain is first principles and generic assessment, values applicable in any context.

The first two categories of the literature in Table 2.1, influential theorists and established journals, contain the most substantial conceptual thinking about assessment. This area of general assessment deals with the principles, purposes, methods, processes and pedagogical concepts that underpin all assessment practices. Research findings in this area of general assessment relate assessment to quality learning and teaching and also provide a broad perspective to consider.

Table 2.2 summarises general categories and forms of assessment from a significant Australian assessment study conducted by Nightingale, Te Wiata, Toohey, Ryan, Hughes and Magin (1996). At the time of the development of this assessment framework case studies were invited from all Australian universities and although online research was included as a form of assessment the burgeoning of online learning, associated with the introduction of learning management systems, was just commencing. It could still be argued, however, that the categories in this table remain valid and that subsequent developments in various forms of online assessment could be incorporated in this framework because its categories are generic and comprehensive. Its structure is consistent with the thinking of influential theorists such as Biggs (2003), Ramsden (2003) and Boud (1995) listed in Table 2.1.

*Table 2.2. Assessment framework from an Australian study*

Over a considerable period John Biggs has influenced thinking about assessment in higher education and in collaboration with others (Biggs, 1999; Biggs & Telfer, 1987; Gibbs, Morgan & Taylor, 1982) has developed concepts that:

- relate assessment to learning rather than only to the determination of grades;
- align assessment with learning outcomes, and teaching and learning activities in the subject;
- relate deep and surface learning with approaches to assessment;

- highlight the value of criterion-referenced assessment in contrast to norm-based assessment; and
- promote forms of assessment that include holistic assessment and self-assessment.

The notion of aligned assessment or constructive alignment has been of enormous international significance in higher education assessment practice. Biggs' (1999) background discipline orientation in cognitive psychology informs the way he differentiates concepts such as norm-based and criterion-referenced assessment in the following terms:

*The measurement model is designed to assess the stable characteristics of individuals, for the purpose of comparing them with each other or with general population norms. (p. 144)*

*The standard model is designed to assess the changes in performance as a result of learning, for the purpose of seeing what, and how well, something has been learned. (p. 144)*

*CRA is stunningly obvious: say what you want students to do, teach them to do it and see if in fact they can do it; if they cannot, try again until they can. (p. 147)*

The SOLO taxonomy (Structure of the Observed Learning Outcome) developed by Biggs and Collis (1982) outlines a hierarchy of cognitive complexity, ranging from elementary to reflection and hypothesis. The category transitions in the SOLO spectrum are:

- prestructural: - Student missed the point;
- unistructural: Identify – Student completed simple procedures;
- multistructural: Enumerate – Student described, listed, combined, did algorithms;
- relational: Compare/contrast - Student explained causes, analyzed, related, applied; and
- extended abstract: Theorize - Student generalized, hypothesized, reflected.

Describing the nature of the learning at five different phases in the SOLO taxonomy, Biggs (2003) notes the prestructural phase is quite sophisticated but shows little evidence of relevant learning; unistructural learning meets only one aspect of the task, dealing with terminology and focussing on the task but little more; and at the multistructural phase facts are comprehended but not structurally understood. At the relational phase, however, a qualitative change in learning occurs where approaches and teaching are integrated by the concept of a system; and finally, at the extended abstract phase learning goes beyond the coherent whole and is applied to new and broader domains.

Underpinning the SOLO model is a focus on the types and quality of student learning and how this relates to assessment. Deeper learning is linked with careful design of teaching/learning activities and aligned objectives, methods and assessment. The concept of aligned assessment

or constructive alignment (CA) is, in Biggs' (2002, p. 1) words, "an approach to curriculum design that optimizes the conditions for quality learning".

A search for the term "Aligned assessment Biggs" produced 1,470 citations on Google scholar (27 May, 2006); a similar search for "SOLO taxonomy Biggs" resulted in 655 citations. These searches indicate how the concepts are widely cited in the literature and how they are likely to have significance in higher education learning, teaching and assessment contexts.

Phenomenological research in the area of student learning has had a long tradition and a review by Gibbs et al. (1982) of the research of Ference Marton and the Goteborg Group indicates the themes that are of continuing interest: what students learn; how they approach studying; the relationship between their approach to study and learning outcomes; how they understand learning; and whether one can manipulate their approaches to studying in order to influence the learning outcomes.

Research on student approaches to learning (Entwistle, 2000; Laurillard, 2002; Marton & Saljo, 1976; Ramsden, 1992), particularly the distinction between deep and surface approaches to learning, is well established in the literature. In discussing students' preferred approaches to their studies, and whether they adopted a deep approach, with the focus on meaning and understanding, or a surface approach, with the focus on recall and reproduction, Scouller (1998, p. 454) notes the importance of assessment in influencing students' approaches to their learning, stating that "assessment has been found to shape how much, how (their approach), and what (the content) students learn".

Research on student learning has also been paralleled by more recent research about conceptions of teaching (Brew, 2003b; Prosser & Trigwell, 1999; Samuelowicz, 1999; Trigwell, Prosser & Waterhouse, 1999). A major theme in the literature has been the integration of assessment with learning and teaching. As Trigwell, Prosser and Waterhouse (1999) have observed there were relations between teachers' approaches to teaching and students' approaches to learning. In commenting on some of their work Brew (2003b) observes that they:

*...have demonstrated that higher education teachers hold qualitatively different conceptions of teaching and learning and that the different ways in which they approach their teaching are related to differences in these conceptions. For example, those teachers who conceptualise their teaching as being about transferring information from the syllabus to students are associated with an approach to teaching based on an idea of the teacher as the focal point. This is labelled an 'information transmission/teacher focused' approach to teaching. On the other hand, an approach to teaching which focused on endeavouring to change the students' conceptions of the phenomena of their study is associated with an emphasis on the student as central. This has been called a 'conceptual change/student focused' approach. (p. 10)*

What emerges in the literature is a perspective that teachers' conceptions of learning clearly impact on their curriculum and assessment practices. After examining international courses Brown (1999b) concludes that the ways in which students were assessed was limited and teachers needed to think about assessment in terms of constructive alignment, rather than as an optional extra or as an afterthought to curriculum design. McAlpine and Higgison (2000) add the corollary that if other elements in the course pointed in one direction, and assessment in another, then assessment was likely to have the greatest influence. Bertram (2003) too connects curriculum design, students' approaches to learning, and assessment, noting that surface learners often have an external emphasis. If their focus is simply on the demands of assessment, knowledge becomes detached from everyday reality. Samuelowicz (1999, p. 1) states that academics thought about their teaching in two major ways: "they either orchestrate situations in which students are encouraged to learn (learning-centered orientations) or they transmit knowledge/information to students (teaching-centered orientations)". In a later study Samuelowicz and Bain (2001, p. 322) conclude that "the differences between teaching-centered and learning -centred orientations are substantial". Samuelowicz and Bain (2001, p. 300) also observe that teachers do not fall into simple dichotomies of learner-centered and teacher-centered; there is in their view a continuum between the two belief systems and although researchers disagreed about the categories and their boundaries, there were many points of calibration between the descriptive categories used in the literature. The significance of this strand of research is that in higher education academics with these contrasting beliefs about teaching are likely to adopt different approaches to assessment.

In terms of how conceptions of learning and teaching impacted on assessment, Samuelowicz (1999, p. 2) observes in her doctoral study that "there is a rather modest literature on how assessment is conceptualised and practised". In another Australian study Northcote (2003, p. 3) suggests that "the choice and quality of assessment tasks not only reflects the educator's pedagogy and epistemological beliefs, but also influences the construction of the students' epistemology in general and their specialised knowledge base". Entwistle (2000) finds that content-oriented staff were more likely to associate assessment with the factual demonstration of knowledge, and they allocated responsibility for learning entirely with students, whereas the learner-centered group designed more varied methods of assessment and accepted as part of their role the responsibility to develop deeper levels of understanding.

Given the quantum of research literature on assessment, the need to focus the scope of the literature review sharply becomes more evident. What has been addressed to this point are findings that are relevant to the way academic staff think about and design assessment. These findings are obviously of special interest to educational developers because of the ways in

which they work with academic staff and the consequences of these findings for student learning. It could be argued, however, that the following list of assessment topics from the Assessment Resource Centre (2005), a collaborative project involving the Hong Kong Polytechnic University and the University of Hong Kong, covers areas of assessment of similar significance.

*Table 2.3. Assessment-related areas of research*

<b>Assessment categories</b>
Summative assessment
Formative assessment
Assessment methods
Use of IT for assessment
Peer- and self-assessment
Outcome-based assessment
Multiple forms of assessment
Assessment for project work
Assessment in workplace
Assessment to enhance life-long learning
Curriculum planning
Quality assurance
Criterion-referenced assessment
Norm-referenced assessment
Grading and marking

Table 2.3 lists categories of research around assessment, the use of IT for assessment and multiple forms of assessment. In the area of formative assessment, feedback has been a critical component but Nesbit and Burton (2002) argue that there was surprisingly little research on how students processed feedback. In the area of criterion-referenced and norm-referenced assessment an Oxford Brookes team (O'Donovan, Price & Rust, 2002b; Rust, Price & O'Donovan, 2003) have been conducting ongoing studies with students, staff and tutors and their research experience is that, without active involvement through discussion and debate with all participants, the development of a common view of assessment standards and levels had almost been impossible. In the final line of Table 2.3 the research associated with Grading

and marking was hyperlinked to issues of validity and reliability of assessment, areas of considerable interest to teachers, students and educational developers.

This section has introduced research in the area of general assessment and highlighted a number of relevant studies. The conceptual terminology about assessment in this section is part of established discourse about assessment and a search on the Higher Education Academy site (25 May 2006) under the term “assessment and educational development” for instance, resulted in 2850 hits.

## **2.4 Online Learning**

In this section conducting assessment online will be shown to be commonly associated in the literature with online learning, flexible learning, flexible delivery, blended learning or hybrid learning, terms that were introduced in Table 1.2: Terminology used in this study. If learning and assessment are conducted in an online environment, the question arises as to how significant is the impact of this mode of delivery on thinking about assessment. Does it fundamentally change thinking about assessment?

The proliferation of online courses in recent years was noted in Chapter One. In a survey of Australian universities, Bell et al. (2002) report that 50,704 of their units (54 per cent) had content available on the Web. In an international sense, Massachusetts Institute of Technology’s (MIT) decision (Ryan & Stedman, 2002) to develop Open CourseWare, a course development and content project to place 2000 subject resources and curricula on the web at an estimated US\$100 million over 10 years, signalled a new era of online learning, especially when this initiative was generally designed to complement or supplement traditional on-campus teaching.

Reeves’ (2003a, p. 7) view is that there has been insufficient research about the demands of online teaching on academic staff and there has also been a lack of knowledge about how to best align educational objectives, content, subject matter expertise, instructional methods, technological affordances, and assessment strategies for distance and flexible learning. Networked courses differ from traditional, print-based, distance education courses (McDonald, Weller & Mason, 2002) but the use of ICT in these courses offers new possibilities for assessment.

Research in the area of online learning and assessment had to be conducted with an awareness of limitations in the studies in the literature. After an extensive review of published studies in online learning, Coomey and Stephenson (2001) observe that most courses often contain less than fifteen learners; the quality of courses is not generally known; there is little information on



learner and teacher familiarity with the online medium; and many courses involve computer and multimedia students who possess a predisposition to working online. Alsop and Tompsett (2001, p. 112) note that most online course development occurs without having first in place a research model to evaluate changes in student learning. This is supported by a critical finding in a report (Postle et al., 2003) to the Australian Government's Department of Education, Science and Training, that "there does not exist at this time a shared pedagogical framework for online education".

In the general literature on online learning, a considerable range of studies has been conducted but the theoretical frameworks underpinning these studies, as well as the rigour, quality and type of data that support the findings, need to be approached with critical caution.

## **2.5 Conducting assessment online**

In the following section a range of assessment forms has been identified in the literature and summarised in a framework that is subsequently used as an intervention in this study. In the previous section it was noted that there is very little systematic theory for thinking about online learning, and by implication assessment conducted online. Given the increasing research activity in this area and the expanding corpus of literature now available, the aim is to derive from the research studies the various forms of assessment that are reportedly being conducted online and to develop a framework that can be used in the data collection phase of this study.

### **2.5.1 Introduction**

Although James et al. (2002, p. 4) note that extensive experimentation was occurring in Australian universities around effective and efficient on-line assessment Mason (2001) detects:

*...confusion over the term online assessment. At one end of the spectrum, there is web-based assessment, which usually describes various types of multiple choice questions delivered on the Web and marked electronically. These types of questions have become very sophisticated and the presentations can draw on the full graphical and multimedia potential of the Web.... At the other end of the spectrum are individual learning contracts, negotiated online with the tutor. These are generally regarded as hard work by students, but immensely rewarding. They are also very time consuming for tutors to manage and mark. In the middle are various forms of collaborative assignments which build on both the communicative and the resource-based potential of the Web. (p. 30)*

The term *online assessment* is common in the literature (Baillie-de Byl, 2004; Barrett, 2003; Graff, 2003; Northcote, 2003; O'Reilly, 2001; Pain & Le Heron, 2003; Peat, 2000) but there is no consensus about its meaning. After reviewing the literature on e-learning, Mason (2001) concludes that there is a lack of understanding and practice in how to design relevant, appropriate assessment in e-learning. The term *e-assessment* is also increasingly used in the

literature as indicated in Ridgway, McCusker and Pead's review of the literature on e-assessment (2004).

To advance the inquiry, the value of identifying particular categories of understandings in the literature about assessment when it is conducted online is recognized. This approach involves a transition in moving from general assessment to locating the study more precisely within a stream of research around the nexus between assessment that is conducted online and educational development. If a full typology of forms of assessment conducted online is derived from the literature, then this presumably will be accepted, rejected or amended by educational developers.

The nexus of the Internet and educational technology in the conduct of assessment is also associated in the literature with some new understandings. In particular the term *affordances*, originally used in environmental psychology, is being used to discuss the potential of the technology in e-learning and to highlight the educational uses it invites and facilitates (Conole & Dyke, 2004). Dabbagh and Bannan-Ritland (2005) recognise the undoubted potential of online learning for socially mediated and more globally focussed learning. The concept of affordances offers a significant perspective for thinking about assessment conducted online. Sustained discussion (Boyle & Cook, 2004; Conole & Dyke, 2004a, 2004b) about affordances in a series of issues in the journal, *ALT-J, Research in Learning Technology* highlights understandings of affordances amongst researchers.

An affordances perspective, for example, helps learning and teaching specialists to think more clearly about the advantages of using the Internet and educational technology to either conduct or mediate assessment. Many researchers (Arvan, Ory, Bullock, Burnaska & Hanson, 1998; Bull & Dalziel, 2003; Zhang, Khan, Gibbons & Ni, 2002) typically highlight the fact that online assessment reached a large population; it was time, place and platform dependent, with simple up-date procedures; and it offered enhanced opportunities to collect and analyse feedback, as well as randomising quizzes for large classes with multiple groups. They also add that web-based assessment tools supported different media such as plain text, rich text format, still image, video and audio; that affordances of the technology allowed the representation of assessment items with increased objectivity and rapid feedback on learning; that there were flexible opportunities for students to practise skills for assessment tasks; and that there were decreasing marking and administrative workloads for teaching staff. Orrell (2001, p. 274) also comments on the easy links to real data, the availability of expert help, archival options of all interactions in online discussions, more time for preparation of assignments with online submissions and the human-human interaction, as well as human-computer interaction in

relation to online assessment. The concept of affordances is accepted as providing a valuable perspective for thinking about assessment mediated or conducted online.

### **2.5.2 Assessment submitted online**

With assignment submission options of email attachments, upload to websites and assignment drop boxes within learning management systems, some teaching staff allow students to submit assignments electronically. Yip (2004) describes how study assignment folders were created for the download of assessment questions with subsequent submission through the Web. The published survey results with a mean score of 4.3 show that students regarded favourably the delivery and submission of assignments through the Internet as very efficient and very effective. Zuluaga, Morris & Fernandez (2002) report in a larger study how all assignments were submitted online with routine use of anti-plagiarism software and inferred that their model was based on sound pedagogy. Exploring three generations of online assignment management, Jones and Jamieson (1997) conclude that online submission and delivery could reduce assignment turn-around, marking time and human error, as well as provide opportunities for implementing new approaches to assessment. However, it required organisational and administrative changes, especially if a central, long-term store of all student assignments was to be maintained.

The provision of model answers and more rapid feedback were also possible within this delivery mode via the Internet. Students in particular emerged as the beneficiaries in this online process but what also became apparent in these studies was that the affordances offered by the Internet were essentially related to workload convenience, time savings, ease of submission and possible cost-reductions; that is, the advantages were not specifically learning and teaching driven. Growth in plagiarism practice associated with the Internet, possibly as high as 14 percent of Australian university students, according to a study conducted across six Victorian universities in 2002 (O'Connor, 2003), led some universities to adopt plagiarism detection software, requiring students to submit assignments electronically.

### **2.5.3 Automated online assessment**

SCROLLA (2006) defines online assessment on its website as “an entirely automated process of delivering and marking assessments using web or intranet resources”. There is definitely a commonly accepted logic in this SCROLLA definition that focussed on the affordances of the technology to reduce time and workload inputs in the automation and design processes. In Table 2.1 there is a reference to ten years of conference proceedings on using computers for

assessment. Computer-assisted assessment is a well established and extensive field of research often led by academics whose discipline expertise is in Information Technology.

An increase in the adoption of online automated assessment using the web or a local intranet is commonly linked to learning management systems such as WebCT (2006) or Blackboard (2006b) or independently, through separate systems such as Questionmark (2005) or Respondus (2005). Another example of these many independent systems is the Hot Potatoes site (2005) where the homepage description refers to a suite of “six applications, enabling you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web”. Computer-assisted online assessment is frequently associated with the in-built assessment features of commercial learning management systems widely used in Australian universities as surveyed by ACODE (2004, February).

Automated computer assessment is often reported on at conferences and in conference proceedings sponsored by commercial learning management system providers such as Blackboard and WebCT. A search on Google Scholar (2005) produced 1,620 references for the term *WebCT quizzes*. WebCT organised international conferences on online learning and WebCT Asia/Pacific conferences were held in Australia annually from 2001. Generally the papers explored innovations in the use of the corporate system’s assessment template features that included multiple choice, short answer, short paragraph, true/false, matching and calculation questions.

The papers were not generally research-based or highly conceptualised but fell into a case studies tradition based on critical reflection on teaching in a particular course, often supported by some student feedback responses. Brothen and Wambach (2003) illustrate the general style in their observation that “for each chapter, our general psychology students must progress from a fill-in-the-blank exercise to a multiple-choice practice exercise, mastering both at the 70% level before moving on to the multiple-choice chapter quiz”.

Gemmiti (2003) notes that there was an increasing use of automated online assessment in higher education because of increasing student-staff ratios, coupled with advances in the technology that helped to extend assessment methods. There is evidence (Ricketts & Wilks, 2002) that students liked quizzes, the associated deadlines and the idea of being able to retake them. Harvey and Moge (1999, p. 8.) list some of the technology affordances of automated online assessment that may also explain increasing uptake of this form of assessment conducted online:

- a number of computer options were not always supported by paper-based methods;

- large numbers of assessments could be marked quickly and accurately;
- students' responses to questions could be monitored;
- assessment could be provided within an open-access system;
- assessments could be stored and reused;
- immediate feedback on performance and advice could be provided; and
- assessment items could be randomly selected to provide a different paper for each student.

Publishers commonly develop commercial assessment cartridges that are designed to be plugged into learning management system websites. A search for the term online practice tests on the Thomson Learning (Thompson Learning HE Australia - New Zealand, 2006, 27 May) website produced fifty-one documents. Many academic staff prefer to develop their own automated assessment activities rather than use commercially developed packages and these are reported upon in the CAA conference literature. Academics with programming expertise and a disciplinary background in Information Technology often develop their own automated assessment, independently of any learning management systems, and this is transferred to online environments. This is a clearly defined category of assessment in the literature and it is being increasingly adopted, probably for the reasons that Harvey and Moge suggest above. More broadly, Gibbs (2006) identifies a contemporary pattern that explains continuing drivers to promote efficiencies in assessment when he observes that:

*As class sizes have increased there have been some economies of scale in teaching (such as through larger lecture classes and 'tutorials' that may nowadays contain twenty-five students) but there have been few economies of scale in assessment. Assessment costs usually increase in direct proportion to the numbers of students. (p. 12)*

#### **2.5.4 Automated assessment: Advanced options**

Characteristics that differentiate the second category of automated online assessment include greater sophistication in the way technology and pedagogy are integrated, as well as a solidly grounded theoretical awareness of its pedagogical possibilities. In this more advanced category, assessment items are developed using specialist programs such as Hot Potatoes, Respondus, Questionmark or by using the templates within the learning management systems. Options of graphics, animations, audio, video and multimedia publisher plug-ins are used as well as a broader range of file formats including JPEG, MP<sub>3</sub>, and streaming formats, sometimes with more advanced graphical interfaces. SCROLLA's (2006) research initiatives in this area, for instance, include the use of multimedia in assessment, linking simulations and assessment,

extending automation to free response items and facilitating the inter-institutional sharing and reuse of banks of questions, often in discipline categories. In reviewing the resources on computer-assisted assessment, McKenna and Hesketh (2000) note that such resources addressed pedagogical, evaluation and quality issues as well as the more technical aspects of CAA, such as software design, computing infrastructure and security. Computer-assisted assessment research and its associated literature (CAA, 2006), revolve around a community of practitioners and innovators working in assessment in higher education in the UK. Bull and Danson (2004) explain how CAA could be used for formative and summative assessment:

*To deliver, mark and analyse assignments or examinations (computer or web-based),*

*To collate and analyse data gathered from optical data capture systems (for example optical mark readers),*

*To record, analyse and report on achievement, for example through the construction of online portfolios,*

*To collate, analyse and transfer assessment information through networks. (p. 3)*

Presenting at an Australasian Society for Computers in Learning in Tertiary Education (ASCILITE) conference, SCROLLA members (Harris, Beevers, Ewins, Haywood & McAteer, 2002), invited Australian researchers to become involved in an international research initiative in this area stating:

*...there is a growing need for methodologically sound, and theoretically informed research into on-line learning and assessment. There is a considerable pool of knowledge and understanding in these areas among practitioners, but in many cases much of the expertise is so new that it is yet to be documented. SCROLLA offers a significant means of linking the various communities of practice - practitioners, researchers and policy makers - and thereby progressing research and understanding across the field. (p. 904)*

Automated online assessment, in both the general and more advanced categories, is flourishing in many disciplines, particularly in areas such as Engineering, Economics and many of the Sciences where quantitative paradigms are established, independently of whether assessment is conducted in print, on a free-standing computer or online. In its advanced category, it should not be equated with assessment at lower cognitive levels because as Fetherston (2002, p. 5) points out, programs were able to detect key words in text responses, users could click on areas, move objects, slide scales, and manipulate apparatus, with all these actions capable of being recorded and reported.

Its defining characteristic, however, is that it is fully automated, with human judgment rarely required after the design process has been finalised. Bull and Danson (2004, p. 5) contrast it with many other forms of traditional assessment because it “*front loads* the assessment process – the majority of time and effort is invested in the design of questions and tests prior to the

assessment taking place”. This suspension of human judgment in the marking phase is a critical issue for some researchers and it is interesting that some of the learning management systems such as Blackboard and WebCT include an option for the designer to override the machine-marked score.

Despite Mason’s (2001, p. 30) comments in the Introduction to this chapter regarding the sophistication of multiple choice assessment, and the way it used the graphic and the multimedia potential of the Internet, she nevertheless located it at one end of the online assessment spectrum. Other researchers do not concede its strengths at all. Biggs (1999, p. 175) associates multiple choice assessment with recognition, the least demanding cognitive skill; and Reeves’ (2003a, p. 11) lament is that within academic e-learning, lecturers and instructional designers “appear to struggle with conceiving of assessment as anything more than a multiple-choice test”.

In this section, the research tradition which informed automated online assessment in the advanced category has been clearly recognized; and there is support in the literature to note that developments are solidly grounded in technology and pedagogy. Two categories of automated assessment have been proposed and have been presented in Table 2.4 at the end of this section. The boundaries between the two categories are soft ones on occasions and in some cases can only be determined by the particular learning and teaching context, including the cognitive levels that are being assessed.

### **2.5.5 Online exams**

Exams have always constituted a significant component of assessment in most Australian undergraduate university courses and have been linked to external accreditation and professional association requirements in certain courses. Brown’s (1999b, p. 8) view is that assessment practices in universities fell within a limited, predictable range, with 80% in the form of exams, essays and reports. When examinations have been conducted online, issues of security and technology have commonly been identified as significant. Gemmiti (2003, p. 3) argues that if students undertook quizzes and graded tests as part of a final examination, this should only have occurred on-campus at a computer terminal in a video-monitored setting; Simon (2005) indicates that researchers at Newcastle used webcam to invigilate exams and also included watermarks and double spaces in files as strategies to detect plagiarism; Pain and Le Heron (2003) agree that monitored online tests provided a significant barrier to the dishonest student. Carnevale (2001) describes an entire degree that revolved around assessment tests conducted at computers, indicating the importance of retaining exams in universities that delivered online courses.

Often when online exams are discussed in extensive literature reviews (Warburton & Conole, 2003) the underlying issue was simply substituting automated online assessment for the end of semester exam. Pain and Le Heron (2003) describe the phases of creating a database, breaking complex questions into more simple sub-questions, constructing a test from the questions in the database, determining the settings; these are all recognisable steps in computer-assisted assessment. The same concerns that arose about computer-based assessment surfaced about online examinations: they did not address higher order critical thinking, technical difficulties with the computer system were encountered and there were opportunities for plagiarism and cheating. Glater (2006) provides an illustration of the misuse of technology during exams, reporting the case of a student at the University of Nevada photographing test questions with a cellphone camera, transmitting it to students outside the classroom and receiving answers as a text message.

Northcote's (2003) view is that online assessment was predominantly summative and commonly isolated from the principal learning experience. O'Reilly and Newton (2001) recognise opportunities for new assessment methods with auto-graded multiple choice questions and timed online exams. Peat, Franklin and Lewis (2001) describe how they used this form of assessment in Biology for formative assessment purposes and as an exam revision tool across the semester. In reporting on participation by 350 students, Macdonald (2001) relates online assessment to exam revision and creating 'Exam' and 'Revision' folders. The central question, however, is whether the online assessment process remained entirely automated. Williams (2004) argues that computer-aided assessment was still little more than a memory test and that good ideas for exams were not usually found in textbooks. The extension of Williams' perspective is that the focus moved then to designing exam questions that awarded high marks for critical analysis rather than cutting and pasting. It also involved exploring hyperlinks to relevant sites and safeguards that required the completion of the exam within twenty-four hours for off-campus students. In this case there was an advance upon the automated assessment process but the standards of security and identification would not have been acceptable to some of the researchers already cited above.

The following comments of Morris and Zuluaga (2003) indicate a new category of online assessment:

*On-campus exams are rigorously invigilated. We ran on-campus exams for our online students studying an online course in addition to their other courses on campus. All other online students sit their exams online, under the local supervision of an authorised invigilator. A central online exam supervisor responds to exam related email within 5 – 10 minutes. The remote supervisor also has a phone hotline. This allows examinees and invigilators to be contacted too.*



*We are confident these checks secure the assessment process in our online courses, especially when technical tools such as cookies allow us to detect unusual IP addresses, internet routes, ISP connections etc. Hence we believe there is no significant difference between the standards of assessment in our online and on-campus courses. (p. 355)*

In this category of assessment, online exams consisted of a greater range of assessment activities than just computer-aided assessment; affordances of the Internet were used, e.g., to access databases or websites; the exams may have been invigilated but this was not always the case, depending upon the accreditation guidelines in the course documentation; there were strategies for dealing with security, plagiarism and identity; and there was a time format that had flexible options. This was not a widespread form of online assessment in Australian universities at the time of the study but findings from the literature indicated that it was an emerging practice that was likely to gather momentum as technology and security issues were better resolved. A finding of a recent study (Cassady & Gridley, 2005, p. 7), for example, suggests that providing tests in a secure, proctored computer-based testing laboratory was not simply a reasonable alternative method for gathering summative data from students, but was a preferable method with the proviso by the researchers that “there is a limited research base on the use of online tools to deliver formative and summative assessments”.

### **2.5.6 Online interaction**

Assessment of students’ individual online postings and interactions in online forums is increasing in many courses and from a teaching perspective this is often linked in the literature with e-moderation (Berge & Collins, 2005; Salmon, 2000, 2002a; Swan, Shen & Hiltz, 2006). In terms of the learning value of individual postings, Motteram and Teague (2001) suggest that there was more time for students to think about articulation of ideas, engage with developing arguments and follow up references than was perhaps the case in many on-campus tutorials. Picciano (2002) notes that high level interaction students achieved the best grades although some students did not need to participate in a course to do well. In this category of online assessment Oliver, Omari and Herrington (1998) include a dynamic bulletin board to which students could post URLs and descriptions, postings on a discussion question or topic and postings which supported or dissented from a statement such as in an online debate. There was a plethora of research literature in the category of online interaction and communication (Anderson, Rourke & Garrison, 2001; Funaro & Montell, 1999; Hew & Cheung, 2003; McLoughlin & Luca, 1999). In fact, the focus some journals e.g., *Journal of Asynchronous Learning Networks*, was principally in this field; it also included areas such as computer-mediated communication. Learning management systems such as WebCT (2006) listed in its

communication suite tools such as Discussions and Private mail for asynchronous postings and Chat and Whiteboard for synchronous communication.

In terms of assessment, Goodfellow (1999) states that a typical assignment in the MA course run entirely online by the Institute of Educational Technology at the Open University (UK) included a theoretical question such as “discuss the statement that online teaching requires the same skills as face-to-face teaching”. In this example students were provided with a rubric and tutors were to be explicit about how they interpreted this rubric. Lea and Goodfellow (2003) at a later stage are more explicit about the criteria used for assessment purposes and these are important in terms of transparency of the marking process for students.

*These online discussions are an integral part of the block (see the Block 1 study guide), and your contribution to them will be assessed as follows:*

*Up to 10 per cent of the marks available for each TMA [Tutor-Marked Assignment] will be awarded for the extent and quality of your participation in online discussion with others in your tutor group, during the block or part of the block preceding the submission of a TMA.*

*Online discussion refers both to the exchanges which may occur spontaneously around the activities detailed in the study guides, and to the structured discussion generated in a Tutor Group Activity which your tutor will set up once in each block. Your contribution may be to either or both of these types of discussion, but your tutor will expect you to indicate early in the block if it is your intention not to participate in the structured Tutor Group Activity.*

*The extent of your participation in these discussions will be evaluated according to how you have interacted with others, not simply how much you have written or how often you have posted. You are expected to be sensitive to, to reflect, and support the norms of the group in terms of how many messages to send and how long they should be, when to reply to individuals and when to address the group as a whole, when to prolong a thread and when to allow it to end.*

*The quality of your participation will be evaluated according to what you contribute to the richness of the discussion, not just how well you write or how many additional online resources you provide. You are expected to engage with others' opinions as well as express your own, to help explore and clarify the set texts as well as reflect on your own experience, to assist in the social construction of meaning as well as developing your own understanding.*

*You are not required to make any explicit reference to your online contributions, in the TMA itself, in order to gain the 10 per cent of marks available. Your tutor will refer to the tutor group conferences in order to make the assessment. However, you may find that using the online discussions as a source of reference in the TMA, in the same way that you use the course texts and set books, helps to contextualise and establish the quality of your own participation. You can find guidance on using conference discussions in your TMA on the eWrite site, accessed via the [course] website. (Lea & Goodfellow, Writing as a set of rhetorical demands, para. 3)*

The factors associated with successful online interaction by Wang and Bonk (2001, p. 16) are based on data from 5000 respondents and identified significant task structuring, controversial topics, student ownership, tutor modelling of system use, and role play. The use of forums for training in Socratic thinking (Yiong Hwee, 2003), assisting students to value writing drafts and

rework their arguments (Funaro & Montell, 1999), recognising the assessment benefits by students (Campbell, 2001), cognitive restructuring and critical thinking associated with a triggering interaction (Rourke & Anderson, 2002) and valuing of online guests (Kumari, 2001) were other success factors in online discussions cited in the literature.

Anderson (2002, p. 7) stresses that adequate levels of cognitive, social and teaching presence led to deeper learning but Baskin's (2001) view is that conflict, dysfunctionality, dominant personalities, quiet lurkers, power struggles and accountability issues were recurring themes in online discussions. MacKenzie (2001) notes the difficulties posed by dominant students where 10% of participants accounted for 50% of the messages. In reviewing the literature Bober and Dennen (2001) observe that it contained many prescriptions for building online communities but they conclude that few researchers addressed the perceptions of students themselves.

Ali and Salter (2004) recognise that a continuing research problem was how to assess online discussion contributions and they drew attention to the fact that in fully online courses the volume of postings was often difficult to read and access; furthermore, students were often uncomfortable grading the postings of other students. This was a significant assessment issue in online environments and it remained problematic.

An emerging theme in the literature is that online interaction or online discussions are a small but growing component of online teaching and assessment, offering considerable learning benefits. The literature does touch upon many issues that remained unresolved, and in relation to assessment the important questions are whether and how online discussions can be assessed in a valid, reliable and transparent way. This was clearly a category of assessment different from face-to-face tutorial discussions for example, because the electronic text of every posting was archived and open to a range of analysis and critical review; furthermore, it was not a high-tech option because the bulletin boards, email systems, chats, wikis and blogs were relatively easy to use by students and staff (Prensky, 2001).

### **2.5.7 Assessing group work in online environments**

In this section a separate category of assessment, group work online, is identified in the literature but there is also a recognition that the transition between individual and group activities online could be a spectrum without clear boundaries on occasions. An example of online group work is described by Oliver (2001): weekly problems were explored by students in groups, with a solution posted to the Web upon completion; groups could view other groups' solutions and there was an opportunity for peer assessment through a voting scheme; finally, tutor marking of the solutions could be viewed on a cumulative basis across the semester. The

affordances of the technology allowed group members to collaborate, access and view resources and Hathorn and Ingram's (2002) observation is that such online groups generated more ideas than face-to-face groups. The underpinning theory for group work is Vygotskian thinking (Daniels, 1996) that mental functioning is inherently social or socio-cultural and is also aligned with Wenger's (1998) concept that learning is fundamentally experiential and social, with value in social participation, especially in the practices of social communities. Collis, De Boer and Van der Veen (2001, p. 230) for instance, adopted this participation mode and sought to initiate students into a community of practice. In their case the opening online site was largely empty but was increasingly populated with individual and group activities over the semester.

Despite the theoretical value and acknowledged benefits of group work in either on-campus or online settings, there are recurring issues from an assessment perspective that need to be addressed. Oliver (2001) had to devise marking criteria to resolve the problem of one person doing the bulk of the work on behalf of the group and then expecting others to do the same for her/him in other group activities. Creanor (2002) reports on online group assessment in an ETUDE Trade Union subject in Europe that was eventually abandoned in favour of individual activities due to lack of participation. Mason and Weller's (2000) thinking is that assessment was a way of validating contributions to group or team activities and they had allocated as much as 30% for student use of ideas from conference messages but their solution was that only the student's analysis of how the group had performed was assessed, so even if the group interacted poorly, this did not adversely affect the assignment marks. In each of these instances the determination of marking criteria was a significant consideration.

Flynn and Klein (2001) point out that small groups could be used within a range of instructional approaches, including co-operative learning, collaborative learning, problem-based learning and case-based learning. Research studies in networked collaborative learning (McConnell, 1999; McConnell, 2001) and computer-supported problem-based learning (Koschmann, Kelson, Feltovich & Barrows, 1996) indicate overlapping strategies. Hathorn and Ingram's (2002) view is that online collaborative learning required all members of the group to do similar amounts of work; and this could be ascertained in an online environment because there were data available about the number and length of logons, as well as the number and length of messages posted and read. The technology measurements attempted to differentiate student inputs and so the significant issues were about valid assessment, especially from the point of view of students. Bertram (2003) points out that collaborative learning could be diminished by 'group think', the prevailing view of the majority (even if it was wrong). A pattern that emerges in the literature is that the most complex issues are often related to

pedagogy rather than the technology. This in fact is the conclusion reached by Phipps and Merisotis (1999) after an extensive review of the literature on technology-mediated learning and they state it in these terms:

*Although the ostensible purpose of much of the research is to ascertain how technology affects student learning and student satisfaction, many of the results seem to indicate that technology is not nearly as important as other factors, such as learning tasks, learner characteristics, student motivation and the instructor. The irony is that the bulk of the research on technology ends up addressing an activity that is fundamental to the academy, namely pedagogy – the art of teaching. (p. 31)*

In reviewing networked collaborative learning, especially in postgraduate courses where learners had expertise and could make professional judgments about the professional context, McConnell (1999) suggests that assessment was one of the last remaining bastions of academic life; and that it was usually unilateral, carried out principally by the teacher and was often final. While he admitted that there was a fear of falling standards if learners were involved in collaborative self and peer-assessment, McConnell (1999, p. 238) observes that “it is both the groupware supporting networked learning, and the social scaffolding of the group’s learning processes that makes it possible for collaborative assessment to take place”. This conclusion elevated the role of technology to a higher level than Phipps and Merisotis countenance in the quotation above but it still prioritized the dynamics of group learning and the social conditions that promoted it.

There is in the literature a category of online group learning which at its best Graff (2003) associates with higher order critical thinking and reflective learning. There is also a clear theme, articulated by Macdonald (2000), that collaborative learning did not suit all students. Questions arise about how widely implemented it was, about distinctions between terms such as *collaborative* and *co-operative learning*, whether online group learning was more successful in postgraduate or undergraduate courses, or in particular subjects and disciplines. Other important issues in the sub-text of the literature are the design of assessment criteria, the role of teachers and whether the marking scheme recognized differentials in group and individual contributions.

### **2.5.8 Authentic assessment**

Another category of assessment in online environments emerges from the literature in the following studies: Nelson (1998) indicates that students downloaded archived records of the peak flows of the Blackfoot river in Montana as an authentic assessment project to appreciate the complexity of issues; Williams (2004) creates assessment scenarios that required exploration and analysis of company web sites; Oliver and Hannafin (2001) conduct research

where thirteen websites were downloaded onto students' computers; Bull, Conole, Davis and White (2002) describe how engineering students accessed large databases in professional work contexts; and Suilleabhain (2004) explores e-portfolios and authentic assessment, identifying multiple examples of work that were rich in context, with opportunities for self-assessment and looking at development over time. Assessment activities in these studies incorporated combinations of simulations, critical incident analysis, case studies or narratives, access to external databases and on occasions invited interactions, where students were required to interview industry personnel, or perhaps develop databases or websites themselves.

There is substantial theory and educational underpinnings for these assessment activities. Jonassen and Kwan (2001), for instance, distinguish between well structured and ill-structured problems: they associate the first category with academia; but in their view ill-structured problems were often solved by groups in the workplace; were typically emergent; were vaguely defined; had multiple solutions as well as multiple criteria; and required learners to express personal opinions. Jonassen's view (1997; Jonassen, 2002) is that students needed to learn domain content in order to solve particular problems and that computer learning environments were well equipped to introduce the complexities of the problem. Students were provided with text, graphics and sound; and authenticity in problem representation was an important consideration.

According to Herrington, Oliver and Stoney (2001, p. 88) authentic contexts reflected the way knowledge was used and they preserved the complexity of real life settings. In terms of learning this involved complex tasks, a large number of resources, opportunities to collaborate and seamless integration of activities into assessment. Research conducted by Herrington, Oliver and Reeves (2003) has focussed on authentic activities based on a wide literature review of recent research and they identify ten characteristics. In their view authentic activities:

- had real world relevance;
- were ill-defined, requiring students to define the tasks and sub-tasks needed to complete the activity;
- consisted of complex tasks to be investigated by students over a sustained period of time;
- provided the opportunity for students to examine the task from different perspectives, using a variety of resources;
- provided the opportunity to collaborate;
- provided the opportunity to reflect both individually and socially;

- could be integrated and applied across different subject areas and lead beyond domain specific outcomes;
- were seamlessly integrated with assessment;
- created polished products valuable in their own right rather than as preparation for something else; and
- allowed competing solutions and diversity of outcome.

In terms of relating assessment to the world of work and professional contexts Boud, along with others, has conducted extensive research (Boud, 1995; Boud & Falchikov, 2005; Boud & Garrick, 1999; Boud & Solomon, 2001) and a recurring theme is that assessment was often inadequate in terms of preparing students for life-long learning. Boud has generally explored peer-assessment, self-assessment and general principles of assessment rather than assessment in online environments.

The principles and values associated with authentic assessment, its relationship to work and life-long learning, are obviously applicable in traditional on-campus assessment. What makes authentic assessment distinctive in terms of the online environment are the affordances of the technology in representing the complexity of problems; more directly facilitating entry into the world of work, in exploring simulations which invite deeper learning; and engaging more actively in professional working environments. In fact Reeves (2003b, p. 6) concludes that this active participation was crucial, especially with respect to assessment activities.

### **2.5.9 Critical reflection and meta-cognition**

In investigating an extensive range of assessment practices in Australian universities Nightingale et al., (1996) identifies a category of assessment entitled *managing and developing oneself* and they include within this category case studies involving group work, peer tutoring, managing a project, self-assessment, journals, portfolios, evaluating one's learning, working collaboratively, and students' self-assessing/self-marking before submission of assignments. To some extent this incorporates a tradition of critical reflection and the professional ideal of the critically reflective practitioner (Schon, 1983, 1987) but it also moves into the field of metacognition which explored the mental processes of learners as they became aware of and reflected on their learning, and as they articulated decisions and strategies they had adopted in organising their own learning. Reviewing emerging e-research issues, Beetham (2005) identifies the use of technologies to capture the learning process for formative assessment and reflection as a significant area of research. McLoughlin and Hollingworth (2001) describe four metacognitive skills for effective learning: the capacity to define problems and abstract from

case; self-direction and self-management; management of information, self and others and the capacity to identify the problem and select resources to solve it.

In the literature there is a range of studies that used electronic portfolios, online journals, logs, diaries, blogs, wikis, practicum reports and embedded reflective activities to promote metacognitive skills. Northcote and Kendle (2000) link metacognition to assessment tasks in a holistic framework and review online assessment techniques that encouraged students to monitor and organize their study patterns. In designing a course to promote online reflection Herrington and Oliver (2002) discuss the critical importance of an online journal or diary. In exploring how metacognitive strategies could help novices restructure their weather forecast strategies Kenton, Andre and Yarger (2004, p. 467) conclude that “the use of reflection using online course management tools in science education should be investigated further”. Other researchers (Trufant, 2003; Yiong Hwee, 2003) detail how students were trained in Socratic thinking and the electronic forum was structured to reflect the philosophical rigour of such categories. Xun and Land (2003) explain how students were required to defend their solution to problems in an online environment when alternatives were introduced. As a provocation to metacognitive thinking McLoughlin and Luca (1999) suggest the inclusion of specific prompts such as: “What aspect of your solution would you be most critical of? How would you approach this situation next time?”

The category of assessment that incorporates metacognitive activities in online environments is a significant area related to deeper learning and to life-long learning. There is no clearly defined boundary between metacognitive and critical reflection nor could one confine this category to the online environment. What was new however were the affordances of the technology and the range of tools that encouraged students to employ metacognitive skills; there was also a sense that in a range of disciplines this was an area where innovation and research were being intensified although it was certainly not a mainstream assessment strategy.

#### **2.5.10 Advanced problem-based learning**

Problem-based learning is well established in the literature (Albanese & Mitchell, 1993; Boud & Feletti, 1997; Nightingale et al., 1996) and has been associated with certain disciplines such as medical education and engineering for decades. A search of the term *problem-based learning* on the Higher Education Academy (UK) site (Higher Education Academy, 2005, 6 July 2006) for instance revealed 4,612 hits and a similarly dated search on Google (2006) revealed 150,000 sites. The Learning Designs site (2003), a project of the Australian Universities Teaching Committee (AUTC), lists five exemplary online projects where the focus for students was solving a real world problem presented to them. Kember (2003) observes that



there were many different ways in which problem-based learning could be implemented, especially when there were differing levels and types of courses in different disciplines, and his view is that the differences in the ways in which problem-based learning was operationalised could be very significant. Dahlgren and Dahlgren (2002) give examples of different approaches to implementing problem-based learning: in one institution there may have been a completely integrated curriculum with all of the content problem-based, whereas in another institution there may have been a transitional strategy with earlier subjects in the course traditionally taught, then the problem-based learning approach being introduced later in the course. Even within a single subject in a traditional course, however, there may have been elements of problem-based learning. How is this extensively-researched field related to assessment and what relevance does it have specifically to assessment that is conducted online?

Kember's (2003, p. 99) observation about assessment and its relationship to problem-based learning is simply "absence of any assessment means the students may not take it too seriously"; to use Race's (1996) terminology, assessment was the engine that drives the learning. Assessment was carefully integrated within the design of problem-based learning which included distinctive phases such as problem identification, elaboration, and strategy-generation. In reviewing the success of a web-supported environment to support problem-based learning, Oliver (2001) identifies online assessment procedures, the peer assessment supports, the display of 'best' solutions, the cumulative assessment and displays, the comparative grading displays and the teacher feedback system, as well as the motivational factors of the results and the capacity of the system to display the achievement of their group in relation to all others in the class. Steinkuehler, Derry, Hmelo-Silver and DelMarcelle (2002) recognize the value of the group whiteboard that made group thinking visible for members and the tutor alike. This electronic system enabled the instructional staff to assess both individual and group conceptual change as they explored problem-based learning scenarios and this addressed a critical issue that has been referred to earlier: the problem of recognizing and rewarding differentials in individual and group inputs. Equivalents of the sophisticated design of Steinkuehler et al.'s (2002) system had not been reported upon in Australian studies.

Savery and Duffy (2001) report that problem-based learning, in its full-scale implementation in more than sixty medical schools in the US, was often implemented systematically and in a medical curriculum context it replaced traditional lectures in anatomy, pharmacology and physiology. In terms of design phases of problem-based learning such as starting a new problem, representing the problem, establishing groups and assigning tasks, this was still generally conducted in on-campus classes but some elements of problem-based learning were being incorporated online. The affordances of the technology, especially in allowing complex

problem scenarios to be realistically created and in accessing a wide range of resources, helped to explain the growth in blended learning which combined on-campus and off-campus elements in a more integrated mode of delivery. The design was often underpinned by a constructivist framework (Jonassen & Rohrer-Murphy, 1999) which enhanced the quality of the learning. Students were more actively engaged in constructing learning and Savery and Duffy's (2001) research shows how constructivist principles, such as anchoring all learning activities in a larger task or problem and testing of solutions against alternative view and contexts, were integrated in the design process.

Given the curriculum design underpinnings, the resourcing and faculty commitment required, this section, in its connection with online assessment, has been entitled advanced problem-based learning because problem-based learning in this advanced form was not widespread in Australian university practice, although it was being increasingly adopted in natural resource management, engineering, business, research methods and multimedia (Learning Designs, 2003). In the Australian context Zimitat and Miflin's study (2003) identifies issues of depth and breadth of content, extensive resources, faculty development, and internal consistency between educational philosophy, design and curriculum in action in the medical faculty at Griffith University in Queensland. In reporting on 4SAT, an integrated formative assessment tool which was attuned to the social and collaborative nature of problem-based learning, Zimitat and Miflin indicate how online innovations in assessment in problem-based contexts could enhance the quality of learning. An examination of the exemplary problem-based learning medicine course at Sydney University, a recipient of an Australian Universities Teaching Award, and featured on the Learning Designs website (2003), confirms the curriculum, design and learning issues in this blended learning model which was completed in face-to-face settings on-campus and in hospital settings in Sydney and enhanced by online components.

In conclusion, advanced problem-based learning which incorporates online assessment elements within its design structure is a small but significant spectrum in the overall range of assessment practices in Australian universities.

### **2.5.11 Summary of the literature on online assessment**

Table 2.4 presents the main clusters of forms of assessment conducted online that have been derived from the literature.

**Table 2.4. Forms of assessment conducted online derived from the literature**

<b>Assessment Type</b>	<b>Literature Citations</b>
Traditional assessment submitted online	Jones & Jamieson (1997), Zuluaga et al., (2002), Yip (2004)
Automated assessment	SCROLLA (2006)  WebCT, Blackboard, QuestionMark, Respondus, Hot Potatoes, ACODE, Brothen & Wambach (2003), Gemmiti (2003); Ricketts & Wilks (2002); Harvey & Mogey (1999)
Automated assessment – advanced options	SCROLLA (2006); McKenna & Hesketh (2000); CAA (2006); Bull & Danson (2004); Harris et al. (2002); Fetherston (2002)
Invigilated online exams – (mid/final semester)	Gemmiti (2003); Simon (2005); Warburton & Conole (2003); Pain & Le Heron (2003); CAA (2006); O'Reilly & Newton (2001); Peat, Franklin & Lewis (2001); Macdonald (2001); Williams (2004); Morris & Zuluaga (2003)
Online interaction	Berge & Collins (2005); Salmon (2002a; Salmon, 2002b); Motteram & Teague (2001); Picciano (2002); Oliver, Omari & Herrington (1998); Anderson, Rourke & Garrison (2001); Funaro & Montell (1999); Hew & Cheung (2003); McLouglin & Luca (1999); Goodfellow (1999); Lea & Goodfellow (2003); Wang & Bonk (2001); Yiong Hwee (2003); Rourke & Anderson (2002); Kumari (2001); Anderson (2002); Baskin (2001); MacKenzie (2001); Bober & Dennen (2001); Prensky (2001)
Group projects	Oliver (2001); Hathorn & Ingram (2002); Daniels (1996); Wenger (1998); Collis, De Boer & Van der Veen (2001); Creanor (2002); Mason & Weller (2000); Flynn & Klein (2001); McConnell (1999, 2001); Koschman et al., (1996); Hathorn & Ingram (2002); Bertram (2003); Graff (2003); Macdonald (2000)
Authentic assessment	Nelson (1998); Williams (2004); Oliver & Hannafin (2001); Bull et al., (2002); Suilleabhain (2004); Jonassen & Kwan (2001); Jonassen (1997, 2002);

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	Herrington, Oliver & Stoney (2001); Herrington, Oliver & Reeves (2003); Boud (1995); Boud & Falchikov (2005); Boud & Garrick (1999); Boud & Solomon (2001); Reeves (2003a)
Critical reflection and meta-cognition	Nightingale et al., (1996); Schon (1983, 1987); McLoughlin & Hollingworth (2001); Northcote & Kendle (2000); Herrington & Oliver (2002); Kenton, Andre & Yarger (2004); Yiong Hwee (2003); Xun & Land (2003); McLoughlin & Luca (1999).
Advanced problem-based learning	Albanese & Mitchell (1993); Boud & Feletti (1997); Nightingale et al., (1996); Kember (2003); Dahlgren & Dahlgren (2002); Race (1996); Oliver (2001); Steinkuehler et al., (2002); Savery & Duffy (2001); Jonassen & Rohrer-Murphy (1999); Zimitat & Mifflin (2003)

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The first category was more associated with a form of delivery rather than a category of assessment. Some researchers, especially those in the CAA and SCROLLA traditions, contend that it was this category of automated assessment that constituted online assessment, whereas other researchers such as Mason (2001, p. 30) suggest that there was confusion in the usage of the term and are prepared to include a wider spectrum of assessment activities in the discussion of *online assessment*. Despite the frequency of usage of the terms *online assessment* or *e-assessment*, the question of whether there was a separate category of online assessment remains unresolved in the literature.

## 2.6 Relevant Australian research studies

In Australia a number of researchers (Dunn, Morgan, O'Reilly & Parry, 2004; O'Reilly, 2000; O'Reilly & Newton, 2002) have written on the theme of improving student learning by online assessment and have also focussed on staff development in the area of online learning. Based at Southern Cross University, Dunn, Morgan, O'Reilly and Parry conducted research as well as provided advice and assistance in the educational design and development of study materials which promoted flexibility in learning, teaching and assessment. As a major finding O'Reilly (2001, p. 262) observed many assessment processes had not changed to better suit, or indeed take account of, the unique context of learning as supported by networked computer technology.

Northcote has conducted ongoing research specifically in the field of online assessment (Northcote, 2002, 2003) and her Australian studies are of particular interest and will be discussed further in Chapter Three.

McLoughlin and Luca (1999) have explored assessment in online environments, focussing on metacognition and the need to introduce constructivist approaches incorporating authentic assessment and ill-structured problems with more explicit procedures for participation and assessment. There have also been a series of authors [Bennett, Priest & Macpherson(1999); Reid (1999); Orrell (2001); Shannon and McHolm (2002) and Taylor (2003)] who have written about online learning and staff development but these studies have focussed principally upon innovations, programs and elements that supported or constrained staff in their adoption of online teaching.

James, McInnes & Devlin (2002) through the auspices of the Australian Universities Teaching Committee (AUTC) have conducted an extensive review of assessment in Australian universities and have developed a print resource and accompanying web site containing ideas, strategies and resources for quality in student assessment. Their study has incorporated a segment on online assessment and was a valuable resource used in the development of a more specific framework for mapping the range of online assessment practices. Nightingale et al. (1996) have provided a range of assessment frameworks and Australian case studies; Salmon (2000; Salmon, 2002a) has also developed a range of online models and frameworks in the UK for computer-mediated communication activities and they have been influential in Australian universities. All of these studies derived from the literature provide a basis for developing a framework that could be used to map educational developers' perspectives of online assessment.

An ongoing assessment project since 1997 by Herrington, Oliver and Reeves (2003) focussing on authentic online assessment, is a significant research study and was reviewed earlier in this chapter. While this project certainly involves online assessment, Reeves (2003b) has emphasized that the active participation of teaching staff was crucial, especially with respect to assessment activities, and there is a strong assertion that online assessment is not confined to automation in the foreseeable future. It is quite clear that there are contentious issues in the field, there is much that is new and evolving and there are recurring calls to conduct further research.

## 2.7 Educational developers

### 2.7.1 Teaching and Learning units in Australian universities

The assessment practices of academics in Australian universities have been influenced by Teaching and Learning Higher Education (TLHE) development processes often centrally located and associated with academic staff developers, instructional designers and educational developers. So what can be concluded from the literature about the characteristics of such staff who work as educational developers and advise academics about the integration of ICT into learning, teaching and assessment?

To begin with, there is no widespread acceptance of professional position descriptors. The International Consortium for Educational Development (ICED, 2005, p. 71) in higher education draws attention to the slightly different meanings associated with the terms *instructional development*, *staff development*, *academic development* and *faculty development*. Fraser (2001) has conducted extensive research in the field and the individuals interviewed in her study used different terms to describe their profession: educational development was understood by some as a subset of academic development while others believed the reverse; she also noted that it was not uncommon for authors, in describing their roles, to use different terms in different publications, and even in the same publication.

Ryan, Fraser, Bryant and Radloff's (2004) view is that it is essential to understand the contexts in which staff and academic developers were working and clearly this context involved a range of factors. To some extent educational developers' practices were influenced by the type of university in which they were employed, its organisational structure, how support activities were conceptualised, the expertise of the staff, the quality of program delivery, institutional culture and strategic leadership, priorities about learning and teaching within the university, lecturers' conceptions of learning and teaching and indeed, many other features unique to particular university settings.

In Australian higher education, universities have been classified in a number of ways and it is important to situate educational development practice within a national higher education organisational context. Marginson and Considine's (2000) taxonomy of Australian universities is based on the categories of sandstone, redbricks, gumtrees, unitechs and new universities, whereas the Australian Education Network (2005) site lists categories such as the Group of 8 (Go8), the Australian Technology Network (ATN), Innovative Research Universities (IRU) and New Generation Universities (NGU). These classifications are becoming more widely used in the sector because consortium members have laid claim to criteria within these categories.

The research of Land (2003) and McNay (1995) suggests that one can map the orientations of educational development against the organisational culture. Generally educational development units in Australian universities have been centrally located but as Ryan et al., (2004) indicate some institutions such as Queensland Institute of Technology (QUT) and Royal Melbourne Institute of Technology (RMIT) have moved to a devolved model where developers are located within faculties. The rationale for this is that disciplinary differences should frame development and have some influence on how educational development units are organised.

Educational developers have been employed as academic staff in one university and as general staff in another and this has raised questions of credibility (Malcolm & Zukas, 2001, p. 52; Ryan et al., 2004), especially when they have been involved in teacher training but have had no or very little teaching experience in higher education. Trowler's research (2004) led to a view that Academic Development Units find it difficult to integrate their work into that of the university community generally.

Prosser and Barrie's (2003) theoretical perspective is that any institutional process of academic development is underpinned either by explicit or implicit models, values and theories of student learning but theorising obviously needs to be informed by the contextual factors referred to already. There is considerable diversity of practice in the ways these units have been conceptualised and the ways in which educational development has been designed and delivered. This is illustrated in Table 2.5, which presents excerpts from the staff development pages of three Australian university websites.

**Table 2.5. Professional development web pages from three Australian universities (2006)**

<b>University of NSW (2006)</b>	<b>Charles Sturt University (2006b)</b>	<b>University of Queensland (2006)</b>
Directory of Units offering Staff Development Learning and Teaching Unit The Learning Centre EDTeC UNSW Library UNSW Staff Development EDSquad in Faculty of Science	Professional development links: Graduate Certificate in UL&T DE Forums Foundations of Learning and Teaching CELTeC Workshops Tertiary Teaching Colloquium The Centre for Enhancing Learning and Teaching (CELTeC) provides a range of support	Professional Development The University provides a range of programs, short courses and resources to enhance staff understanding and skills in teaching and learning. Award Programs: Graduate Certificate in Education

Education Development Unit in Faculty of Commerce and Economics	services in learning and teaching. A team of educational designers is located in the schools of the University where they support academic professional development and the creation and revision of learning and teaching resources. The Learning Media Laboratories on the Albury, Bathurst and Wagga Wagga campuses collaborate with academics in the development of multimedia resources. The Evaluation Unit manages the University's program of student evaluation of teaching and other evaluation services.	Graduate Diploma in Educational Studies  Graduate Diploma in Education (Higher Education Specialist)  Short Courses are available through the Staff Development Program.  TEDI can arrange for many of the seminars offered in the annual Staff Development Program to be repeated in-house for a school or a group of staff on another campus.  TEDI also offers a range of support services aimed at improving teaching and learning, including a comprehensive set of guidelines on a range of assessment issues.
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In terms of the organizational structure, professional staff development for learning and teaching is under the governance of the Pro Vice-Chancellor (Education and Quality Improvement) at the University of New South Wales (UNSW) and under the Deputy Vice-Chancellor (Academic) at both Charles Sturt University (CSU) and the University of Queensland (UQ). This form of staff development is distinguished from staff development that covered areas such as career planning, time management, health and safety issues, and interpersonal areas such as dealing with difficult people. The latter is generally located in the Human Resources section of these three universities.

Listed in each of these three web sites are units such as EdTeC (UNSW), CELT (CSU) and TEDI (UQ) that are concerned more specifically with appropriate use of technologies, flexible delivery, development of educational resources and the integration of ICT into learning and teaching. These units have service or support roles and members are either academic or general staff and include flexible learning developers, educational designers, web and graphic designers, programmers and learning management system specialists. Distributed staff



development in faculties and schools, as well as on different campuses, is also apparent and educational developers or educational designers are involved in this role. There are other staff development units such as the Learning and Teaching Unit (UNSW) and program areas such as teaching in the Graduate Certificate in Education, researching teaching, the first year experience of students, induction of new academic staff, graduate attributes, curriculum design and evaluation of teaching. Staff in these programs are academic staff and have position titles such as Lecturer in Higher Education, Academic Staff Developer or Educational Developer.

Within the overall structure of staff development for learning and teaching, some staff are co-located within the same unit, such as TEDI at the University of Queensland, but they retain their professional focus on program areas; some staff are located in separate units such as the Learning and Teaching Unit and EdTeC; or their positions are devolved or distributed in different faculties or schools, or on different campuses. The TEDI co-location model provides support for professional development, instructional design, production of learning resources and other direct support. It is an example of the one-stop shop model, described by Shephard (2004, p. 72). Another interesting point is that the UQ site, even at this level, highlights assessment and includes a link to its assessment policy. The structures in these three universities invite questions about how educational development is conceptualized and delivered in Australian universities and about the degree of integration amongst the various units responsible for supporting learning, teaching and assessment, especially when pedagogy and technology are such important elements.

### **2.7.2 Who are educational developers?**

In a general sense educational staff development has been informed by a tradition of scholarship and critical reflective practice, as Blackmore, Chalmers, Dearn, Frielick, Hofgaard, O'Connor et al. (2003) point out, and they linked this tradition with the emergence of academic staff development units which began in the United Kingdom in the 1960s. Research in the field has been published in many journals but the International Consortium for Educational Development (ICED, 2005) in higher education through its journal, *The International Journal for Academic Development* (IJAD), the Higher Education Research and Development Society of Australasia (HERDSA), through its journal, *Higher Education Research and Development* (HERD) and the Staff and Educational Development Association (SEDA) through its journal, *Innovations in Education and Teaching International*, contain valuable reporting of current research around the intersection of educational development and learning, teaching and assessment. Macdonald (2003, p. 7) notes though, that “the growth of research into educational development is a relatively recent phenomenon” and Trigwell (2003) confirms this when he

observes that academic staff development is a disciplinary area considerably less well developed than most other subject areas taught in universities.

Fraser's (2001) point about the acceptance and inter-changeability of the terms *educational developers* and *academic staff developers* has already been noted and in her conclusion to an Australasian study involving twenty-two participants she states that "research shows that while many individuals in the profession do very similar work, we use different names to describe our work". In fact the first research questions in Fraser's doctoral project have a particular relevance to this study:

*People in our profession refer to themselves in different ways. What term do you use to describe yourself in your working role? Do you perceive a difference between the terms academic, educational and staff development? (p. 61)*

Although some of Fraser's respondents used terms such as *professional developer*, *instructional designer* and *academic developer* her initial research question asked if respondents made distinctions in these three terms. The term *staff development* is not so relevant in this study and has already been associated with general staff development or human resources, applicable in many other organisations besides universities. It is the overlapping meaning in regard to the other two terms, *academic staff development* and *educational development*, that is pertinent and she states that the essential focus of both is on:

*Working in part or in whole with individuals/groups/the institutions to assist academics to reflect upon their role in relation to teaching, research, scholarship, leadership, funding applications and the supervision of students;*

*Engaging in research, scholarship, grant writing and the supervision of research students; and*

*Understanding the effect our interventions have upon the development of academics, departments, faculties and institutions. (p. 63)*

Finally Fraser (2001, p. 61) associates educational development with teaching, noting that it occurred at many levels; if it occurred only at the level of the individual, then she considers this as part of academic development. This naming dilemma reflects the diversity of roles that individuals in this profession carry out but the term *educational developers* is generally used in this study with the proviso, already noted, about the critical importance of the institutional context.

Gosling (2001) identifies six areas relevant to educational development:

- improvement of teaching and assessment;
- professional development of academic staff;
- informed debates about learning, teaching, assessment;

- organisational and policy development;
- learning development of students; and
- promotion of scholarship and practice of research.

Trigwell (2003) argues that good academic development is about developers arriving at a coherent view of what they are trying to achieve, discovering how university teachers conceive of development and creating contexts where teachers experience variations in aspects which are critical to learning about that developmental activity. In his view however, this is an area that would benefit from further research.

All of the participants in Fraser's (2001) study recognized changing learning and teaching as part of their role; Smyth (2003) relates the concept of transformative change to academic development; Land (2001; Land, 2003) conducted a study with thirty-three developers in the UK and notes that while they emerged as very fragmented in the way they conceptualised their roles and orientations to academic development, they all identified with the notion of change, despite varying elements of diversity and complexity. Kandlbinder's (2003) view is that academic staff development was still aligned more with the individualist culture of academia and that such staff were wary of promoting particular educational technologies, perceiving on-line learning as supplementary to their mainstream activities. Prosser and Barrie (2003) detected a change in the practice of academic developers, describing a shift away from more traditional staff development emphasis on individual academics to a focus on the institutions' strategic plans and objectives.

The significance of professional relationships between educational developers and teaching staff, the idea of freely-entered-into relationships based on trust, is evident in the literature and as Land (2001, p. 15) notes, academic staff developers worked with staff who wanted to work with them. Transformative change was based on core values that were negotiated not imposed and in Smyth's (2003, p. 15) view, this authentic consultation needs to be linked with comfortable timeframes for discussion and reflection on teaching practice.

In Australian universities many educational developers are formally involved in teaching within accredited courses such as a Graduate Certificate of Higher Education and these commonly focus on assessment or include a specific subject on assessment. Educational developers' roles identified by Land (2003) and Prosser and Barrie (2003) include activities such as contributing to the development of university learning and teaching policies. Inputs into policy development certainly include policies related to assessment. Educational developers may also be involved on an invitational basis in advising teaching staff on assessment matters

arising from student feedback on teaching. Similarly, the emphasis on involvement in research on the scholarship of teaching (Boyer, 1990; Brew, 2003a; Huber, 2004; Land, 2003; Prosser & Barrie, 2003) is recognised as important by educational developers and includes assessment. What emerges from the literature is the significant potential impact that educational developers could have upon assessment practices within an institution.

### 2.7.3 Educational development: Inclusive of other position titles?

While there is a consensus in the literature that the terms *educational developer* and *academic staff developer* are overlapping and often used interchangeably, there are other position titles that are relevant to advising and supporting staff in the area of assessment when it is conducted online. *Instructional designers*, *educational designers*, and *e-learning designers* are examples but Beetham, Jones and Cornall (2001) add descriptors such as *educational researcher*, *technical researcher/developer*, *materials developer*, *project manager* and *general learning technologist*. Should these position titles also be included in the category of ‘educational developers’?

Bird (2004) conducted empirical research on designers and developers working in Australian universities and compiled a database of 200 people from a total of thirty-five Australian universities. She observes that the roles of this group in the design and development of flexible learning resources were of increasing strategic importance to their institutions but concludes that they were an ill-defined professional group. Table 2.6 summarises the job titles, the numbers and distribution patterns of the educational designers and developers included in Bird’s (2004) study. Research findings detailing the diversity of job titles presented in Table 2.6 are directly related to the first research question in this study about the characteristics of educational developers that influence the assessment advice they provide to academics. Job titles impact on how educational developers and teaching academics perceive such roles within the organisational culture.

**Table 2.6. Designers/developers of flexible learning materials in Australian universities**

It is noted that of the ninety-seven Educational Designers on this database, fifty-four are concentrated in two universities and almost certainly these are distance education providers.

The first two general conclusions in Bird's study are that:

*1. Issues around professional identity, professional organisation, and roles and responsibilities have been studied and debated in the related literature for the past decade, and relate similarly to instructional designers, educational designers, educational developers and academic developers.*

*2. The diversity of job titles under which staff is employed is proliferating, particularly with the addition of online, e-learning, web and multimedia specialists. (2004, p. 133)*

Bird (2004, p. 131) also found that "staff development about assessment focusses more on assessing online than in other modes of delivery" and that there were statistically significant differences between educational developers employed as academics and general staff in academic/teaching activities which included staff development in curriculum design. These findings support the emphasis placed on identification of educational developers' characteristics in the first research question of this study and are thematically linked by Bird (2004, p. 129) with the impact of online/new technologies.

Beetham et al. (2001) report on a Joint Information Systems Committee (JISC) study in UK universities where learning technology, particularly learning and teaching strategies, is becoming mission-critical. The study audited twenty-three institutions and included a role analysis of thirty-five individuals associated with the embedding, development and support of learning technology in higher education, as well as a series of seventeen in-depth case studies. Findings in the report are that the new specialists tended to be multi-skilled and peripatetic, in their twenties or thirties, on fixed-term contracts and working at a strategic level across the institution in terms of building links. An important implication for educational developers highlighted in the report is that:

*Educational developers have a critical role to play in supporting and facilitating the new specialists to acquire the core educational development and “change agent” skills needed to assist in the process. However educational developers must also ensure that they acquire skills in learning technology in order to be effective in supporting these new methods. (Beetham et al., 2001, p. 3)*

Agendas in Australian universities around the growth of learning management systems, learning technologies, flexible delivery, reduced government financial support for universities, and new quality agendas (AUQA) raise questions about the best ways to support the design and delivery of educational development. The balance between traditional forms of educational development and more centrally driven, flexible structures is an emerging theme. Boezeroy (2003) identifies the basic tensions in recognizing that the traditional organisational culture of universities produces very decentralised institutions yet the nature of technological innovation almost requires a whole-of-institution approach; Valcke (2004) relates the need for a more structured, planned and systematic approach to the development of innovation in higher education.

Taylor (2003) clearly describes what Valcke envisages: an approach to courseware design and development that moves away from one in which a single teacher is solely responsible for a teaching program, to one in which a multidisciplinary team, led by a content specialist, manages the curriculum development and delivery. In this model, staff development is situated centrally in the management process, reporting directly to a committee, answerable to the Vice-Chancellor and the senior management team, and the rationale is that the university has established logistic and pedagogical structures to make strategic institutional change. Clear support for such initiatives comes from Reid (1999) who argues that staff development in online delivery from this strategic perspective is not about supporting individuals; it should be closely aligned with institutional goals and within this framework the developers' role is to assist individual academics to determine the level of engagement with online delivery.

Educational developers support change at the levels of both professional practice and organisational development (Beaty & Cousin, 2003; Fraser, 2001) and it is this conjunction that is the source of the developers' dilemma (Ryan et al., 2004, p. 44): it is a question of whether educational developers are a tool of management or whether they maintain solidarity with colleagues. These perspectives are not always dichotomous but may in fact be complementary. In Australia, distance education providers have generally resolved such questions in favour of strategic, institutional agendas (O'Reilly & Newton, 2002; Taylor, 2003) where university staff development for flexible delivery involves course development teams. Given the close association of distance education with educational technology, as well as an instructional design tradition that has been closely linked with quality off-campus teaching (Mason, 1998; Taylor, 2001), an important consideration is how instructional design is related to educational development and how it contributes to online learning, teaching and assessment. In Beetham et al.'s (2001) study, an issue for educational developers was the academic legitimacy of the new learning technology specialists and conflict arose at hand-over points for support of the mainstream technology. Instructional design practice in contrast was more substantially established in distance learning institutions and was associated with a research tradition often published in journals such as *Distance Education* and *Educational Technology Research and Development*.

Distance education and technology-mediated learning have a long history in Australia, dating back to 1911 (White, 1983) and some Australian universities, such as the University of Southern Queensland, Deakin University and Charles Sturt University, have aligned course development and production processes with a strategic or even mission-critical commitment to off-campus teaching. Earlier instructional design practice within this course development tradition may have been associated in the literature with more structured and behaviourist forms of learning, American defence traditions, and even an industrialised form of education (Gagné, 1977; Gagné & Briggs, 1974; Peters, 1994).

In some universities instructional designers are seen predominantly as educational developers and appear in the staff development websites of the universities (Murdoch University Teaching and Learning Centre homepage, 2005; University of New England, 2005). In an earlier era of distance education, instructional designers (Kember & Mezger, 1990, p. 69) may have undertaken transformation work on learning resources as a step in the staff development process, although Kelly's (1987) view is that they occupied a hybrid status in Australian universities. She observes that they were members of general or support staff, located in service units, and from her perspective many very capable on-campus teachers were stifled by the

demands of planning, scheduling, course preparation and teaching invisible students, activities she associated with instructional designers.

While Kember and Mezger (1990) found that instructional designers drew upon a range of models to suit the nature of the subject, the level of the course, and the characteristics of the students, Gros (1997) believes that instructional designers worked more from an intuitive basis rather than according to theories and research evidence. De Lisle (1997) maintains that much of instructional design theory was no longer applicable in the current context of rapid change, global communication and high technology; and for Moallem (1998) instructional design is a complex and ill-structured process that could not be reduced to a set of procedures. Karagiourgi and Symeou (2005) recognise the limitations of pre-determined, constrained, sequential approaches in instructional design and propose moderate constructivism to facilitate the development of situated, experiential and meaningful learning environments. The theoretical rigidities of instructional design in the online environment were being critiqued by these researchers. Karagiourgi and Symeou (2005) in particular, recognise that constructivism has been a dominant theory of the last decade, supporting the construction of knowledge by the individual, and has had a major impact on instructional design practice.

In terms of the online environment, a critical issue was how the online components being considered added value to learning and teaching, so an initial instructional design question posed by Sims, Dobbs and Hand (2002, p. 137) is: "Why are you attempting to place these resources or activities into an online context?" Collis and Moonen (2001) argue that the major roles of instructional designers were to design activities and develop various sorts of tools that could be used in multiple situations in which students were active, using the Internet to support and manage that activity, and this had direct implications for assessment activities conducted online.

More than a decade ago, Allen (1996) was able to conclude, after surveying ninety-nine instructional designers in Australian tertiary institutions, that frequent activities of instructional designers included determining instructional strategies, editorial work, proofreading and determination of layout. With the burgeoning of the Internet, convergence of off-campus and on-campus education and the impact of constructivism on its practice, Karagiourgi and Symeou's (2005) research indicates that instructional design was losing some of its old rigidities. What made it significant in terms of institutional assessment practices conducted online was the way instructional design practices were systematically and strategically embedded in institutional culture and practice. Assessment was integrated with systems thinking and from a quality perspective some managers preferred every academic to be exposed



to instructional design, especially if it was associated with a centralised learning management system such as Blackboard or WebCT that enabled a corporate image of the university to be projected.

King (2001) argues that contemporary Australian distance education practice has had to change as a result of globalization, massification, increasing government intervention and technological change. In his view the infrastructure of distance education in dual mode universities could be deployed to support the learning of all students and he specifically mentions distance education's expertise in planning and scheduling, production of learning resources, experience in non-traditional delivery and professional development programs for all staff. The roles of instructional designers (George & Wood, 2003; McGriff, 2000; Reeves, 2001; Wakefield, Frasciello, Tatnall & Conover, 2001) are evident in the literature and they have expertise in designing learning environments; selecting appropriate educational media; designing learning and assessment activities; structuring and editing learning resources; sequencing learning paths in learning resources across a diverse range of media; contributing to navigation/layout; and working with technologists or graphic designers to specify movies, audio and interactivity in learning resources. The most salient points from the literature about instructional designers and their professional practice in relation to assessment conducted online are:

- their intellectual traditions are instructional design, behaviourist theory, and constructivism;
- their orientations are the design of learning resources and activities for off-campus delivery rather than classroom teaching although this is changing with the convergence of on-campus and distance education;
- in some Australian distance institutions there is a requirement for all teaching staff to work systematically with instructional designers;
- project management and scheduling of work is often related to instructional design course development activities as they work with teaching staff;
- they have expertise in addressing specific educational problems and keep abreast of technological innovations and curriculum development; and
- many instructional designers are general staff appointments and work within a service culture and sometimes offer technical and editorial support.

Within Australian universities *academic staff developers* and *educational developers* may use these terms interchangeably as has been noted but rarely would they accept the term

*instructional designer*, whereas some instructional designers are described as educational developers (Bird, 2003). After visiting a range of Australian universities exploring staff development support for e-learning, UK academic Hanson (2002) comments on some lecturers' complaints about the focus of educational designers on a transmission rather than a constructivist approach; she also detected tension between academic and general/technical appointments, noting that some learning and teaching support units with academic staff had been disbanded because they had lost a service culture. While researching roles in learning and teaching online, Goodyear, Salmon, Spector, Steeples and Tickner (2001) locate possible sources of tension between a humanistic perspective in opposition to a competency-based approach in that it objected to a tendency to reduce professional activity and ability to a descriptive list. A common perception of instructional design (Collis & Moonen, 2001; Whitlock, 2001) is that it has focussed in the past on predetermined content and methods of instruction that can be broken down into more detailed components. Goodyear et al. (2001, p. 67) recognise this as a fundamental objection, associated with deeply held beliefs about how people should be treated, how they know what they know and how they attach meaning to events.

There have been citations presented in this review [Gros (1997); de Lisle (1997); Moallem (1998); King (2001); Collis and Moonen (2001); Sims et al.,(2002); Karagiourgi and Symeou (2005)] indicating that instructional design practice is certainly changing; convergence is occurring; constructivism is having a significant impact on practice with a transition from pre-determined, packaged learning to holistic, collaborative learning with a focus on authentic learning activities in online environments. An example of a contemporary instructional designer's position description in light of these influences is the following by Keppell (2004):

*A major part of my role is to address beliefs about technology, focussing on using technology as a tool to enhance learning and complement good teaching. I emphasise constructivist approaches that foster knowledge construction and technology as a cognitive tool rather than as an end in itself. I classify myself as an instructional designer, educational technologist and change agent and I focus on concept design of authentic learning, project-based learning, online communities and case-based learning using technology in all its forms. I generally concentrate on staff as this is where I feel I can make a difference. My aim is to complement these constructivist teaching strategies with media (video, audio, photography), online learning through the Blackboard Learning Management System, the teaching and learning of IT competencies (a government requirement) and research. (p. 6)*

In summary, there is a clear theme in the literature that instructional designers provide significant support to academic staff in online learning, teaching and assessment. In fact they share many of the essential characteristics of educational developers but this is not always the case because there is considerable diversity in the theory and practice of instructional design in

Australian universities. After Allen's (1996) study there was a period where there was a lack of national quantitative studies in the area of instructional design but Bird (2003; 2004) is conducting interesting research about changing roles in this area. This is a significant area of research because growth in technology-mediated teaching, particularly online learning with the adoption of learning management systems, has been substantial in the last decade. The approach cited earlier in this section (Ryan et al., 2004), that it is essential to understand the contexts in which staff and academic developers work, certainly applies to instructional designers.

## 2.8 Conclusion

Research in assessment generally is substantial and ongoing, covering all aspects of practice and many educational developers draw from the literature in this area as a basis for advising academic staff about assessment practice. The literature on educational development is informed by concepts such as *lecturers' conceptions of learning and teaching*, *deep and surface learning* and *aligned assessment* but terms such as *computer-aided assessment*, *e-assessment*, *online assessment* or *technology-mediated assessment* do not have the same citation levels although they are emerging in categories of the literature that address pedagogy and technology.

With the growth of flexible learning and the conduct of assessment in online environments, the new possibilities for assessment are most obvious in terms of automated assessment but it could be clearly argued that automation only introduces elements of efficiency in marking and administration rather than any change in the fundamentals. When elements of e-learning are involved it is inconclusive in the literature as to whether such terms as *technology affordances*, *interactivity*, *learning management systems*, *automated marking* and *asynchronous discussions* are significant elements in educational developers' perspectives about assessment as it is conducted online.

In this chapter previous studies and research in the area of the conduct of assessment online have been reviewed but it has not been a widely researched area. The most significant work is in the area of affordances of the technology explored in issues of *Alt-J Research in Learning Technology* by researchers such as Conole (Conole & Dyke, 2004a; Conole, Oliver, Cook, Ravenscroft & Currier, 2002), in studies of automated assessment (CAA, 2006) and in areas such as electronic online discussions (Berge & Collins, 2005; Salmon, 2002a). As a result of reviewing the literature about assessment conducted online, Table 2.4 was developed. It identifies the main forms of assessment that are discussed in the literature and its incorporation as an intervention in the study will be discussed in Chapter Three.

Finally, at the intersection of assessment, assessment conducted online, and educational development, there are significant gaps in the literature. Many educational developers (Sorcinelli, Austin, Eddy & Beach, 2006), for instance, are concerned about what they see as an over-reliance on technology, as the teaching and learning approach that everyone must adopt. The literature shows that there are recognisable intellectual traditions that inform the thinking and practice of educational development when e-learning is involved. The general theory on assessment associated with theorists such as Biggs, Ramsden and Boud, reviewed earlier in this chapter, has been the most influential, but instructional design and constructivism, associated with technology mediated learning, is significant. Contemporary university websites clearly indicate that Academic Development Units and Educational Technology Units house educational developers who advise teaching staff about assessment when it is conducted online. There are however, very few studies that specifically cover the spectrum of assessment, assessment conducted online and educational development.

## Chapter Three: Research design and methodology

### 3.1 Preview

This chapter presents the development of an appropriate research design and methodology to address the research questions in the field of study.

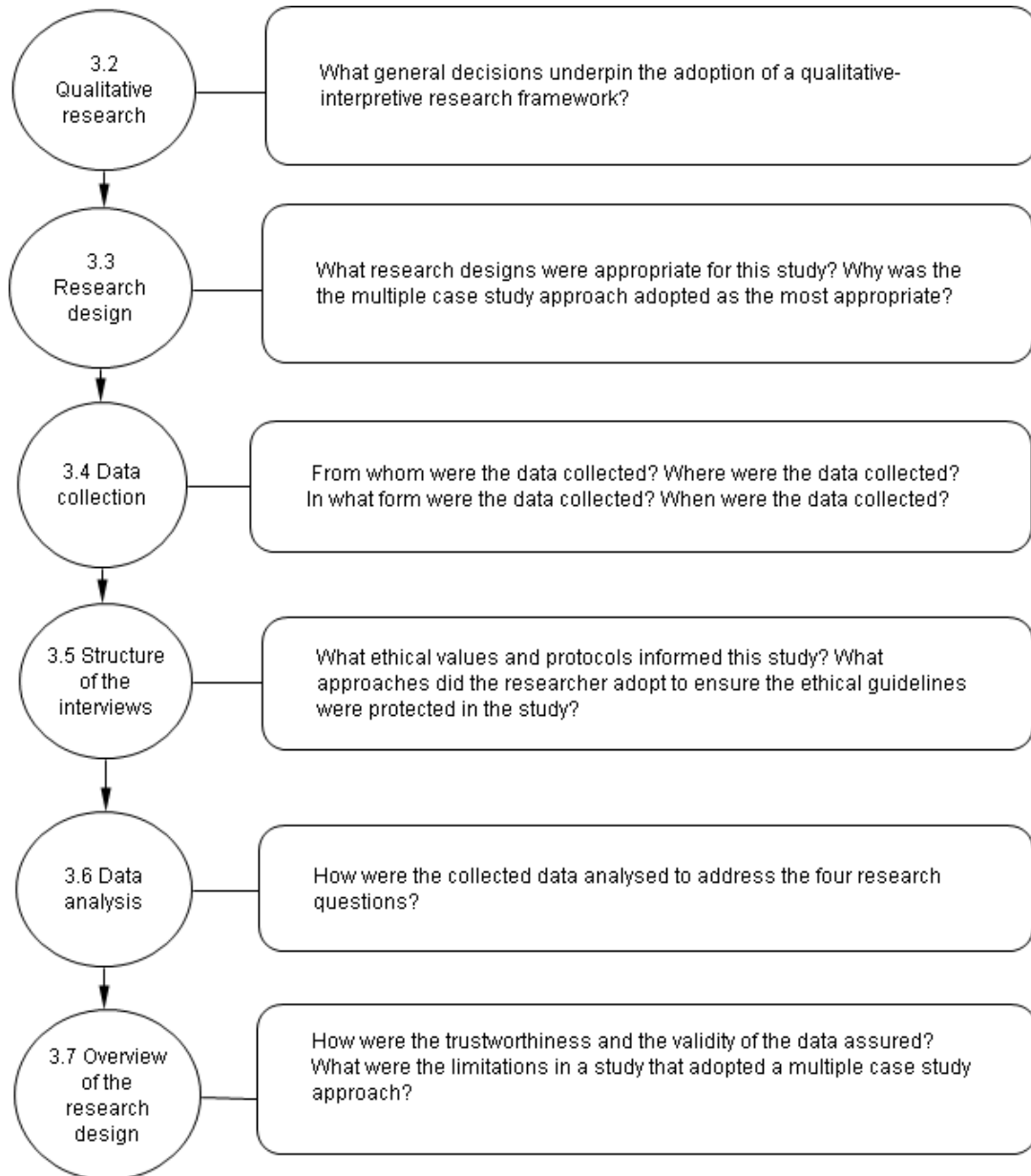


Figure 3.1. Preview of Chapter Three

### 3.2 Qualitative research

In Chapter Two a framework for forms of assessment conducted online was derived from the literature; and this was linked with the need for more research around the intersection with

educational development. This chapter explains why a qualitative-interpretive approach has been adopted as the basic research design in this study and why the research design was conceptualised as a series of multiple case studies, based upon scheduled interviews with participants. Ethical issues arising from the study are discussed and the proposed methods of data analysis of the transcripts are justified. Table 3.1 summarises the general research decisions explored in determining the research design and methodology.

*Table 3.1. Research design decisions*

<b>Research decisions</b>	<b>Choices made for this study</b>
Theoretical perspective	Qualitative interpretive approach
Research methodology	Multiple case studies
Research participants	6 educational developers located in 6 different universities
Data collection methods	3 semi-structured interviews conducted with each participant – 6 month/semester intervals between each interview
Ethical considerations	University of Wollongong – Ethics guidelines for the conduct of research
Data analysis	Qualitative, interpretive, thematic analysis of eighteen interviews
Validity/Limitation	Recognition of the strengths and limitations of multi-case methodology

### 3.3 Research Design

The field of study in this inquiry focusses on the perspectives of educational developers supporting the conduct of assessment online so there was a strong initial orientation to adopt a qualitative rather than a quantitative paradigm because perspectives are best expressed in the individual voices of educational developers; furthermore, there are significant considerations around the contextual differences in Australian universities. A range of possible methodologies was systematically considered before a decision was made to adopt a multiple-case study approach.

Reeves (2003a) has identified flaws in research studies in e-learning including lack of linkages to theoretical foundations, inadequate literature reviews, poor sample sizes and meaningless discussion of results; Reeves (2002) has also specifically argued the case for better research on the demands of online teaching on tertiary staff. Coomey and Stephenson (2001, p. 38) recognise shortcomings in the size of samples in e-learning programs, often less than fifteen

learners with the quality of programs also indeterminate. In reviewing research in the area of ICT and learning and teaching Conole (2004) acknowledges that much of the current research has been criticised for being anecdotal and lacking in theoretical underpinnings; furthermore, there is a need for explicit models of course development for e-learning and assessment, as well as an understanding of the way technology impinges on both organisational structures and individual teaching staff within institutions. Gunawardena (2001, p. 122) concludes that the complexities of online learning call for the use of multiple methods and multiple sources of data to understand group and individual perspectives. Table 3.2 provides an overview of the process that led to the decision to adopt a multiple case study approach and indicates some of the literature that was influential in that choice.

*Table 3.2. **Research design issues***

### **3.3.1 Should a quantitative research method be adopted?**

In an Australian national study Allen (1996) used questionnaires to survey instructional designers who supported open, distance and flexible learning in tertiary institutions. He obtained ninety-nine usable returns from 140 questionnaires that had been posted out to staff working in the area. Allen's findings indicate patterns of distributions and engagement of his sample group in such roles as determining instructional strategies; designing instructional goals and objectives; designing the layout and appearance of materials, undertaking editorial work and proofreading. Northcote (2003) conducted research into online assessment in higher education, exploring the influence of pedagogy on the construction of students' epistemologies and she produced findings and a model which suggest an almost mathematical relationship between knowledge construction, learning outcomes and assessment activities that were traditionally linked with critical analysis and higher order thinking. These are graphically represented: vertically on a knowledge axis along a spectrum from objectivist to constructivist; and horizontally on a learning outcomes axis from quantitative to qualitative. Various assessment practices can then be located in terms of their surface or deep assessment possibilities. The following figure illustrates Northcote's critical concepts.



*Figure 3.2. Learning outcomes, knowledge and assessment*

A more recent Australian study specifically in the field of conducting assessment online (Byrnes & Ellis, 2006) surveyed forty of the forty-three universities in Australia and was based on 391 responses. Its methodology and research design were based primarily on quantitative approaches and some of its findings, especially about the prevalence and types of assessment conducted online, are closely related to areas of investigation in this study.

Allen's (1996), Northcote's (2003) and Byrnes and Ellis's (2006) studies invite a quantitative approach to research in this field. Their methods were not adopted because the focus in this inquiry is on concepts such as educational developers' thinking, perspectives and perceptions within institutional settings where the culture and context are also significant. Figure 3.2 is reproduced to illustrate the mathematical and graphical representation of the variables along vertical and horizontal axes, almost as if learning could be accurately measured in this way, independently of the teacher, the students' learning styles, motivational and cultural factors or the context in which learning was occurring.

The adoption of a qualitative approach means that findings from the study cannot be extrapolated and generalised; it also means that the perceptions of educational developers about online learning and assessment cannot be equated with evidence of improved student learning. Independent quantitative measures, such as those associated with scales on the Structure of the Observed Learning Outcomes taxonomy (SOLO) (Biggs, 2003) are more likely to support such findings. The adoption of qualitative research methodologies rather than quantitative

approaches in this field is common and will be accepted in this study for the reasons Salmon (2002b) indicates:

*CMC studies for teaching and learning, when rooted in positivist perspectives, can lead to research that is less sensitive to context and less suited to the exploration of meanings attributed by human actors to their purposes than are more qualitative approaches. (p. 197)*

### 3.3.2 Should the study be underpinned by generally applicable existing theory?

Wilson and Stacey's (2004) research indicates that Roger's (2003) theory of diffusion of innovation for the adoption of technology dominated much of the literature in the integration of ICT into learning, teaching and assessment and they refer to several universities that have specifically used this theory as a framework for staff development. Where the adoption of online learning and teaching was the innovation, Sherry's (1998) view is that change agents such as educational developers needed to be aware of the impact of cognitive and affective variables that impacted on the adoption process and to recognise that it was not just a matter of hardware and wires but that it required a new way of teaching and learning; Newton, Hase and Ellis (2002) describe the innovation as a social and a technical process. The Concerns Based Adoption Model (CBAM) (Hall & Hord, 2001) is compatible with Roger's diffusion theory in that it recognises stages of change and adoption of an innovation as a dynamic, resource-consuming process through which people and organisations gradually come to understand an innovation and reach the stage where they become competent users. In an earlier Australian context of educational technology Meacham (1982) explored the CBAM model's tenets that the source of any improvement is the individual rather than the institution and that the design of staff development should be based on the needs and concerns of individuals. There is much to commend the theoretical frameworks of the CBAM and Roger's diffusion theory as the underpinnings for a research methodology in this study. Certainly the concerns and phases that innovative teaching staff work through, as well as the kinds of questions that Loucks-Horsley (1996) relate to the model are of particular interest:

*In general, early questions are more self-oriented: What is it? and How will it affect me? When these questions are resolved, questions emerge that are more task-oriented: How do I do it? How can I use these materials efficiently? How can I organize myself? and Why is it taking so much time? Finally, when self- and task concerns are largely resolved, the individual can focus on impact. Educators ask: Is this change working for students? and Is there something that will work even better? (Loucks-Horsely, 1996, ¶ 1)*

Although Roger's diffusion of innovation theory and the CBAM have been well researched and are established in the literature, they invite a different investigative focus to change management than is envisaged in the aims of this study. Sherry (1998, p. 19) emphasises that an innovation is generally a stable entity in a traditional diffusion model but the use of

educational technology to conduct assessment is dynamic and constantly evolving. Ellis and Phelps (2000) comment on the lack of substantial theory and research in designing online learning and in their view this was unlikely to change in the immediate future. The type of research questions in a CBAM model as outlined by Hall and Hord (2001, p. 49) are cast in such terms as:

*What does the innovation look like when it is in use? What would I see in the classroom where it is used well (and not as well)? What will teachers and students be doing when the innovation is in use? (p. 49)*

The CBAM (Hall & Hord, 2001; Loucks-Horsley, 1996), mainly researched in schools over more than a quarter of a century, focusses on the broader organisational culture, elements in that culture that are conducive to change and the interaction of staff in such contexts. While these are issues that are very pertinent to this study they do not focus in sufficient depth on the perceptions and thinking of the change agents, the educational developers; and they do not provide sufficient insight into the learning and teaching dimensions of the innovation.

There are other theoretical groundings for a study such as this and the literature on communities of practice (Mayes, 2001; Palloff & Pratt, 1999; Wenger, 1998) is of particular interest. A recurring theme in this research tradition is that professional identities are constructed by participation in *communities of practice* and the primary unit of analysis is informal *communities of practice* rather than the individual or the social institution. Rich data sources are the language and context shared by community members, the common narratives and tacit knowledge that underpin performance. For educational developers, communities of practice are linked with membership of professional associations (ASCILITE, 2005; HERDSA, 2005; ICED, 2005; ODLAA, 2005; SEDA, 2004) and the various journals, conferences, listservs, newsletters and informal networks associated with membership indicate professional orientations and influences upon practice. In terms of educational developers' thinking about assessment, this model is certainly relevant but there are diverse practitioners working in the area of online learning so there is, in fact, no single community; nevertheless, community of practice theory suggested significant data sources and influences upon professional thinking and practice to address in the research design.

A final possible theoretical perspective is introduced by O'Donovan, Price and Rust (2002) who speculate:

*Faced with the difficulty of expressing the inexpressible we conjectured that knowledge held by academic staff on assessment requirements was in part, tacit knowledge and often tricky, if not impossible, to articulate; in Polanyi's words 'we can know more than we can tell'. (p. 12)*

This concept of tacit knowledge, and a separate but associated construct of mental models, introduce complexities that are obviously pertinent to this study because they incorporate perspectives and thinking about e-assessment. The term *mental model* has acquired a certain usage in computer-aided design and according to Spicer (1998) it refers to deeply ingrained assumptions or generalizations about how we see the world. Mental model formation in Norman's (1983) view is influenced by prior experience, tasks undertaken, issues confronted and the strategies employed to resolve them. Jonassen (1995) distinguished between cognitive, conceptual and mental models but in his research framework mental models are best inferred from performance and therefore it is essential to observe problem-solving tasks.

The work of Schon (1983; Schon, 1987) suggests two types of coexisting mental models: espoused theory based on descriptions or explanations of activities in which people are involved and theories-in-use which are more implicit in performance. The gap in Schon's words (1987, p. 162) is, "between a description of the designing and the knowing-in-action that corresponds to it". The problem in seeking to ascertain educational developers' thinking about assessment online is that they may have revealed their espoused theory but in practice adopted altogether different strategies without being consciously aware of the discrepancy. Constraints which influenced the way educational developers think may be related to a spectrum of realities including institutional policies, previous personal experience, resources, skills, logistics and institutional support and infrastructure.

Is the idea of mental models, associated with *knowing-in-action* or inference based on observation of performance, the basis for a theoretical perspective to investigate educational developers' perspectives? It has been recognized by Mayer and Moreno (2002, p. 117) that multimedia instructional messages have been influenced by the designer's conception of multimedia learning; Jackson & Anagnostopoulou (2001) have also observed that the pedagogical conceptions of teaching staff influence the student learning experience, regardless of the technology used. These underlying conceptions reveal the thinking that informed educational developers' perspectives. A theoretical approach that could illuminate such conceptions is valuable.

There is a strong argument in being aware of the concepts of mental models and Schon's espoused theory and theory-in-use, especially in relation to the second research question. This question involves the significant influences that educational developers recognise upon their thinking about assessment online. Despite its relevance, there are difficulties in fully adopting this theoretical perspective.

Theory-in-use, the mental model implicit in performance of that pattern of activity, is best determined by observation but it could be fluid, incomplete and disorganised, as noted by Henderson, Putt & Coombs (2002); it could be poorly rationalised, misinterpreted and could exist below the individual's level of awareness (Manathunga, 2002). This tacit and personal knowledge is also deeply rooted in action and often in an individual's commitment to a profession as Rust, Price & O'Donovan (2003) noted.

This deeply ingrained notion of theory-in-use is also compounded by the observation of Hannafin, Hannafin, Land & Oliver (1997) that design practices are influenced by personal preferences, pragmatic concerns, experience with 'what works' and familiarity. In the case of some educational developers, coming as they do from a diverse range of disciplines and in some cases with no formal assessment theory, their practice is likely to be intuitive. To represent educational developers' thinking about specific types of assessment online, such as the design of assessment for complex problem-based learning using a range of technologies, would have required a variety of data collection methods. Jonassen (1995) outlines some of the possibilities and these include think-aloud, verbal protocols, online protocols (computer audit trails), problem-solving and troubleshooting performance; inference from performance and therefore, performance of some problem solving tasks; teach-back procedures; and elicitation of educational developers' images or metaphors of assessment within the learning/teaching context.

Ideally it would have been preferable to identify both espoused theories and theories-in-use of educational developers in relation to assessment online, especially where there are discrepancies involved. Given the dynamics of educational developers' working contexts this was simply not possible within the time and resource constraints of this study. The primary data source would have been educational developers' interactions with academic staff. Subsequent observation and follow-up of educational developers' interactions, in terms of how their advice to academic staff was acted upon, would also have been of interest. Weeks in fact may have passed without critical incidents arising or worthwhile data becoming available. These are compelling and salient difficulties that explain why research methods around mental models, espoused theory and theory-in-use were not adopted as the underpinning theoretical research design for this study.

### **3.3.3 Was action research the most appropriate qualitative research method?**

Action research, according to Salmon (2002b, p. 209), is particularly appropriate for exploring the use of computer-mediated communication for teaching and learning. In exploring the reasons why experimental design frameworks are not so appropriate in higher education

teaching innovations, Kember (2003) also refers to ninety action learning projects where data collection sources consisted principally of either student feedback questionnaires or interviews. Macdonald, Mason and Heap (1999) report on an action research project in which the first author was a tutor: it sought to establish how assessment might support student learning, and data collection methods included open-ended interviews, observations of the pilot project, computer conferencing, telephone interviews and email. Millwood and Terrell (2005, p. 197) report on action research which involved engagement with a community of researchers (students) and communication to a real audience. Ellis and Phelps (2000) discuss findings of an action learning research project that explored staff development for online delivery and the main benefits of action research they identify are the simple, cyclical structure of the research process, team collaboration and involvement of the participants. Kember and Gow (1992) describe action research where practitioners attempted to improve their own teaching through cycles of planning, acting, observing and reflecting. The action research methodology in all of these projects was aligned with dimensions of the current study and it offered significant benefits.

One of the tenets of action research that Zuber-Skerritt (1991, p. 113) highlights is “team research by practitioners into their own practice rather than by specialists on their behalf” and it requires assurances about the role of the researcher and standards of objectivity because of levels of involvement in a project. Kember and Gow (1992) recognise the value of action research as a method of staff development for improving teaching and learning in tertiary education and it is the dimension of collaboration within a team context by practitioners who are researching and seeking to improve their own practice that is endorsed, as it is in the studies cited above. Despite its appeal, action research has not been adopted, principally because a broader institutional cross-section of educational developers’ perspectives was required to meet the aims of this study. If the researcher was part of a collaborative team researching its own practice, then the diversity of the sampling group would have been more restricted. This was an important consideration because educational development and assessment online were clearly influenced to a greater or lesser extent by institutional and organisational contexts and this perspective needed to be incorporated in the sample group. The sample group would have been more likely to address these perspectives if its composition was more broadly based but this was not so likely with an action research methodology.

### **3.3.4 Was ethnography the most appropriate qualitative research method?**

As a qualitative research method, ethnography explores society and culture (Merriam, 2001, p. 14) revealing the beliefs, values and attitudes that structure the behaviour of a group. Close

field observation and interviews are involved in collecting the data and interpretation has a socio-cultural orientation. Ethnography has evolved from social and cultural anthropology and Hammersley (1995) states that:

*...in its most characteristic form it involves the ethnographer participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, asking questions - in fact, collecting whatever data are available to throw light on the issues that are the focus of the research.*  
(p. 1)

The participation observation elements of watching, listening and asking questions are clearly a valuable data stream but in terms of this study it would have meant being present when educational developers were engaged in critical incidents that revealed their thinking about assessment. In researching the mental models that novice and expert designers use in problem solving, Jonassen (1995) adopted a variety of methods but his research was based on a controlled environment with delineation of the variables whereas participant observation in ethnography occurs in more naturalistic settings.

An Australian doctoral study (Reid, 2004) adopted an ethnographic model to explore the capabilities of tutors in online learning environments and it incorporated substantial observation components. The first source of data collection was based on electronic observation of six online units with the researcher in the role of a fieldworker observer; and second, a face-to-face participant observation phase of the tutors as they publicly interacted with students throughout the semester. The presence of the ethnographic field worker in the virtual online community was a valuable source of data because the researcher had access to all archived interactions. In assessing teacher presence in online environments Canadian researchers (Anderson et al., 2001) used discourse analysis to explore the rich data provided by the ethnographic presence of the *field worker* in the online environment, identifying target variables, collecting samples of representative text, and devising rules for categorising segments of the text.

Ethnography has been rejected as the research method in this study primarily because of time and the level of access required to conduct observation. The aims of this study are more likely to be achieved if data are drawn from multiple settings but adoption of ethnography would have meant a reduced sample size. It would have been possible, for instance, to implement an ethnographic model within one or perhaps two Australian universities but the range and type of Australian universities (Australian Education Network, 2005; Marginson & Considine, 2000) suggests that the broader relevance of the study would be limited because of the restricted sample size. A larger cross-section of universities in the sample would have entailed multiple teams of participant observers in the field and essentially it becomes a question of logistics. In

an ideal sense, observation of daily interactions between educational developers and academic staff, analysis of critical incidents in which they were engaged, and observer access to a diversity of online sites that were discussed would provide extremely valuable data. In fact this could have been a significant national study within the DEST Evaluations and Investigations Programme series (DEST, 2005) or placed under the auspices of the Carrick Institute (2006) but it would require careful attention to issues of logistics, ethics, costing and research design.

### **3.3.5 Was grounded theory the most appropriate qualitative research method?**

Grounded theory (Strauss & Corbin, 1990) is a well established qualitative research method that has been associated with the application of a set of procedures to interpret and organise data. Pandit (1996) identifies the following elements of grounded theory:

- identification of concepts as the basic units of analysis;
- comparison of incidents and naming like phenomena with the same term;
- accumulation of the basic units for theory;
- formulation of categories at a higher, more abstract level than the concepts they represent;
- propositions as a more useful term than hypotheses because the latter indicate more measured relationships; and
- application of axial coding to re-integrate the concepts in new ways, making connections between categories and sub-categories.

In a research study of the implementation of online learning in the Queensland mining industry Newton, Hase and Ellis (2002, p. 3) highlight another important feature of grounded theory: the process is data-driven in that question probes are modified, becoming more focussed on the concepts emerging from each interview; hence the data collection and analysis are ongoing and interactive. Myers (1997, p. 5) describes grounded theory as a research method distinguished by continuous interplay between data collection and analysis, noting its value in context-based, process-orientated descriptions and explanations of phenomena.

In discussing the appropriateness of naturalistic inquiry for interpretations and perceptions, Naidu and Cunningham (2004) see such contextual studies as calling upon the active use of the inquirer's tacit knowledge, inviting the use of qualitative data-gathering tools such as interviews, direct observations and document analysis; and in their experience (Naidu & Cunningham, 2004) the inquiry:



*...takes the form of successive iterations of these elements: purposive sampling, inductive analysis of the data, development of grounded theory based on the inductive analysis, and projection of steps in a constantly emerging design. (p. 143)*

Grounded theory was adopted in a recent Canadian research project (Schwier et al., 2004) on instructional designers' observations about their identities, their participation in communities of practice and roles as change agents. An important consideration in the research design of this study was that extensive literature describing theoretical models of instructional design had not been drawn from practice and consequently instructional design theory was not grounded in practice. The following considerations were advanced for the adoption of grounded theory in the study:

- the need to ground the theory in data in order to fully explain the complexity and variability of the phenomena;
- that instructional designers take an active role in responding to problematic situations;
- that instructional designers act on the basis of meaning;
- that meaning is defined and redefined through interaction;
- a sensitivity to the evolving and unfolding nature of events (process); and
- the importance of interrelationships among conditions (structure), responses (process), and consequences.

This Canadian study explored concerns and issues that are most pertinent to the current study and its methodology has some very compelling logic. Primary data were gathered through semi-structured interviews with five individual instructional designers from four different organisations and this was complemented by focus group data from eight instructional designers at one organisation and email correspondence. Constant comparison was used to discover the categories that accounted for much of the variation in the data. This Canadian study was different in that it was not so specifically focussed on such a field as the conduct of assessment online and it also possessed an element of critical pedagogy in which instructional designers adopted roles as agents of social change. The present study was designed before Schwier et al., (2004) published their findings and a multiple-case study approach in preference to grounded theory had already been adopted, but there were some significant shared methodological elements and design approaches in the two studies.

### 3.3.6 Why was a multiple case study research method adopted?

Although action research, ethnography and grounded theory were not adopted as the primary research method in this study they embody approaches which meet Patton's (2002) concept of *methodological appropriateness*. Hoepfl (1997) identifies the following prominent characteristics of qualitative research which she has synthesised from the literature:

- the use of natural settings as the source of data;
- the researcher as a 'human instrument' of data collection;
- the use of inductive data analysis;
- the use of expressive language and the 'presence of voice' in the text;
- the interpretive character of qualitative research and interpretations of meanings by the researcher;
- attention to the uniqueness of each case; and
- an emergent rather than predetermined design and special criteria for trustworthiness.

It is evident that many of the characteristics in Hoepfl's (1997) list are applicable to action research, ethnography and grounded theory; furthermore, the boundaries between these various research methods are not discrete, so the question of determining the most appropriate research method for this study was one of degree of alignment and fit in 'methodological appropriateness' when set against the inquiry's general purpose and research questions.

Research around the intersection of educational developers' perspectives about the conduct of assessment online involves a considerable diversity of issues and invites the use of multiple methods. Action research cycles of planning, acting, observing and reflecting, ethnography's focus on the beliefs, values and attitudes that structure the behaviour of a group such as educational developers, and grounded theory's continuous interplay between data collection and analysis are all relevant to this study. Other alternative methods of qualitative research such as narrative and phenomenology (Creswell, 2003; Elliott, 2005) were also options that may have been considered for the field of study and the research questions being investigated but most consideration was given to the methods listed in Table 3.2.

Case studies have been widely recognized as an appropriate research method in education (Merriam, 2001; Stake, 1995; Yin, 2002, 2003). Case studies (Stake, 1995, p. 15) involve in-depth exploration of a program, an event, an activity, a process or one or more individuals; the case(s) are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time. Case study methodology

is also useful when issues are difficult to extract from their context. Yin (2002) thinks of case studies as empirical investigations that explore contemporary phenomena within their real-life contexts, especially when the boundaries between phenomenon and context are not clearly evident. For Merriam (2001) case studies are intensive, holistic descriptions, involving analysis of a single unit or bounded system; they provide insight into how things got to be the way they are.

Adoption of a case study approach ensures application to single event or multiple cases (COLMR, 2005; Eisenhardt, 1989); these cases can be of shorter or longer duration; and sampling of experiences and/or informants is typical rather than total immersion in the setting or culture. Given the diversity of Australian university contexts and cultures in which educational development is delivered, the idea of a series of multiple case studies, of a range of sites and interviews, broadens the basis of the data source and is likely to produce more significant findings. Miles and Huberman (1994, p. 27) state that qualitative researchers usually work with small samples of people, nested in their context and studied in depth; furthermore, because the case study is a bounded system, they maintain that the boundary determines what is included and excluded as part of the case, since researchers obviously could not “study everyone everywhere doing everything”. Stake (1995) proposes that an instrumental case study that examines a number of cases is a collective case study, and in commenting specifically on this category of research Hill (1998, p. 190) observes that, “a case is handsomely enriched by the possibility of being placed in some relationship to another case framed as a similar kind of case in hot pursuit of a solution to a problem, or an ‘issue’”.

This is an element that is critical because the six case studies, associated with six educational developers in six different universities, offers this notion of enrichment that Hill describes above. Multiple cases strengthen the results by replicating the pattern-matching (Tellis, 1997) and this increases confidence in the themes and findings that emerge from the study. A decision to use multiple case studies was also aligned with constructivist approaches that are often adopted in designing online learning environments with the focus on learners actively involved in constructing their learning and with an emphasis on multiple perspectives of individual experience.

Case studies are a particularly appropriate strategy (COLMR, 2005; Yin, 2002) when *how* or *why* questions are being investigated. For example, how can educational developers’ thinking about assessment online be represented?

As Gillham (2000) implies, the researcher in a case study is seeking the qualitative element of how people such as educational developers understand themselves, the issues they engage with

in their settings and what underpins the more objective evidence. Essentially the aim is to explore their thinking about assessment issues that arise in institutional contexts when online dimensions are involved; in Gillham's (2000, p. 11) terms, the aim is to "get under the skin of a group or organisation to find out what really happens". Stake and Cisneros-Cohernour (2000, p. 61) also argue that culturally rich interpretations are essential in understanding the value of education; and they maintain that evaluations without such interpretation are simplistic and in many cases reduce the data to what can be defined and quantified.

This study concentrates on educational developers' perspectives, focussing on practitioner voices, and it uses a common data collection source, interviews, recognizing Kozma's (2000, p. 13) injunction that "we need to embed ourselves (as researchers) in the context of our client base: we must come to deeply understand their needs, goals, problems, and issues and embed these, in turn, into our theories, research and practices".

Within the general qualitative research context presented by Creswell (2003, p. 18), the investigator adopts case study methodology to collect open-ended, emergent data of participants' understandings about the phenomena being investigated: educational developers' perspectives about the conduct of assessment online. The primary purpose was to interpret and develop themes from the data, then to derive from these themes a series of findings and recommendations that will inform good present practice in this field.

In summary, the multiple case study approach was adopted because it was the most appropriate research method to address the inquiry's purpose of exploring the participants' perspectives about the conduct of assessment online. Specifically for this project, the case study method offered the opportunity to:

- capture individual practitioner voices;
- describe each case in its unique institutional context;
- compare and contrast multiple perspectives; and
- conduct an in-depth exploration of six case studies associated with six different universities over three semesters.

### **3.4 Data collection**

Multiple case studies exploring the perspectives of educational developers about the conduct of assessment online are bounded by the research questions and the critical concepts which they encapsulate. Essentially these are the characteristics of educational developers that influence the assessment advice they provide to academics, influences upon their thinking about

assessment conducted online, critical assessment issues they identify and representation of their thinking about assessment conducted online. In terms of circumscribing boundaries for the study and in setting general criteria for inclusion and exclusion of data, there is an obvious potential for slippage and a lack of clarity in terms of educational developers' thinking and the influences which impact upon their perspectives. The selection of multiple cases is designed to provide a perspective on thematic patterns, as well as to accommodate a diversity of views amongst participants in the sample group.

### **3.4.1 From whom were the data collected?**

Participants in this study were educational developers in six Australian universities employed under a range of position titles. They were identified from university websites and were then invited in a formal letter to participate in the study in accordance with guidelines for human research at the University of Wollongong, each one being sent a Participant Information Sheet (Appendix A).

There was purposeful sampling (Merriam, 2001, p. 61) in the selection and determination of the participant group based on very clear criteria. Each of the participants:

- was formally involved, at least as part of their workload, with the integration of ICT into learning, teaching and assessment;
- provided advice, at least as part of their workload, to academic staff about learning, teaching and assessment in courses that were taught either partially or fully online;
- had a strong focus on student learning or on the creation of learning environments;
- possessed a substantial acquaintance with educational technology;
- had a minimum of five years working in the area of educational development or educational design;
- had either published in the field and/or had strong links and involvement in professional associations; and
- was selected so that there was a gender balance.

It was possible to verify from university websites whether participants met these criteria but this was also complemented by a search of conference literature, professional association membership lists (ASCILITE, 2005; HERDSA, 2005; ODLAA, 2005) and the investigator's own knowledge of potential participants. Twenty-five names of possible participants were initially identified as meeting the criteria but only seven formal letters were posted with six

agreeing to participate in the study and one educational developer declining on professional grounds. Five of the six participants were contacted directly by the author, in the first instance by email; this was then followed up with a formal letter. The sixth participant joined the sample group in the same way but there was an extra preliminary step when the researcher, seeking a representative from a specific category of university, wrote to the head of a group of educational developers. The head of the unit then contacted staff members internally, inviting expressions of interest to participate in the study. The head of the unit informed the researcher of the interest of one member of his/her staff and subsequently the same contact procedures used with the other five participants was adopted.

The sample group consisted of six participants but it was understood from the beginning that this number allowed for a possible attrition of two during the course of the project. This did not occur, however, and the participant group remained intact for the duration of the project.

There was also purposeful sampling in terms of a representative gender mix so that the sample consisted of three males and three females. In the case study analysis and questions gender was not specifically explored as an issue but the concern was to have a gender-balanced sample.

At the time of the development of the original proposal for this study the researcher had been in communication with Ms. Jenny Bird at a Regional Staff Developers Conference (May 9th , 2003), Southern Cross University (SCU). She had been conducting research in the area of flexible learning professionals and had developed a database of approximately 200 educational designers and developers who worked in Australian universities and who had indicated a preparedness to participate in her research. For the purposes of her study her population was defined by the following characteristics :

- staff working in dedicated design/development positions;
- staff working with academics on the design and development of flexible learning programs and materials; and
- not staff who worked purely in the production of flexible learning materials. (Bird, 2004).

From this personal communication (Bird, 2003, 9 May), the researcher had become aware that there was a population of developers/designers working in Australian universities who had agreed to participate in Ms Bird's research project although details were not formally published until December, 2004 (Bird, 2004). This knowledge influenced the researcher's decision to include in the composition of the participant group for this study a purposive sampling of staff who had been working in the area of educational development or educational design for a

minimum of five years. It also increased the researcher's awareness of the diversity of position titles that formally described the roles of such staff.

An important undertaking given to participants in this study, as part of the University of Wollongong ethical requirements, was that neither the participants nor their institutions would be identified in the reporting of this research. As indicated in Appendix A, it was stated quite specifically that: "The study will be anonymous and confidential. In both the analysis and reporting of the data neither you nor your institution will be individually identified". The Consent Form (Appendix B) also stated that participants were "free to refuse to participate" and also "free to withdraw from the research at any time".

During the interactions with participants in this study, the investigator became aware of how important these ethical sensitivities were and in a number of instances participants exercised their right, at a later stage of the process, to remove material from the interview transcripts even though they had been accurately recorded. The fact too that more than half of the interviews did not take place in participants' work office locations also indicated that the sensitivities of participants in relation to the anonymity and confidentiality of the research process were being respected.

### 3.4.2 Where were the data collected?

The primary data for the six case studies were related to educational development practice at six Australian universities in which the participants were employed. Interviews with participants occurred in their offices or at any venues which they nominated. Supplementary data were obtained from publicly accessible websites and policy documents at the respective institutions. The categories of universities that included participants in this study are represented in the following table which is based on the Australian Education Network (2005) grouping.

*Table 3.3. University categories represented in the case studies*

Classification of university	Number of Representatives in this study
Group of 8	√ √ √ (Three)
Campus of Group of 8	√ (One)
Australian Technology Network	√ (One)
Innovative Research Universities Australia (IRU)	√ (One)
New Generation Universities (NGU)	Not represented in this sample although the

researcher works at a university in this category.

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### **3.4.3 In what form were the data collected?**

The researcher travelled to locations nominated by the participants and conducted three semi-structured interviews with each of the six participants, constituting a total of eighteen interviews. The purpose of each interview was explained and participants were emailed a copy of the questions a day in advance of the interview should they wish to peruse the questions beforehand. Copies of all of the interview questions (Appendices C, D and E) are included although the semi-structured nature of the interviews meant some departure from these questions, depending upon participant responses.

All of the interviews were conducted privately; they were digitally recorded and then transcribed. A professional typist transcribed the first round of interviews but the researcher carried out this role for the two subsequent rounds. The time required to check specialist terms and contextual references was a significant factor in the change of transcriber.

The average length of each interview was one hour. Following each interview a print copy of the transcription, as well as a CD-ROM containing the sound recording of the entire interview, was sent to each participant inviting them to check for accuracy and to amend, delete, or make any corrections that reflected the integrity of the interview. Only three of the eighteen interviews were amended and in two separate cases, there was a request to delete short segments of the transcript that referred to specific projects that clearly identified the participants and their institutions. These procedures ensured that in the recording and transcribing of the data every effort was made to accurately reproduce responses to interview questions.

## **3.5 Structure of the interviews**

The interviews were conducted at six monthly intervals and responses from the first and second rounds informed the design of the next cycle of questions, so that there was an iterative structure underpinning the three rounds of interviews. How and why new themes and issues were incorporated in subsequent interviews will be discussed more fully in the analysis of the case studies.

### **3.5.1 First round of interviews**

The first interview round focussed on participants' professional backgrounds, their educational development contexts, their perspectives about online learning, teaching and assessment, and



their thinking around assessment for online delivery. The questions in Table 3.4 were sent to participants in advance of the interview [Appendix C]. At the time the first round of interviews was developed for Appendix C, the diversity in professional background was not fully appreciated by the researcher and this theme was explored in more detail as the study progressed.

**Table 3.4. First round interview questions**

<b>Question category</b>	<b>Questions within category</b>
Professional background	1) What is your current job title? 2) How long have you been in your current position? 3) How long have you worked at this institution/and in others in the area of instructional/educational design/development – i.e., total years as an instructional designer? 4) What formal qualifications/background helped to secure your present position? 5) What is an approximate percentage of your involvement in on-campus/off-campus/fully online subject/course development?
Educational development context	6) What is your understanding of educational development? 7) What have been the most important influences on your educational design practice? 8) What processes, strategies, approaches guide your educational development practice within your institutional context? 9) What factors a) promote b) inhibit your role as an educational developer? 10) How do you determine your effectiveness as an educational developer?
Online learning, teaching and assessment	11) What educational development approaches do you adopt in online learning and teaching? 12) What do you see as effective assessment in online

	environments?
	13) What forms and types of assessment do you promote in online learning environments?
	14) Are there online subjects/courses which encapsulate a significant contribution you have made to quality online assessment practice?
	15) How do you most influence the design of good online assessment practice in your role as an educational developer?
Changes and development in EDs/IDs thinking about assessment for online delivery	16) What are the critical factors which lead to change and development in your thinking about online assessment?
	17) What have been critical incidents/subjects in this semester that represent advances that you have made in relation to online assessment?
	18) What influences – reading/workshops/models/policies/people/conferences/staff development etc. – have most influenced your assessment strategies during this semester?
	19) How do you see your thinking about online assessment evolving in the next semester?

Table 3.5 provides a Question Identifier for each of the questions and also relates each question to one of the four research questions. The Question Identifiers will be used for analysis and discussion of the findings. It is noted that there are nineteen questions in Table 3.4 but only fourteen of these questions are allocated a Question Identifier in Table 3.5. The questions without identifiers are questions (3), (8), (13), (15) and (17) and the explanation for this is:

- Question 3 was a factual question about the periods of employment as an educational developer and the responses were directly incorporated in the introductory tables about the general characteristics of the educational developer that commences each case study, as for example in section 4.3.2.1. and 4.4.2.1.
- Question 13 on the forms and types of assessment that respondents promoted was a major theme in this study but the form of the question did not elicit detailed responses in a semi-structured format. Some respondents preferred to listen to academics rather than promote certain types of assessment. Given the iterative structure of the three interviews, this question was re-developed as an intervention in the second round of

interviews as indicated in Table 3.6 (Question Identifier: 2.3) and it was also co-related with Table 2.4 that had been developed from the literature.

- Of the remaining three questions, Question (8) on processes, strategies and approaches merged with Question (7) on influences; Question (15) was linked with how respondents contributed to assessment practice and Question (17) on critical incidents/subjects became inseparable from question (16) on critical factors which led to change and development in thinking about assessment conducted online.
- While many of the questions in the first round elicited rich data, the number of questions could have been more sharply delineated in a design sense and that is why such a diversity of question formats was developed for the second round of interviews.

*Table 3.5. Structure of first round interviews and linkages to research questions*

Overview of questions	ID No	Research question link
<b>1. Professional background</b>		
Current job title	1.1.1	Q1(characteristics)
Time in present position	1.1.2	Q1(characteristics)
Important background/related experience	1.1.3	Q1(characteristics)
Present involvement in face-to-face/online	1.1.4	Q1(characteristics)
<b>2. Educational development context</b>		
Understanding of current role	1.2.1	Q1 (characteristics)
Influences upon present practice	1.2.2	Q2 (influences)
Promoters and inhibitors in present role	1.2.3	Q2 (influences)
Determining effectiveness as a developer	1.2.4	Q1 (characteristics)
<b>3. Online learning, teaching and assessment</b>		
Approaches to online learning and teaching	1.3.1	Q4 (thinking)
Understanding of effective assessment in online environments	1.3.2	Q4 (thinking)
Significant contribution to online assessment	1.3.3	Q4 (thinking)
<b>4. Thinking about assessment for online delivery</b>		

Critical factors that might lead to change and development	1.4.1	Q2 (influences)
Recent critical influences that have led to advances in your thinking about assessment	1.4.2	Q2 (influences)
Future directions for thinking about online assessment	1.4.3	Q3 (issues)

### 3.5.2 Second round of interviews

The second round of interview questions, presented fully in Appendix D, consisted of a range of different types of questions that were based on a framework that had been derived from analysis of participants' responses in the first round. All of the questions in Appendix D were made available in written form to the participants before the interview. The numbered concepts in the following diagram, Figure 3.3, were systematically addressed in round 2 through different styles of questions.

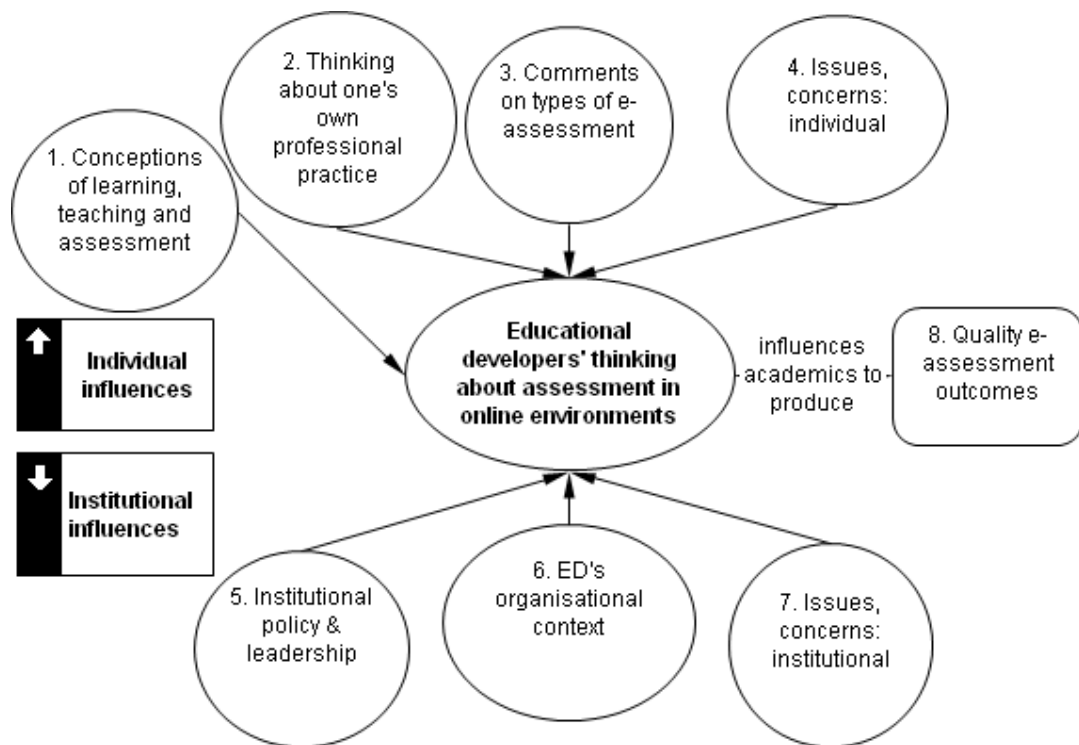


Figure 3.3. Conceptual structure of questions for the round two interviews

Question Identifiers were also developed for each question and linkages to the research questions are provided in Table 3.6. The numbered categories in the left-hand overview column reflect the conceptual structure in Figure 3.3. The type of question that addressed each of the concepts is included in the final column.

Table 3.6. *Structure of second round interviews and linkages to research questions*

Overview of questions	ID No	Research question link	Type of questions
<b>1. Conceptions of learning, teaching and assessment</b>			
Relationship of learning, teaching and assessment	2.1.1	Q4 (thinking)	10 point rating/comment
E-assessment: a separate category	2.1.2	Q4 (thinking)	10 point rating/comment
Assessment: if online, is equivalent to automated assessment	2.1.3	Q4 (thinking)	10 point rating/comment
<b>2. Thinking about one's professional educational development practice</b>			
Primary mode of working	2.2.1	Q1(characteristics)	10 point rating/comment
Primary focus: on academic thinking or the external learning resources	2.2.2	Q1(characteristics)	10 point rating/comment
Motivation for academics to liaise	2.2.3	Q1(characteristics)	10 point rating/comment
Understanding of roles	2.2.4	Q1(characteristics)	Likert 5 point/comment
<b>3. Comments about types of assessment that may be used online</b>	2.3	Q4 (thinking)	Likert 5 point/comment
<b>4. Issues, Concerns: individual</b>	2.4	Q3 (issues)	Individual questions focussing on follow-up of responses from first interview
<b>5. Institutional policy and leadership</b>			
E-learning vision re assessment	2.5.1	Q2 (influences)	10 point rating/comment
Leadership and support	2.5.2	Q2 (influences)	10 point rating/comment

## 6. ED's Organisational context

Infrastructure/technology support	2.6.1	Q1(characteristics)	10 point rating/comment
Workload and time available	2.6.2	Q1(characteristics)	10 point rating/comment
Learning management system	2.6.3	Q1(characteristics)	10 point rating/comment
How my role is conceptualised and organised within the unit	2.6.4	Q1(characteristics)	10 point rating/comment
<b>7. Issues (institutional) that impact on assessment</b>	2.7	Q3 (issues)	Likert 5 point with 7 issues
<b>8. Quality E-assessment outcomes</b>	2.8	Q2 (thinking)	Likert 5 point with 8 issues
<b>9. General</b>			
Comment on model	2.9.1	Q4 (thinking)	Comment on model
Sources that encapsulate thinking about assessment etc.	2.9.2	Q4 (thinking)	Open ended question

### 3.5.3 Third round of interviews

The third and final round of interviews explored and revisited themes that had emerged in earlier interviews and continued the adoption of the two broad prisms to view educational developers' perspectives: the individual and institutional lenses as modes of exploring thinking about assessment.

Appendices C, D and E contain the full list of interview questions. Tables 3.5, 3.6 and 3.7 present an overview of the question framework for each round of interviews, an Identifier Descriptor (ID) numbering system to identify each question and the general link to each research question. Because the interviews adopted a semi-structured format, the question sequence varied occasionally with different respondents. In the final interview, all of the questions were open-ended, enabling respondents to corroborate comments from earlier interviews.

The iterative connection between the interview rounds is highlighted in the final column in Table 3.7. Conceptions of learning, teaching and assessment [Question Identifier: 3.1.1] for instance revisits Question Identifiers: 2.1.1, 2.1.2 and 2.1.3 from the second interview round. Similarly, identifying the qualities in a successor [Question Identifier: 3.1.2] revisits Question Identifiers: 1.2.1, 1.2.3 and 1.2.4 from the first interview round. The rationale behind the design

of the third round interview structure was to revisit critical issues from the first two rounds of interviews. There was a reduced number of questions in round 3 and in the analysis this allowed cross-checking for consistency as well as identification of any changes in perspectives.

**Table 3.7.** Structure of third round interviews and linkages to research questions

Overview of questions	ID No	Research question link	ID Links
<b>1. Individual influences impacting on thinking about assessment</b>			
Conceptions of learning, teaching and assessment	3.1.1	Q4 (thinking)	2.1.1, 2.1.2, 2.1.3
Individual – ED practice: prepare a replacement	3.1.2	Q1 (characteristics)	1.2.1, 1.2.3, 1.2.4
Forms of e-assessment being adopted	3.1.3	Q4 (thinking)	2.3
Issues, concerns re assessment	3.1.4	Q3 (issues)	1.4.3  2.4
<b>2. Institutional influences that impact on your thinking about assessment as it begins to occur in online environments</b>			
Institutional policy and leadership	3.2.1	Q3 (issues)	2.5.2
Educational Developer's organisational context	3.2.2	Q1(characteristics)	2.6.1
Institutional issues	3.2.3	Q3 (issues)	2.7

Supplementary data in the form of organisational units in which the educational developers worked, relevant university policies about learning, teaching and assessment, as well as papers written by educational developers in the sample group were accessed from institutional websites or provided by participants at interviews, and were used to confirm some themes from the data analysis. It could be argued that the triangulation of data, the verification of data through a broader inclusion of additional data sources such as participant observation, participant journals, participant surveys, email correspondence and the inclusion of other institutional voices, for instance, could have been sources of data that were given greater prominence. The basic design issue was to focus rigorously on the primary source of their

thinking, their individual voices, and so this study does not claim to be triangulated in the sense of equal consideration being given to multiple data sources.

Figure 3.4 provides an overview of how each research question was addressed across the three interviews. Although research question 2 (RQ2 - influences) may appear to have been neglected in the third round of interviews, the structural headings in bold in Table 3.5 and Table 3.6 indicate that a balanced coverage was maintained across the interviews.

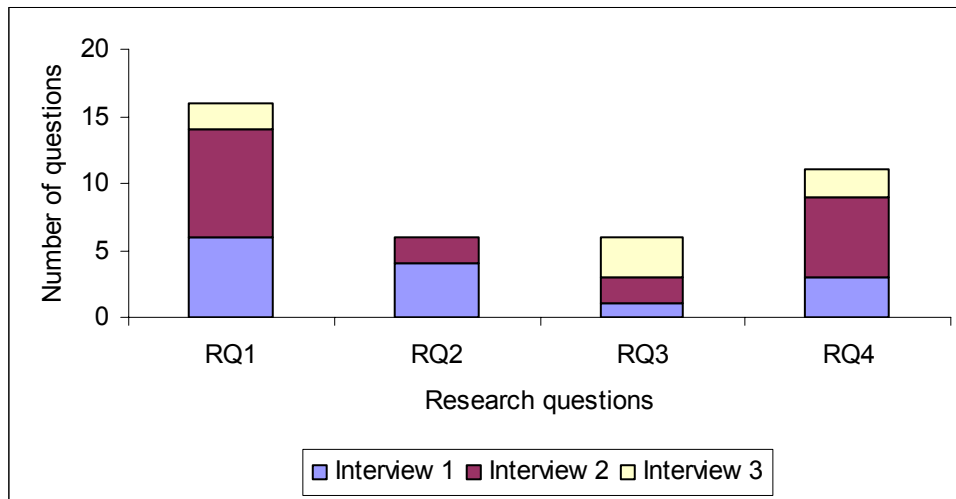


Figure 3.4. Distribution of research questions across the three interviews

### 3.5.4 When were the data collected?

Table 3.8 provides details about the scheduling of the interviews. Interviews were conducted at approximately six monthly intervals so that they occurred in three consecutive semesters.

Table 3.8. *Interview scheduling*

Interview round	Interview schedule and details
Round 1	The first six interviews were conducted between 29 June, 2004 and 13 August, 2004.
Round 2	The second six interviews were conducted between 21 December, 2004 and 18 January, 2005.
Round 3	Five interviews were conducted between 22 July and 28 July, 2005.  One interview was conducted earlier – on 31 May, 2005 – due to individual circumstances.

The rationale for the scheduling was derived from case study methodology where interviews with participants have been commonly used as a way of understanding participants'



perspectives. The study was not designed in a longitudinal sense: the sequencing of the interviews would be spaced over a longer period of time were that the case and the primary focus would have been on the developmental aspects of thinking about e-assessment. This interview schedule, involving three sessions with each participant, provided an opportunity to revisit certain themes and also to capture nuances in perspectives that may have arisen in different semesters with different catalysts involved. The second research question did seek data about influences upon educational developers' thinking and this necessitated multiple perspectives at different points in time and was addressed by the sequencing of the interviews.

### 3.5.6 Ethical considerations and the role of the researcher

The ethical issues involved in this study were stated and addressed in the ethics application that accompanied the original proposal which was approved by the Human Ethics Committee at the University of Wollongong in 2003. Annual ethics reports in 2003, 2004, 2005 and 2006 informed the committee of compliance with the ethical protocols that had been approved. Transparency in the consent process, clear interview protocols, protection of anonymity and confidentiality in the process, along with options for participants to review and discuss interpretations of transcripts were integral to the ethical protocols approved for this study.

The ethical guidelines consented to and signed by participants in this study (Appendices A and B) protected values of anonymity and confidentiality so generic naming conventions for participants in the study were adopted e.g., CS1 for case study 1, CS2 for case study 2, etc. Furthermore, all individual and institutional identifiers were removed and replaced by general descriptors, and participants had the opportunity to review their final case study write-up and make amendments to it.

Each participant signed a Consent form (Appendix B) as a standard procedure for research involving human ethics at the University of Wollongong, agreeing to their involvement in the following:

*Three semi-structured interviews of between one and two hours, conducted in three consecutive semesters.*

*Recording and subsequent discussion of some journal reflections on subject/project involvement at the second and third semi-structured interviews.*

*I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time.*

Participants were not asked to maintain a journal but one of the questions invited them to nominate a paper, web source or document which was influential in their thinking (Question Identifier: 2.9.2, Table 3.6). For the final round of interviews additional approval from the University of Wollongong Ethics Committee was sought and obtained to offer participants the

choice of either a face-to-face or a telephone interview. This was a supplementary option rather than a variation on the original application that had been approved. The researcher had become aware of sensitivities involving possible threats to the anonymity of participants being jeopardized and so this offer was made to every participant. Only one participant indicated a preference to have a telephone interview which was conducted along the same lines as the face-to-face interviews. There were additional safeguards in the ethics guidelines for telephone interviews at the University of Wollongong with a much stronger focus on informing participants of their right to withdraw at any stage of the telephone interview. Over a series of interviews with each participant, however, one naturally establishes a rapport and sense of trust and because all of the participants worked with a broad cross-section of academic staff in Australian universities, it was the view of the researcher that this did not undermine the integrity of the data.

In terms of the ethical considerations from the researcher's perspective the most pertinent point was that the transcripts contained some extremely valuable observations, especially about organizational and institutional contexts in which the educational developers worked, but it was simply not possible to incorporate some of this material because it would breach the approved ethical guidelines for the conduct of the study that had been consented to and signed off by each participant.

Fisher (2003, p. 313) lists a number of indicators that pertain to the role of the researcher in the social sciences and these include being aware of one's own position, identifying one's own values, beliefs and assumptions, recognizing how one's own view could have a particular bias and perhaps privilege one interpretation over another and a capacity to be able to envision alternatives. The following sections focus on how the data were analyzed, as well as issues of validity and trustworthiness of the data. The indicators listed by Fisher are pertinent to this study because it involved interviews and interpretation of resulting transcripts. As one whose period of employment as an educational designer and educational developer exceeds seventeen years, the researcher needed to be very wary that he did not bring preconceptions to the research process. The procedures for ensuring the validity and trustworthiness of the data will be considered in the following sections.

### **3.6 Data analysis**

The primary data for this study consisted of electronic transcripts that had been digitally recorded and transcribed after each of the eighteen interviews. It was complemented by secondary data obtained from publicly accessible institutional websites about the organisational contexts of participants in the study, university policies and some journal articles that had been

nominated by participants. All of the data were then imported into the QSR International's Nvivo, Version 2.0, which has been described by QSR International (2006) as software for qualitative analysis that "is designed for researchers who need to combine subtle coding with qualitative linking, shaping and modelling". In addition to the data, summaries were made of all articles, books and online sources studied for the literature review and these too were imported into Nvivo but they were differentiated by file name and icons. The use of qualitative software packages for coding, analysis and refinement of categories has been commonly recognised and described by Patton (2002, p. 76) in terms of moulding interviews into findings "by reducing the volume of raw information, sifting trivia from significance, identifying patterns and constructing a framework for communicating the essence of what data reveal".

While the coding was not the formal open, axial and selective coding that has been closely associated with grounded theory analysis (Babchuk, 1996), the coding, analysis and refinement of categories for this study, the analytic strategy adopted to produce valid conclusions, involved an extensive process of creating categories of description or nodes as they are called in Nvivo. This is presented in Table 3.9 and initially it involved the identification of a large number of free nodes based on emerging themes, then constantly reconstituting, reforming, collapsing and amalgamating nodes; creating tree nodes, parent and sibling, creating sets of documents for each of the cases; examining node reports and the contextual linguistics surrounding issues; returning to the original sound recordings; using the memoing and attributes features of the software, as well as its valuable searching, showing the relations and exploring the model's capabilities.

**Table 3.9. Nvivo coding categories**

<b>Characteristics</b>	<b>Influences</b>	<b>Issues</b>	<b>Thinking</b>
ED academic staff	ED influences_future	Assessment	Assessment aligned
ED advice	ED	automated	Assessment
ED change role	influences_present	Assessment criteria –	asynchronous
ED characteristics	Institutional distance	criterion referenced	Assessment authentic
ED experience	education	Issues plagiarism	Assessment
ED general	Institutional factors	Issues workload_staff	examinations
ED ID contrast	Institutional quality	Issues ED	Assessment feedback
ED inhibitors	indicators		Assessment
ED issues	Institutional student		formative
	support		Assessment forms of

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ED practice	Institutional online	Assessment general
ED promoters	course	Assessment
ED roles	Influences policy	group_collaborative
ED values &	Influences leadership	Assessment online
philosophy	Influences LTPF	Assessment pbl
ED Staff development	Influences Carrick	Assessment
	Influences DEST	summative
	Influence inhibitors	Learning interaction
	Influences unit	Learning activities
	processes	Learning deep
	Influences unit	Learning flexible
	structure	Learning
		management system
		Learning online
		Learning students
		Technology
		affordances
		Thinking
		models_theories
		Thinking values &
		philosophy
		Thinking ED
		comments

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Transcripts of each interview were coded individually; sections were coded in more than one category; transcripts were timed and dated so that any change over time was noted; and Strauss and Corbin's (1990) memoing option was used for recording observations, notes and making connections. Following Lacey and Luff's (2001, p. 27) suggestion too, the use of flow charts, diagrams, tables and other visual means to support interpretation and analysis were adopted and will be used in the case study analysis and discussion in subsequent chapters.

### 3.6.1 How the data were analysed to address each question

#### 3.6.1.1 Research question 1 (RQ1)

RQ1 seeks to identify the characteristics of educational developers that influence the assessment advice they provided to academics. Data came from such sources as Round 1 responses to important background experience and present involvement in face-to-face/online; responses to round 3 questions on position descriptions; and public data from websites and university handbooks.

The term *characteristics* is broadly understood in a common usage sense as attributes, behaviours, skill-sets or clusters of competencies underpinned by knowledge, experience, skills, attitudes and values.

Descriptive categories were derived from the data and were analysed against the background of intellectual traditions, constructivism and classroom teaching; they were also closely embedded in suggestions and comments from participants. Previous studies such as those of Fraser (2001), Land (2001; 2004), and Instructional Design theory (McGriff, 2000) also provided a theoretical perspective in interpreting the data.

The analytical categories were derived from the specific questions in Tables 3.5, 3.6 and 3.7, linked to the Question Identifiers for RQ1 (characteristics), as well as the Nvivo categories in Table 3.9. Figure 3.5 illustrates how questions relating to characteristics were distributed across the three interviews. The reduction in questions in the third round was an indication that sufficient data were available at the end of the second interview, although some further confirmatory clarification was sought in the final round.

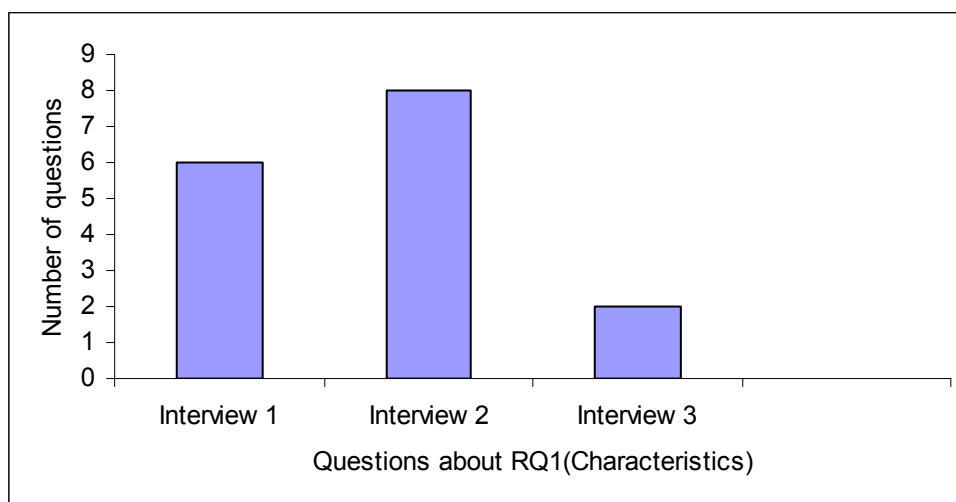


Figure 3.5. Distribution of questions related to RQ1 across the three interviews

The analytic categories derived for analysis of RQ1 are:

- general characteristics;
- educational development: understanding of educational development; understanding of current role; effectiveness as an educational developer; valued characteristics in a successor;
- technology skills and approaches; and
- characteristics relevant to institutional processes.

### 3.6.1.2 Research question 2 (RQ2)

RQ2 focusses on ascertaining the significant influences upon the thinking of educational developers about assessment when it is conducted partially or fully online. There were recurring questions in each of the interviews to invite responses to RQ2 and specific questions are identified in Table 3.6. The general distribution of those questions across the three interviews is indicated in Figure 3.6. Categories and themes were also developed in Nvivo. The influences were represented in the voices of participants but analysis of relationships between participants and their institutional units and culture, as well as the emergent themes, was conducted and these will be discussed in Chapter 4, Case study findings. What is perhaps misleading about Figure 3.6 is that there are no specific questions about influences in the final round of interviews. Tables 3.5 and 3.6 have already been referred to in the case of this apparent neglect but it should also be noted that an examination of Table 3.7 indicates that the structural framework in the third round was closely aligned with individual and institutional influences upon participants' thinking about assessment.

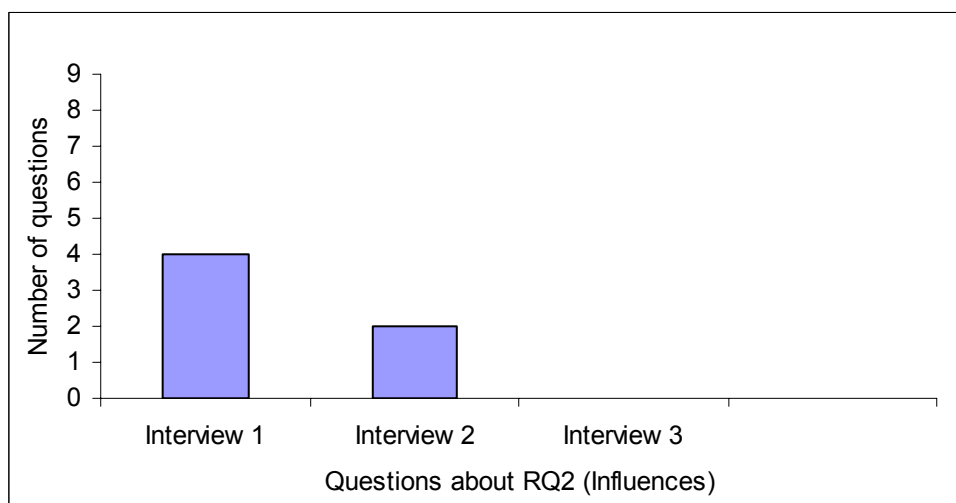


Figure 3.6. Distribution of questions related to RQ2 across the three interviews

The analytic categories derived for analysis of RQ2 are:

- individual influences; and
- institutional influences.

### 3.6.1.3 Research question 3 (RQ3)

RQ3 focusses on the critical assessment issues identified by educational developers when online components are introduced. Specific questions invited participants to identify and prioritise significant issues that influenced their thinking about the conduct of assessment online. Comments were categorised and ranked individually and for the whole group. Figure 3.7 indicates the distribution of questions relating to RQ3 across the three interviews.

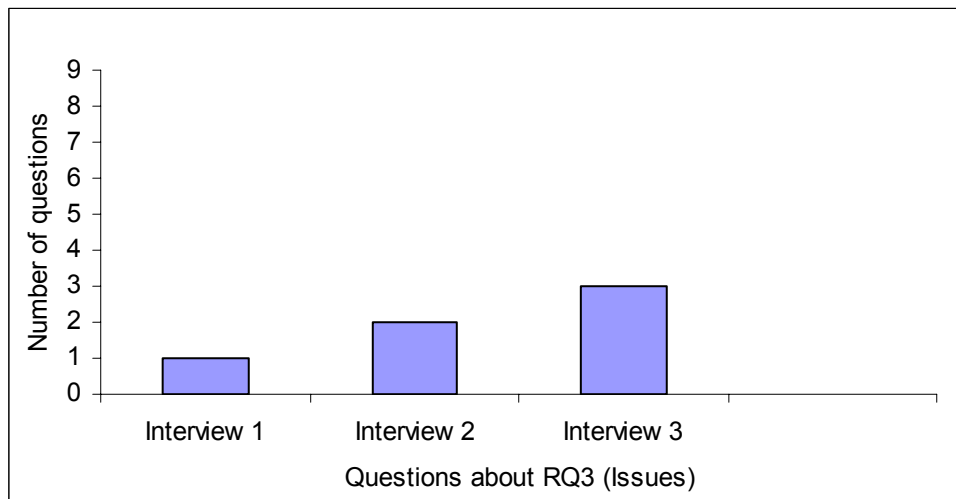


Figure 3.7. Distribution of questions related to RQ3 across the three interviews

The analytical category for RQ3 consisted of issues identified by each participant.

### 3.6.1.4 Research question 4 (RQ4)

RQ4 is about how to represent educational developers' perspectives about assessment conducted online. A framework has been developed from the literature about forms of assessment that could be conducted online, represented in Table 2.4; and a concept map of educational developers' individual and institutional contexts was also constructed and presented in Figure 3.3. Responses to both of these were invited in the round 2 interviews and rich descriptions, mapping, modelling and concept diagrams were used to conduct the analysis and address the question. A sub-section of this question involved representing what educational developers perceived as critical contemporary issues in the conduct of assessment online. These data were analysed in Nvivo in an extensive, iterative way: categories were developed, interpreted and analysed, then presented as a series of themes.

The categories for analysis of this question are:

- approaches to learning, teaching and assessment;
- conducting assessment online;
- understanding of effective assessment in online environments;
- significant contributions to assessment online;
- future directions for thinking about assessment online;
- comments about forms of assessment that were conducted online; and
- representation of educational developers' perspectives.

Figure 3.8 indicates how questions related to RQ4 were spread across the three interviews.

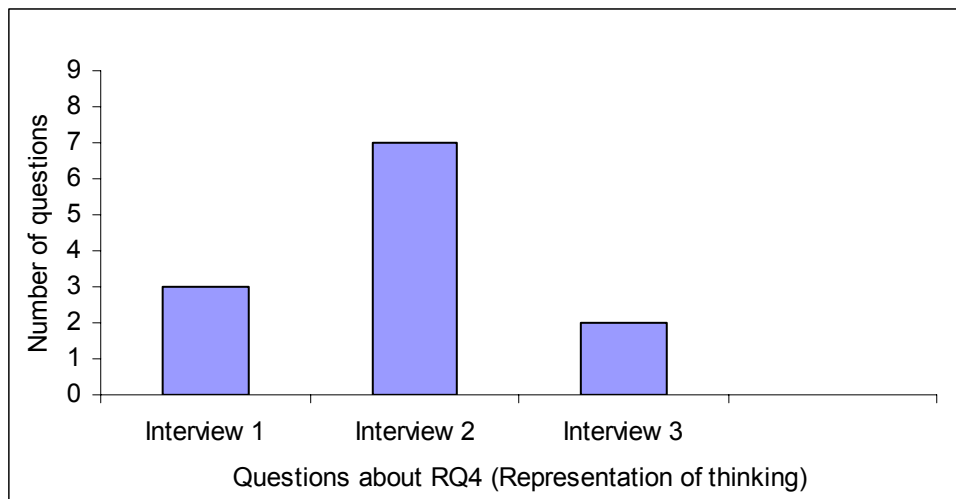


Figure 3.8. Distribution of questions related to RQ4 across the three interviews

### 3.7 Overview of the research design

The trustworthiness of the data, the rigour of the analytic strategies and the process of producing valid conclusions are issues related to the quality of the research design. Table 3.10 summarises components of the multiple case study approach adopted in this study.

Table 3.10. **Review of multiple case study approaches adopted in this study**

Tests	Multiple case study approach
What processes were adopted during the data collection phase to support the reliability of the data?	Use of multiple phases of evidence
	Use of multiple sources of evidence
	Provision of interview questions to participants in



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	advance of the interview
	Recording of all interviews
	Review of all transcripts, with option to amend, by participants
What processes were adopted during the data analysis phase to support valid interpretation?	Referral to audio files of the original interviews
	Generation of categories, evolved through coding, creation of attributes, memoing
	Importation of EndNote literature review notes entries into the Nvivo database
	Incorporation of all available data
	Generation of node reports
	Use of modelling and show relations features in Nvivo
What processes support the integrity of the findings?	Adherence to multiple case study protocol (six cases)
	Observance of ethical guidelines
	Analysis of the data against a diversity of theories and frameworks developed from the literature
	Systematic attention to each phase of the research design

---

Member checking (Stake, 1995, p. 115-116) involves returning drafts to participants for accuracy and improvement and this occurred at four stages in this study: after each interview and then finally after a considered draft of the case study had been written. Participants were able to suggest improvements and indicate whether the interpretations were validly derived from the transcripts.

### 3.7.1 Limitations of the study

Tellis (1997) notes that a frequent criticism of case study methodology is that its dependence on a single case inhibits the process of generalizing conclusions and Yin (1994) argues that the relative size of the sample, whether two, ten or a hundred cases had been used, did not transform a multiple case into a macroscopic study. Olson and Wisner's view (2002, p. 7) is that many of the evaluation studies of Web-based instruction lack a guiding theoretical framework and consensus about significant variables. Underpinning such criticisms is the implication that terminology from a quantitative paradigm such as construct validity, internal

validity, external validity and reliability did not have the same rigour in a qualitative research context and this included case studies.

The basic assumption underpinning the selection of a qualitative case study method was in agreement with Gillham's (2000, p. 6) observation that "in human behaviour, generalization from one group of people to others, or one institution to another is often suspect – because there are too many elements that are specific to that group or institution". So quite clearly, while the findings of this study should illuminate the thinking of educational developers about the conduct of assessment online, the findings cannot be generalized to all educational developers in all Australian universities, although many of the issues will be very recognizable and of significance to a broad group of practitioners.

Another limitation of the study that should be clarified is an issue referred to earlier in Chapter Two; the literature review included a discussion of espoused theory and theory-in-use. In the interviews that constitute the primary data source for this study it could be validly argued that what participants have stated as their views were not congruent with what they did in practice. It should be clearly understood that the perspectives of educational developers indicated in the title of this study are their espoused theory rather than their theory-in-use and that a different research design, containing more field work, participant observation and ethnographic dimensions, would have been adopted if theory-in-use was the essential focus.

Finally, the researcher became aware of some minor flaws in the design of a small number of interview questions in round 2 where participants were invited to comment on binary positions and dichotomies of thinking about educational development practice. The first and third interview rounds (Appendices C and E) consisted principally of open-ended questions but interview 2 was designed to elicit respondents' perspectives through a variety of question formats and stimuli. It should be noted that Appendix D contains the full list of questions that each respondent received in advance of the interview and it is in excess of nine pages. The individual questions were based on participant responses from the first interview and followed up specific issues and comments.

Some of the twelve questions based on binary categories were invalid because in a small number of instances, they included multiple concepts or perspectives that could be held simultaneously. This was pointed out by some of the participants and the researcher's initial response was to accept that these questions were invalid and to delete them from the study. This would have reduced a small segment of the data; however, the responses were retained and will be discussed in the case study analysis. The retention of the data is supported by Dempster and Blackmore's (2002) argument that:

*....arriving at useful conclusions is not always achieved by straightforward questions and answers. The most valuable and crucial information, particularly with respect to the specific discipline, is often derived from an iterative process involving probing, negotiation, serendipity and observation of attitudes during the course of discussion. It reminds us of the importance of keeping an open mind when academic staff discuss what they are doing, what they want to do and what they need. (p. 133)*

Despite these limitations, the multiple case study is a valuable method of research well suited to address the research questions in this study. The research design and methodology that have been adopted assure a process of data collection, interpretation and analysis that is most likely to produce valid findings about aspects of educational developers' perspectives on assessment when it is conducted online.

## Chapter Four: Case study findings

### 4.1 Preview

This chapter presents detailed findings of the six case studies which are central to the research design of this inquiry and upon which data collection revolved. Interview transcripts were analysed to highlight emergent themes aligned with the four research questions. In this chapter the discussion of each case study is confined to its own context, uniquely associated with each educational developer and the institutional setting in which the participant worked.

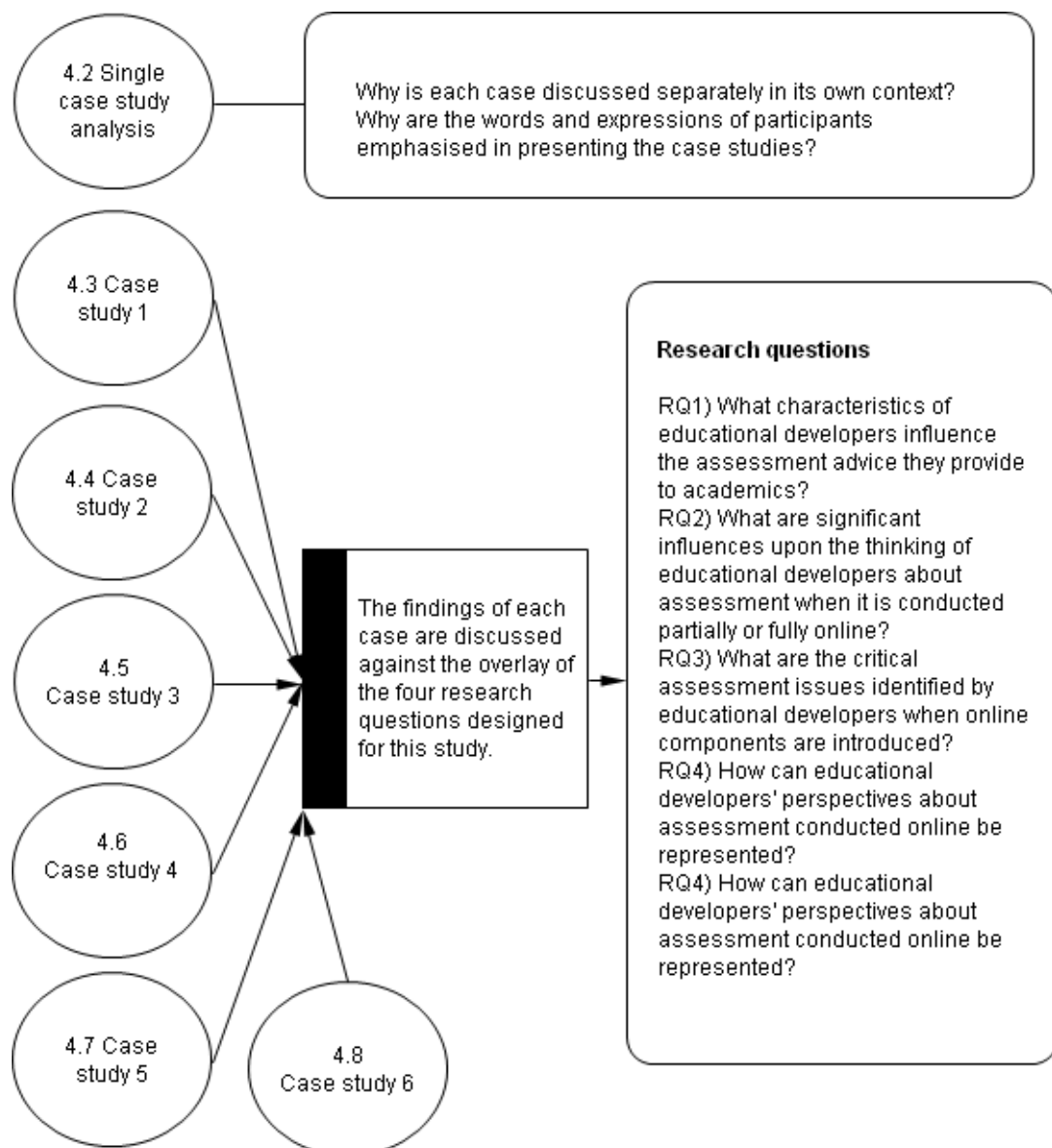


Figure 4.1. Preview of Chapter Four

## 4.2 Single case study analysis

The rationale for focussing separately on each case study before conducting cross-case study analysis is suggested by Cohen, Manion and Morrison (2000):

*...contexts are unique and dynamic, hence case studies investigate and report the complex, dynamic and unfolding interactions of events, human relationships and other factors in a unique instance. (p. 181)*

In Chapter Three the importance of understanding the context of educational developers, and developing a deep understanding of their needs, goals, problems and issues (Kozma, 2000) was stressed. As part of this approach a consistent attempt to incorporate the words and expressions of participants to best portray their perspectives has been adopted, especially on significant themes and issues. The boundaries of each case study are generally confined to what educational developers perceived as relevant in their thinking about assessment conducted partially or fully online but as Yin (1994, p. 13) indicates, the boundary between the phenomenon being investigated and the context is not always clearly evident.

The development of specific categories for data analysis associated with each question was outlined in Chapter 3. These categories focus the analysis of each participant's contribution to the study and will be used for all of the case studies.

## 4.3 Case study 1

### 4.3.1 Introduction

Case study 1 (CS1) presents the perspectives of an educational developer who was working during the data collection phase of this project in an academic staff development unit in a large metropolitan university. CS1's roles included involvement in flexible and blended learning. This university was formally listed in the group of eight leading universities (Australian Education Network, 2005) and member institutions within this category cited research outputs, industry links and the competency of their academic staff as distinguishing criteria.

### 4.3.2 CS1's characteristics as an educational developer [RQ1]

#### 4.3.2.1 General characteristics

Table 4.1 presents the general characteristics of CS1 and this proforma table will also be used in this chapter to introduce the other five participants.

Table 4.1. **General characteristics of CS1**

Category	Details
Position title	Lecturer
Title used by participant during interviews	Academic staff developer
University classification: academic/support/contract	Academic
Length of experience as educational developer	> 8 years
Background	With a background in high school teaching and project management experience in large IT based projects, CS1 had also developed a professional interest in distance education. CS1 had a record of research and publication that encompassed academic staff development and the integration of ICT into learning and teaching.

#### 4.3.2.2 Educational development

##### *Understanding of educational development*

CS1's view of educational development was strongly supportive of individual growth:

*I help people grow and develop themselves as part of that process. So I have a bigger picture view of my effectiveness if you like; it's a human contribution to people's personal growth and development so I have a very, very broad view of what development is in fact and it is a human view of development.*

The personal philosophy that emerged about educational development, including ethical ways of working with academic colleagues, was revealed in a number of different extracts. Change and growth were recognised as internally driven, initiated on an invitational rather a mandated basis. Another aspect to this was the high value placed upon listening - "I am happy to sit back and listen to people" – as distinct from telling academics what to do.

CS1's own values as a developer were strongly influenced by relational ethics in academic development and an approach to change management that required sensitivity, respect and a realization that change was a gradual process:

*You know, to me I see a change, change in teaching and learning, particularly change in teaching practices, is a slow thing, it's a hit and miss thing, and it's a trial by error sometimes and it's not as if we can suddenly with a workshop switch off a bad practice, in somebody and switch on a good practice.*

CS1's beliefs about the nature of change informed approaches to professional practice and in this sense they were significant characteristics.

In treating assessment in the context of flexible learning CS1 stated:

*Now straight away I open up the whole issue of where's your teaching and it is interesting in how policy is highlighting learning, and academics resonate with that straight away but I am not there just for a whinge session. I want to explore the issues, I want to see what we can take out of the situation with flexible learning and what are the possibilities and the openings that flexible learning offers us as well.*

The observation that "I am not there just for a whinge session" indicates a determination to rigorously explore the issues and challenge thinking and practice. CS1 emphasised characteristics such as necessary firmness, clarity of purpose and a keenness to explore the potential of flexible learning.

#### *Understanding of current role*

As an educational developer, CS1's formal role involved working with individual academics rather than with groups of academics in areas of teaching, assessment and curriculum design for blended teaching and learning. CS1's understanding of the current role was expressed in these terms:

*...my dream is that for everyone, when they are talking about teaching and learning to integrate and understand all sorts of environments, virtual and real if you like. The principles that we are talking about also include ICT.*

A strong personal commitment to educational development is evident in this statement, as well as a sense of broad encompassing values about learning and teaching that extended beyond the classroom to incorporate virtual learning.

An important component was an understanding of the role of a facilitator who disseminated good practice; the facilitator identified methods that enabled academics to communicate successful learning, teaching and assessment practice but in large institutions such as CS1's, the facilitation could be indirect. In fact the comment was made that "the main way people touch base with us is through our web-site".

In the second round of interviews [Question Identifier: 2.2.4] CS1 was invited to comment on and locate herself/himself along a spectrum from 'strongly agree' to 'strongly disagree' in relation to a list of roles derived from the literature with the option to add additional roles that were not listed (Appendix F, Table 1). The following points emerged:

- Teaching within accredited courses such as a Graduate Certificate of Higher Education or Graduate Certificate of Tertiary Teaching was commonly associated with Academic Development Units and this role was clearly carried out by CS1.

- In terms of presenting workshops on learning and teaching topics, the respondent indicated that this role was occurring less frequently because it was “gradually being devolved out to other teams and groups in the university”.
- In relation to videoconferencing/audioconferencing CS1 observed:

*I am happy in one sense to let go of some of the old responsibilities I had for e-learning because I think the same issues are going to come up again once we have more streaming, more live and delayed, synchronous and asynchronous streaming, videoconferencing happening online.*

Teaching other academic colleagues in a formal award course, for instance, required qualifications, experience and expertise and when this was combined with a multiplicity of roles other dynamics were involved and CS1 observed:

*...we come up against people's perceptions of us as developers and where we fit within the university. There is a bit of suspicion sometimes around at work and often it's 'you're coming here to tell us how to teach' attitude. That can colour relationships and I have to work hard to work through that to develop trust and empathy with colleagues in the work that I do.*

Characteristics that emerge here are CS1's values-framework, prioritising relationships based on trust and empathy. In a institutional environment where there was a perception that educational developers told academics how they should teach, CS1 indicated that one had to work hard to resist being stereotyped and to maintain a reputation for trust in this area.

#### *Evaluating effectiveness as an educational developer*

In the first interview round, each participant was invited to comment on how they determined their effectiveness as an educational developer [Question Identifier: 1.2.4]. Responses to this question indicate how participants evaluated the quality of their work and whether this was done formally or informally. CS1 commented:

*My effectiveness as an educational developer: well I don't always work expecting feedback and I don't always expect to be effective; it's not my prime motivator, you don't always get thanks for what you do now.*

*That for me is real satisfaction when my past students and past colleagues, people I've worked with, come back and acknowledge the support and help I gave them because the view of the work that I do in the end is a bigger picture.*

This perspective is grounded in a broad human view of development and it recognises that substantial change that may occur as a result of the educational developers' role is unlikely to occur quickly; the perspective was about deeper, more sustainable change.

#### *Valued characteristics in a successor*

In the final interview [Question Identifier: 3.1.2] each participant was asked how they would prepare a colleague to act in his/her role and the rationale behind this question was that it might



reveal perspectives about characteristics that had not emerged in earlier comments. In responding to this question CS1 commented:

*I think having a mentor is really useful, someone you can be with for look, four weeks, even that's minimal, six to eight weeks.*

*...something I found really useful actually was going out and visiting subjects and disciplines that I've never taught in. So going to watch some really interesting maths teaching for me was a real insight; that was interesting, looking at economics.*

*I think it's really useful for new developers to come in on, to sit in on audits if you like, working group meetings where we have reps from all the faculties working on a project, you know. So we've had an AUQA evaluation and quality assurance working group with one rep from every faculty. Now even though that might not be your portfolio or your area, it's useful to sit in on the meeting.*

In each of these observations the experiential value of different aspects of educational developers' roles is highlighted. Mentoring, observation of a range of teaching contexts, and attendance at meetings that had important learning and teaching agendas within a university were identified as worthwhile for someone being inducted into the role of an educational developer. Each of these activities constitutes a form of professional in-service that could not be acquired from theory or a set of readings because they involve relationships, human interaction and tacit learning in institutional settings.

#### **4.3.2.3 Technology skills and approaches**

CS1 possessed competence and confidence in the use of educational technology and this emerged in the following quotation:

*People talk about ICT with such reverence, again it is something I have to help people see that it is a servant to a bigger master and that master is teaching and learning and the thing that structures a lot of thinking around this area is it's not so much the technology; the technology will do whatever I want it to do, I think, that's been my experience. I have never been frustrated by technology in terms of what I plan to do, of course it can go wrong at short notice. Methodology always comes before technology in my work.*

What is apparent in these comments is a sense of the subordination of technology to pedagogy and a positive conception of the educational developer's role in terms of supporting teaching staff. The idea of a critically reflective practitioner (Schon, 1983, 1987) is also evident in how various components, such as educational technology, pedagogy, teacher's conceptions, the role of the educational developer and the underpinning priority of methodology were integrated within an overall perspective.

#### **4.3.2.4 Characteristics relevant to institutional processes**

CS1 indicated that an important role was participating in "working groups that are focussed on particular projects which were aligned with university policies". Work flowing from these large

meetings sometimes required CS1 to chair other meetings, to engage with a range of people across the institution including technology enthusiasts and academics from diverse disciplines who “bring their own traditions of teaching and learning and they have different views on what works well online and what to hang onto in terms of traditional teaching practices”.

Involvement in large strategic projects, presenting university policies and learning and teaching initiatives that may have encountered resistance from academic staff, require high communication and advocacy skills and respondent CS1 commented:

*I am very interested in the human communication and relationships that are part of teaching and learning that I see being overlooked by the commercialisation and corporitisation that's happening in our universities.*

What also emerges in these comments are clear reservations about corporate agendas within universities and these also highlight ethical dilemmas that arise when educational developers' personal values diverge from institutional thinking. The type of conflict that occurred is more explicitly stated in the following comments:

*I am very cynical about the performance management development process. I am happy to do those things; I mean we go through this quite regularly, annually, performance management reviews with my director and in some ways it is a very useful kind of task but it is the sort of thing I would engage in anyway in my own head, reflecting on my work. It serves institutional processes. It's like an enforced reflexivity in a way. It's very interesting; it encourages you to become self-monitoring and self-regulating in the Foucauldian sense where you don't know – it's the panopticon – if they're watching you.*

Through this case study there is a recurring theme of invitational interaction, working on a co-operative basis with academic staff, commitment to the idea of a critically reflective practitioner and deeper, more sustainable development so the divergence of thinking about performance management was consistent. While CS1 participated in the performance management review there were strong reservations about the principles on which it was based. There was a sense that institutional management processes did not trust educational developers to critically reflect upon their own professional practice; overlays of coercive procedures were repudiated, although there was a personal respect for the director who was simply enacting institutional processes that had a dimension of power. This section continues the theme of educational developers being *an arm of management* and how they resolve ethical dilemmas when their personal and professional values are not aligned with managerial thinking and practice.

#### **4.3.2.5 Summary of CS1 to RQ1**

Respondent CS1 possessed characteristics to engage in teaching, research and a range of educational development roles that have been listed. Some of these characteristics, such as length of experience as an educational developer, skill in using educational technology,

expertise in audio and video conferencing, communication skills, group facilitation competencies and knowledge of approaches to learning and teaching can be readily identified. It is far more difficult, however, to accurately portray the values, principles and philosophy which underpinned the assessment advice that CS1 provided to academics but individual growth, an integration of different learning environments, including ICT principles, the priority of methodology over technology, and research and teaching in award courses are prominent.

#### **4.3.3 Significant influences upon CS1's thinking about assessment conducted online [RQ2]**

The model that had evolved from responses in the first interview round (Figure 3.3) was structured around individual and institutional influences. Commenting upon this model, CS1 suggested two major changes, notably:

- quality outcomes may be achieved independently of educational development inputs because of the expertise of the individual academics; and
- educational developers act in the role of a facilitator, “negotiated through language and text; it’s done through language and is language-based and it’s about how we set up all the texts and contexts, it’s discursive”.

In CS1's view, this was related to how developers worked, whether on a one-to-one basis, a one-to-many basis, or whether they linked different groups of academics, or provided access to resources on a very indirect basis. CS1's additions to the model are highlighted in black in Appendix F, Figure 1.

CS1 also observed that individual rather than institutional influences had a greater impact on the planning and the advice for a unit with an online component. There was no necessary connection between developers' inputs and the quality of assessment conducted online in CS1's view because academics were quite capable of producing quality without any input from anybody. If a colleague produced a valuable model of group-based online discussion, for instance, there was a role for the educational developer in disseminating that good practice within the university. CS1's comments indicated that while enhanced quality may have occurred as a result of the educational developers' inputs, this could also have occurred independently.

##### **4.3.3.1 Individual influences**

It was difficult to separate individual influences from the institutional context but if educational developers transferred to another university, then what they brought with them, their

experience, their conceptions of learning, teaching and assessment, their characteristics and personal ways of working with academic staff were what constituted individual influences. Across the three interviews CS1 recognised and commented upon a series of significant individual influences that affected thinking about assessment when it was conducted online.

In response to the specific question, “Comment on critical influences that have led to advances in your thinking about assessment” (Question Identifier: 1.4.2) CS1 commented: “Firstly, it’s my own teaching”. CS1’s own experience of teaching was the most significant influence, supported by the observation that “I am doing lots of teaching in formal award courses” and assessment was a major area in some of these courses.

The second influence identified by CS1 was reading and in the course of the three interviews a range of authors such as Biggs, Ramsden and Land, as well as various research studies, were mentioned. CS1’s own involvement in research was not formally identified as an influence but in conducting a search on the term *my research* across the three interview transcripts in this case study, there were ten separate uses of the term and this clearly indicates that it was a major influence as well. This research interest of CS1 in fact, referred to in the following extract, also indicates that this respondent was very aware of the spectrum of influences and relationships that affected the practice of educational development in an institution:

*I’ve become really interested in the ethical work of academic development, the ethics, the relational ethics in fact to use the term, which is our relationship between ourselves and our colleagues in the units in the development area, but also our relationships with our academic colleagues, our academic teaching colleagues, university management at different levels.*

#### **4.3.3.2 Institutional influences**

When invited to comment upon influences upon present practice (Question Identifier: 1.2.2), CS1 stated that at the broadest level “the actual unit is seen more as an arm or tool of management, so first and foremost we come up against people’s perceptions of us as developers and where we fit within the university”. Although CS1 expressed a preference “to work more one-on-one with colleagues”, the facts were that across the university, “curriculum is so systematised, managed and controlled; what happens now is that groups sit down and discuss, and negotiate effectively values around what is important, what goes into curriculum, what gets chopped out”. CS1’s view was that in an earlier era individual academics’ interests shaped curriculum content, and their values determined assessment but the current realities were that deliberations at large collaborative staff meetings were now significant drivers upon the curriculum.

The workload and project focus for educational development was also influenced by working groups that sometimes consisted of twenty-five members. Organisational initiatives about

assessment at this level occurred in the implementation of online learning and “e-learning in a way has brought, forced a re-think, a re-evaluation, a review of teaching and assessment I think and brought a student focus as well”.

Invited to rate issues that affected advice about assessment when it was conducted online [Question Identifier: 2.7], CS1 nominated strong agreement with the item on university policy, adding that “if funding is tied to it, then university policy is the largest factor or impact here”. CS1 was also particularly decisive about the importance of the discipline: “Discipline has a major impact. And part of discipline is the history of teaching and learning in that discipline”. Other ratings are in Appendix F, Table 2.

CS1 also rated issues that affected the quality of subjects that had an online component. Many of the ratings [Appendix F, Table 3] were accompanied by a comment. The third item, resources and finance, was described “almost like it’s an umbrella over the other points in the column here. Strongly agree, I just think they’re critical”. The comments below about funding across the university, based on student feedback in student course evaluation questionnaires, indicate important strategic initiatives in relation to learning, teaching and assessment:

*...funding is attached now for example to our evaluation processes, so depending on the ratings that students give on the student course evaluation questionnaires, funding goes back to the faculties for teaching improvement funds and for improved teaching based on the results of those evaluation documents.*

Levels of IT support were not rated as highly because CS1 had seen groups of academic colleagues in another university supporting one another in a collegial sense when using new educational technology in very innovative ways. The critical factor, in CS1’s view, was the way they shared their experience with each other. At the highest level of university leadership CS1 stressed the importance of balancing pedagogy and technology.

#### **4.3.3.3 Summary of CS1 to RQ2**

The most significant influences upon CS1’s thinking about e-assessment in an individual sense were through involvement in formal teaching, reading and scholarship around learning and teaching, as well as participation in research and publishing. CS1 accepted the framework of individual and institutional influences represented in the model presented in Figure 3.3 but suggested two significant changes. These were that outcomes for assessment conducted online may be completely independent of educational development inputs and that in the educational development institutional context, ways of working and facilitation methods, whether these be one-to-one or one-to-many, were very significant. Resourcing and finance were also identified as significant influences.

#### 4.3.4 Critical assessment issues when online components are introduced [RQ3]

In each of the three interviews there were specific questions [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] that invited participants to comment on what they perceived as critical issues in the field. Table 4.2 encapsulates a selection of CS1's comments in response to these particular questions.

**Table 4.2. Critical issues when assessment incorporated online components (CS1)**

Issue	CS1's comments
Issues of identity in online tests	<i>...the issue of identity - actually establishing the issue of student identity. I know there's one that plagues my colleagues and a lot of people say "how do you know the person doing the exam is the person who is involved in the course?" but still I think there are interesting issues around identity and online assessment and the issues around plagiarism.</i>
Lack of transparent assessment criteria for online discussion	<i>The assessment of online discussions is currently an issue ... what's going on is that in the weighting of assessment for a unit of study or for a subject, it's usually a subject, what happens is that people have got a couple of major assessment tasks and then they've got this vague category called online participation.</i>
Issues around interactivity	<i>... interactivity and I find that it's a really problematic term in that when it gets overlaid through ICT, and well for example, ICT-focussed assessment, there's a real variety, extreme variety of views around what interactivity is. And I'm always one to try to single out and draw attention to it and argue that interactivity is about, it's something to do with human interaction and how humans interact.</i>
Plagiarism	<i>I think around a number of universities in discussions in the media drawing attention to plagiarism and I think plagiarism is something that's stopping and making people think twice about what they're doing.</i>  <i>...for every single assignment now there's also a cover sheet file so that people actually fill out a cover sheet. ...which actually links back into the university's policy on plagiarism and anxiety about plagiarism.</i>
Quiz -based assessment	<i>I think there's always a tension between quick and dirty quiz-based assessment.</i>

#### 4.3.4.1 Summary of CS1 to RQ3

In terms of the critical assessment issues that CS1 associated with conducting assessment online, issues of identity and plagiarism are widely discussed in higher education and are the subject of national conferences (University of Newcastle, 2005). In seeking to clarify the term *interactivity* respondent CS1 did not wish to conflate one-way interaction with a computer and computer-mediated communication that involved dialogue and reciprocal responses, for instance, within an online discussion forum. The most significant issue that CS1 raised was in relation to the transparency of criteria for online discussions and it is an issue that has significant implications for online assessment practice if this criticism is more widely substantiated.

#### 4.3.5 Representing CS1's perspectives about assessment conducted online [RQ4]

##### 4.3.5.1 Approaches to learning, teaching and assessment

Some of CS1's approaches were suggested in a series of different comments:

*I am doing lots of teaching in formal award courses.*

*I'm also going to draw people back to good pedagogy.*

*acknowledging disciplinarity*

*...the program I used, the examples and models highlight good assessment practice.*

*...in the end it's the teacher who has the power and the authority to make the final mark and who has to report those marks back, who ultimately has to be responsible to the institution for those results.*

CS1 was a practitioner who used exemplars and models to promote good practice but clearly acknowledged the primary role and authority of the individual teaching academic.

For CS1, "assessment is integrated with the teaching so it's not seen as separate" and this participant's thinking about assessment was stated in the following terms:

*Assessment is not something I go out looking for; it's a marginal issue. I am always reading for something else and then my thoughts might translate into assessment later on. I tend to think of assessment in terms of power and power relationships.*

While CS1 taught about assessment in the context of flexible learning, valued self-assessment and peer-assessment, looked "for a balance between formative and summative assessment", was "always interested in what the weighting is in assessment", stressed "issues of validity and reliability", and recognised as a "beautiful goal...the notion of aligning learning outcomes, teaching strategies and assessment" the following position was accepted as a basic premise:

*...no matter how much we say we're committed to peer assessment and self-assessment, in the end the academic who teaches holds the responsibility for, they have the authority granted by the university to make the final judgments.*

#### **4.3.5.2 Conducting assessment online**

CS1's experience was that "there is very little pure online teaching happening" and so in the design of a blended course, for instance, adopted a curriculum perspective, asking:

*...what's done face-to-face, what's done online, and why are you doing it online, you know, so I don't have a problem with the categorisation. It raises other issues.*

CS1's observation was that interactive online assessment was beginning to be more widely adopted within the university and the use of examples and case studies helped to promote this:

*I think definitely that people are starting to explore more interactive assessment practices in our university as our online sort of e-learning policy is really starting to filter down now and be implemented. We're getting lots more examples and case studies of good assessment practices and we disseminate those samples.*

#### **4.3.5.3 Understanding of effective assessment online**

The response of CS1 to this first round question [Question Identifier: 1.3.2] was that this varied according to the stakeholders consulted: lecturers and tutors had a view; students' perceptions were available through course evaluation surveys; and the educational developer's understanding was represented in the models that were used to highlight good practice in assessment.

#### **4.3.5.4 Significant contribution to assessment online**

As a project leader in another institution, CS1 cited in response to this question [Question Identifier: 1.3.3] how s/he had had a significant impact in contributing to online assessment in a large course where there had been a proposal to adopt exam-based assessment. CS1 successfully argued against automated exam-based assessment. CS1 valued two-way interaction and collaborative learning so that in an online discussion, what was significant was "how that person's post developed ideas and built on other people's ideas and took thinking forward". Qualitative, deep learning was more highly endorsed than quantitative, superficial learning.

#### **4.3.5.5 Future directions for assessment online**

CS1 consistently paid attention to multiple learning and teaching perspectives associated with traditions in different disciplines and so for a question that invited comments about future directions about conducting assessment online [Question Identifier: 1.4.3] the response was:

*The demands on universities are such that the disciplines have got to keep kind of rethinking, shifting systems, methodologies, shifting knowledge here and with*



*that comes shifting practices in the disciplines. It's not just university policy, it's things like professional associations, student expectations - the stuff that goes on in newspapers and the media and society. All these things are constantly shifting and they are going to put new pressures on research groups and changing it anyhow. We have just got to be ready to move with it.*

Future directions were linked with larger issues, professional associations and national developments and CS1's perspectives about conducting assessment in online environments were neither narrowly conceived nor instrumentally focussed.

#### 4.3.5.6 Comments about forms of assessment online

In the second round of interviews, each participant was asked about the frequency with which they encountered the following forms of assessment [Question Identifier: 2.3] with the option to comment as well. Table 4.3 was derived from categories in the literature that were summarised in Table 2.4. It was used as an intervention to elicit educational developers' perspectives about various forms of assessment that they encountered online. While there was an option to provide rankings, the focus was on comments that revealed perspectives about specific categories of assessment that occurred in online environments.

**Table 4.3. CS1's comments on forms of assessment conducted online**

Assessment Type	CS1's comments
Traditional assessment submitted online	"Frequently encountered".
Automated assessment	"I think there is always a tension between quick and dirty quiz-based assessment, but some people are wanting to try and promote space for dialogue and assessing interaction. And I think there's a bit of interest around the latter".  "Automated assessment is a very narrow view".
Automated assessment – advanced options	"I do think multiple choice and short answers are very, very common".
Invigilated online exams – (mid/final semester)	"What's interesting is the invigilated [aspect] to bring everyone together into the lab for example to do their assessment".
Group projects	"I have seen a lot of that. I seek it out".
Online interaction	"Strongly agree".
Authentic assessment	"It's more something we've talked about; I have not looked too closely at it. Simulation, sure, I've seen lots of simulation. I've not necessarily seen students carrying it out".

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Critical reflection and metacognition	"This is good stuff".
Advanced problem-solving	"We have a lot of it happening and I find it particularly interesting".

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CS1's responses to these various categories of assessment highly endorse collaborative learning, critical engagement and problem solving and dialogue through computer-mediated communication. Automated assessment, while it was frequently encountered, was perceived as having lower value within this general framework.

#### **4.3.5.7 Summary of CS1 to RQ4**

CS1's approach to learning, teaching and assessment is represented in the form of an integrated model where assessment is aligned with learning and teaching. Information and communications technologies neither drive the design process nor are they kept separate from it. Decisions about ICT, as with other curriculum choices, are made on the basis of appropriateness to support learning outcomes.

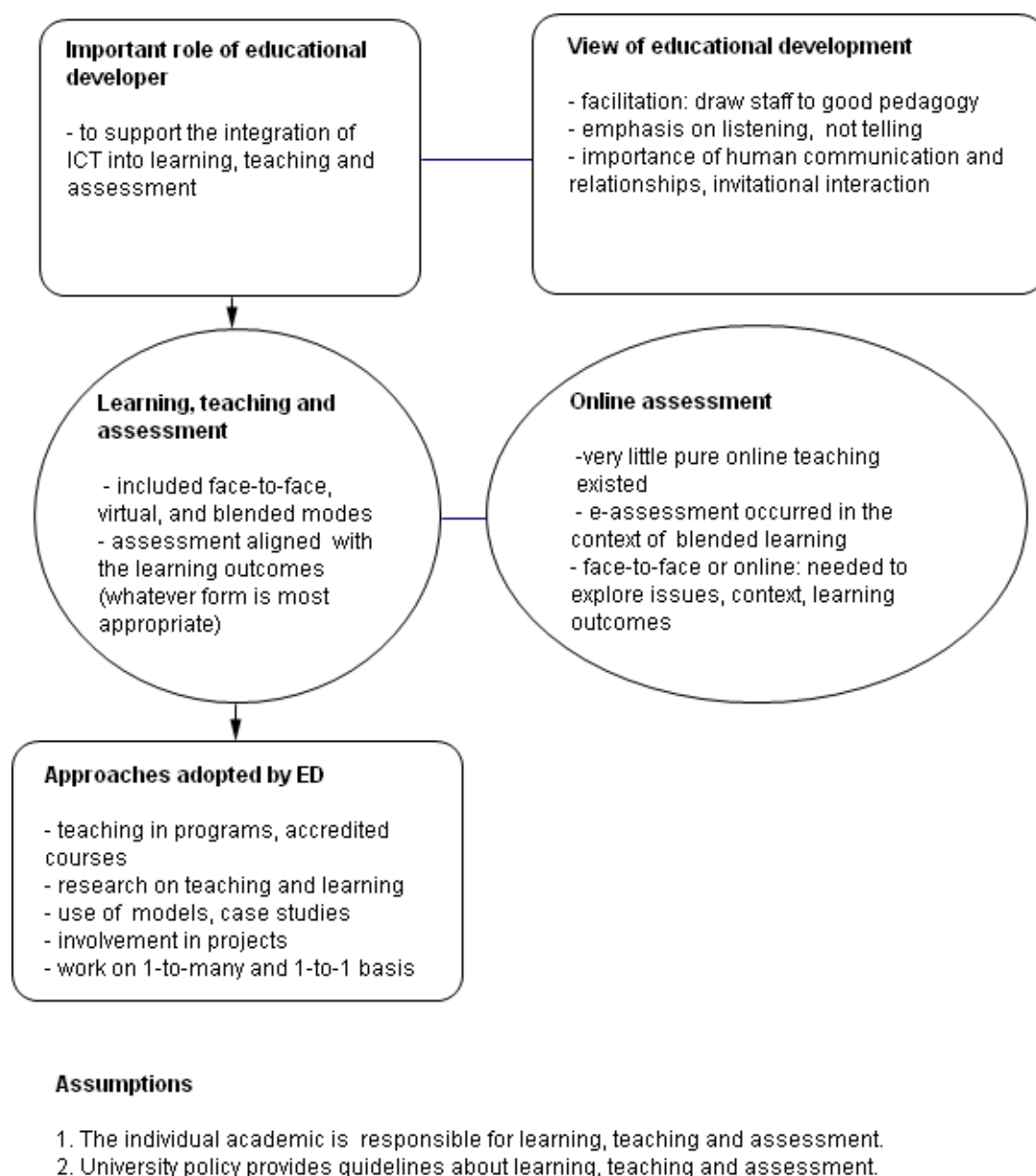


Figure 4.2. Representation of CS1's thinking about assessment conducted online

#### 4.3.6 Overview of CS1

CS1 is a case study of an academic staff developer in a large, research-intensive university with a strategic, project-focussed approach to learning, teaching and assessment. CS1 commented that, "I locate myself kind of in the neo-romantic group as an academic developer, kind of a humanist, hermeneutics, interpretation..." and many different aspects of CS1's individual approach to educational development and perspectives about conducting assessment online have been presented in some detail. To fully understand this case study, however, one needs to appreciate the dynamics of the individual and institutional influences that are represented in Appendix F, Figure 1 (individual/institutional). These include university policy and leadership

and the developer's organisational context, as well as external influences associated with government policy, for example through DEST and the Carrick Institute.

## 4.4 Case study 2

### 4.4.1 Introduction

CS2 presents the perspectives of an educational developer who was working during the data collection phase of this project in a unit that provided strategic support in flexible education and appropriate use of educational technologies in a large metropolitan university. CS2's roles included facilitating good educational practices revolving around active learning processes, collaborative learning, problem-based learning and online learning. This university was formally listed in the group of eight leading universities (Australian Education Network, 2005) and member institutions within this category cited research outputs, industry links and the competency of their academic staff as distinguishing criteria.

### 4.4.2 CS2's characteristics as an educational developer [RQ1]

#### 4.4.2.1 General characteristics

Table 4.4 presents the general characteristics of CS2.

*Table 4.4. General characteristics of CS2*

Category	Details
Position title	Flexible Education Developer
Title used by participant during interviews	Flexible Developer
University classification: academic/support/contract	Support
Length of experience as educational developer	>15 years
Background	CS2 had a background in high school teaching, distance education, instructional design, media design and online learning. CS2 had a scholarly background in student learning from a computer-based learning materials perspective and had an active record of research and publication in online

learning and course development.

#### 4.4.2.2 Educational development

##### *Understanding of educational development*

CS2 differentiated between academic staff development, perceived to be “grounded in classroom learning and teaching practice” and educational development for flexible learning that commonly involved educational technology; the latter was “more cognitively based, constructivist theory that I tend to work with”. CS2 saw academic development as coming from “a whole different intellectual tradition which is the tradition of adult learning; and adult learning I categorise as a grounded theoretical framework, grounded in classroom practice”. CS2’s practice of educational development was based on “a whole different sort of intellectual, conceptual framework because I look at the constructivist influence from media design and all that sort of thing”.

##### *Understanding of current role*

From CS2’s perspective, the role of an educational developer was not directly about online learning but understood in terms of “what I think happens to be a good educational practice and which of course very much revolves around active learning processes”; CS2 later added that, “I guess my concept of my role is to facilitate people who are thinking along these lines or who want to think upon these lines” and although the lines may have involved active learning processes, collaborative learning, problem-based learning and online learning they were all related to what constituted a worthwhile educational experience.

*There are groups of people who don’t teach that way but that is the sort of prevailing norm and so somehow or other I find the individuals or they find me who want to try something a little bit different and are receptive to the ideas I have to put across. So my role is really to put out some ideas that can be achieved educationally and then to support people who want to do that.*

Points of particular interest in CS2’s understanding of her/his current role are that:

- educational development supported and was aligned with active/interactive learning;
- some staff adopted different modes of teaching, such as a one-way transmission model and did not seek educational development support; and
- teaching staff who were interested in active/interactive learning and teaching sought educational development advice/inputs and the impetus to work with the educational developer was initiated either by teaching staff or by the educational developer.

In the second round of interviews [Question Identifier: 2.2.4], respondent CS2 added four additional roles to the list and commented briefly upon some particular roles [Appendix G,

Table 1]. The roles that CS2 added were those of consultancy, project support, research and publication and seminar co-ordination.

In commenting upon the categories in Table 1 [Appendix G], CS2 made a number of additional comments. In the role of transforming learning materials, CS2 observed that in a traditional campus staff “who come and talk to me aren’t actually just concerned with the quality of the materials”. In a distance institution, however, this role may have been a higher priority for some staff.

In terms of flaws in the research design referred to at the end of Chapter 3, it was CS2 who rejected some of the binary categories: “Lumping editorial and structural support together” was rejected because the structure of the material and editorial work were regarded as separate categories. For a short period CS2 had been involved in placing content online but commented that it was an important role generally done by technology and production specialists.

#### *Evaluating effectiveness as an educational developer*

In commenting on Question Identifier: 1.2.4 CS2 stated:

*I'm very project-focussed rather than system-focussed. I want to see something happen that improves the education that students aren't receiving and so when I get involved with the people who do that, then I do see the results. One of the things that I am doing at the moment, is I've actually done a lot of projects where there is an evaluation that has been done, that kind of thing, and rather than look at projects separately I am trying to put together all these evaluations and I am sort of saying, well can I look across these evaluations and see what's happening there.*

The practice CS2 adopted in this instance was akin to a meta-evaluation that sought to identify patterns across a larger spectrum of projects; later in CS2’s comments, student evaluations were also referred to and enhanced student learning was a benchmark for effectiveness.

#### *Valued characteristics in a successor*

In response to the question about preparing a replacement [Question Identifier: 3.1.2] CS2 commented on the need for the new educational developer to:

- possess teaching experience and be able to converse with staff in a way that demonstrated a shared understanding of the issues;
- be familiar with constructivism which had “the runs on the board when it comes to working with technology”;
- be acquainted with some adult learning theory grounded in classroom practice; and
- have the personality to work co-operatively with a diverse range of academic staff.

On the last point CS2 observed:

*I mean you can get peoples' back up very easily if you don't understand where they're coming from because you've got to have your own barrow to push. You can't sort of be value-free or have a look at any particular theory about how education goes and just try and facilitate what other people do. I mean if you do that and ultimately get to a point where you haven't really got any ideas to contribute and so that doesn't necessarily go very far. People have actually chosen to work with me because I do have very specific educational ideas, and they know that people can make those work if they really want to go down that road.*

There is a very definite sense in this extract that CS2 had an educational framework that was presented in a proactive way to challenge teaching staff. It was not simply a matter of facilitation without an agenda; CS2's approach was known to academic staff.

#### **4.4.2.3 Technology skills and approaches**

CS2 had a very clear set of beliefs and approaches to educational technology as indicated by the following extracts:

*Personal use of a constructivist framework:* "...the framework that I personally use which is focussed on how you get the best use out of, you know educational technology and is based very much on constructivism".

*Technology can enhance learning, teaching and assessment but it is certainly not the starting point:* "I have that focus on what is a good educational process and here's how your technology can 'support' it or 'enhance' it or 'enable' it - the words I use for the technology but I don't ever start with the technology, or its tools, or any of its characteristics or any of these things".

*Student intellectual engagement not glitzy technology is the core value:* "I am never very excited about these people who get all their elaborate presentations, and media and assimilations and animations and all that kind of thing, because until the students have thought it through they don't actually have anything".

*Academics are trained and supported in the use of the technology; we do not do it for them:* "We tend to want to train academics to use the technology rather than to do it for them. So there is technical support. There is support for the use of technology".

#### **4.4.2.4 Characteristics relevant to institutional processes**

Institutionally valued characteristics that emerged during the interview include CS2's capacity to teach within a support program for staff, conduct workshops, undertake consultancies, conduct research and publish findings, advise on distance education, provide instructional and media design, work with teaching staff to introduce educational innovations in large classes

and significantly contribute to the identification and adoption of new technologies to be used in the online learning environment.

The following extract illustrates how CS2 supported teaching staff and tutors who became involved in online discussions. What is of particular importance was CS2's reference to a process for supporting tutors who were familiar with classroom teaching but new to e-environments. CS2 referred to Gillie Salmon's methods and mentioned the idea of "a starting point" for new online tutors.

*Well, they would be because most staff would find it difficult to come in to do this because it's a whole different concept of learning and teaching. And that is what I deal with of course; well, I don't just say 'we'll give somebody an online discussion, they'll work it out for themselves'. They'll probably make a dog's breakfast of it, not necessarily for the wrong reasons even, just simply because it is different to their concept of what they do. And you need to be thinking of these things, and you need to have a process for supporting that.*

#### **4.4.2.5 Summary CS2 to RQ1**

Respondent CS2's most prominent characteristics as an educational developer included an orientation to creating valuable educational experiences for students, informed by constructivism, as well as expertise in designing active/interactive learning, collaborative learning and online interaction. CS2 also possessed a strong awareness of how educational technology could contribute to learning, teaching and assessment. In terms of evaluation and in working with teaching staff CS2 has well developed processes and adopted a proactive approach that sought to advance upon present practice.

#### **4.4.3 Significant influences upon CS2's thinking about assessment conducted online [RQ2]**

In commenting on the model derived from responses in the first round of interviews (Figure 3.3) CS2 stated: "You don't have the new government influences there and that's going to be very much significant even though at this point in time it isn't. It's just going to be huge. That's the emerging one, yes". Following these comments, the institutional issues, concerns, including the DEST category and evaluation quality were highlighted in black [Appendix G, Figure 1] and are also understood to incorporate such government influences as the Carrick Institute (2005).

##### **4.4.3.1 Individual influences**

During the three interviews CS2 commented on how constructivism had significantly influenced her/his practice but in response to the specific question, 'Comment on critical



influences that have led to advances in your thinking about assessment' (Question Identifier: 1.4.2) two related points were mentioned.

The first involved the perspectives of capable students who felt aggrieved about the homogenous allocation of group marks which was more likely to occur in face-to-face discussions:

*...where the students are asked to get together to come to an agreement on how the marks should be allocated and students say, well, if we have to sit down and do that face-to-face we feel obliged to come to an agreement where we all get the same mark and then those students who think well, they should actually deserve much better, feel constrained and aren't really happy with this, it's what I call, then 'how can I fly like an eagle when I'm surrounded by turkeys syndrome?'*

The second referred to CS2's response to some comments made by an academic colleague about students who performed well in group work but poorly in exams:

*...the other side of the coin is that somebody who has worked with me with problem-based learning in group work, talks about the students who sort of, you know, do fine in group work because they get carried along by the others and then fail the exam because they didn't actually learn the basic skills and I guess I have become very, very conscious of the fact that while there's good education and reasons for doing that constructivist group working kind of thing, the students do have to learn those basic skills and assessment has to make sure that they have done that.*

CS2 observed that, on occasions, group work stunted the real achievements of brighter students and perhaps artificially inflated the performance of less capable students. These two lines of thought clearly influenced CS2's thinking about assessment. This partly explains CS2's interest in an online group system, that was transparently fair in the way individual/group marks were determined and how it could incorporate peer-review by group members. CS2's conclusion was that, "If students can do fine in the group project but they fail the exam then they have been carried along by other people doing their thinking". What was occurring here was not a questioning of the value of constructivism but how the dynamics of group interactions in the assessment process, especially in face-to-face settings, could homogenise variations in achievement, and the solution that was being explored at the time was the use of an online system allowing honest, discriminating and individual inputs.

In terms of other individual influences, CS2 stated that "teaching itself was of course a huge influence". In a personal sense CS2 had always had a sense that "teaching should be inspirational" and despite being exposed to systems approaches and the structured thinking of authors such as Gagne', found other authors such as Diana Laurillard, David Jonassen and John Biggs of much greater interest and identified them as "the main influences on me".

#### 4.4.3.2 Institutional influences

Commenting on Question Identifier: 1.2.2, CS2 mentioned working with lots of very capable colleagues within the organisational unit, a shared philosophy of providing support for learning and teaching, committed leadership at the PVC level, involvement in significant support programs for staff that led to ongoing working relationships beyond the duration of the program, working co-operatively with learning and teaching colleagues in other units, participation in projects that had been funded by large capital grants from the university and structuring workload on a consultancy basis to manage involvement in projects. This consultancy structure led to a transition where CS2 dealt less frequently with individual academic's concerns and had greater involvement in a diverse range of projects and courses.

CS2 described a shared unit philosophy but noted that there was a contrast with the educational underpinnings of more traditional academic development:

*And that's actually what creates a sort of a political divide if you like between your traditional academic developer on learning and teaching who is focussed on teaching in classrooms because that's where their whole theory is grounded and the framework that I personally use which is focussed on how you get the best use out of, you know educational technology and is based very much on constructivism.*

These comments indicate CS2's perceptions about differences in theoretical orientations between traditional academic developers with expertise in classroom teaching and educational developers who use constructivism to determine whether and how best to integrate educational technology into the design of learning and teaching. Although this issue has already been raised, its obvious impact on the design of assessment online is fundamental because when issues of pedagogy and technology were presented, it was CS2's view that "the constructivists have got the runs on the board when it comes to working with the technology".

In rating issues that affected advice about conducting assessment online [Question Identifier: 2.7] CS2 added the extra category of tutor support [Appendix G, Table 2]. In other comments CS2 returned to this issue, indicating the importance of tutor support in many of the courses where educational development advice was provided and there were large enrolments.

It has already been noted that CS2 recognised the potential significance of government quality initiatives but at the time of the interview these were evolving and staffing of the Carrick Institute had not been announced. In the final interview, this matter was followed up and CS2 commented:

*Somewhere along the line I'll have to take some time away from doing projects to documenting what I have been doing for the sake of AUQA and all that kind of thing, but I haven't actually seen those initiatives addressing the specific things I need to deal with to make the particular projects I'm doing move ahead.*

In terms of learning and teaching, CS2 stated that s/he worked:

*...with academic staff who want to make a difference whereas the majority understand that it is research that will get them promoted and the less time they spend on teaching the better. So that's an area where Carrick might make a difference. It might feed through to what I'm doing.*

CS2's view was, "I've got high hopes that something good will come out of Carrick but I suspect it'll be at a broader level".

#### 4.4.3.3 Summary of CS2 to RQ2

The most significant individual influences upon CS2's thinking about assessment online were through the experience of teaching and the value of constructivism as a guiding theory for creating rich learning environments. The influence of authors such as Laurillard, Jonassen and Biggs was significant and consistent with a constructivist framework; it also enabled the role of educational technology to be assessed and critically reviewed. CS2 accepted the framework of institutional influences presented in the model but stressed the emerging government influences in the form of DEST, the Learning and Teaching Performance Fund and the Carrick Institute.

#### 4.4.4 Critical assessment issues when online components are introduced [RQ3]

This section summarises some critical issues that arose when assessment was conducted online. Comments on issues identified by respondent CS2 [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] are presented in Table 4.5.

**Table 4.5. Critical issues when assessment incorporated online components (CS2)**

Issue	CS2's comments
Issues encountered by teaching staff that impact on the role of the educational developer	"...there can be some very significant hurdles if you really are re-thinking the way you want to go about teaching. Just the whole admin structure, the whole expectations of students and people in the discipline whatever, that we do things in a very straight sort of direct instructional way".
Management of student expectation in online discussions	"...if you are getting into online assessment like assessment of participation in online discussion, then you don't do that with 700 students by yourself; you do it with a team of tutors and therefore you bring in a whole dimension of what is assessment, what is it you're looking for, how do you actually train a group of people, and of course how do you manage the student expectations".
Student reactions to online discussions	"...students don't necessarily like online discussions straight away. They're hard work and they're time-consuming, but if it

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	works well then they get into it and they actually like it and enjoy it and it's a much better alternative to just sitting back and reading their notes or not reading your notes each week as the case may be".
Upper limit of marks for group work	"I never recommend more than 50 per cent of assessment on group work. One of the things I am looking at, at the moment is if you are going to ask students to work in groups, how do you make that assessment fair because the first thing that everybody says about group work is what about the freeloaders and the students themselves have got complaints. Students have two complaints about group work. One is they are not told how to do it and the second thing is there are students in the group who just don't contribute much and freeload".
Automated system for online group work and assessment	"The paper based systems are really only going to work if you have only 30 students and you can really closely supervise them. When you are dealing with large numbers, the people themselves, I don't think they have really got the skill or support or whatever to do that and that's where you need the automated system because that's the missing link in group work, the equation where the students can peer-review each other".
School-based distance education initiatives	"Some individual schools run distance education courses, creating their own infrastructure but they often lack instructional design support and other quality assurance processes. These courses are based on print distance education models but they are making a transition to electronic submission of assignments".
Criterion-referenced assessment	The biggest single change that an institution could make in CS2's view "would be to move to criterion-based assessment instead of normative methods of assessment".

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#### 4.4.4.1 Summary of CS2 to RQ3

It is worthwhile reviewing some observations and conclusions about the critical issues raised by CS2 when assessment was partially conducted online. CS2 was very aware of the hurdles confronting staff who were making a transition from direct instruction to a more interactive teaching mode. The barriers extended beyond teaching and also included administration issues, managing student expectations and understanding disciplinary traditions. The same point applied to managing expectations in online discussions which in this case involved 700

students: the issues extended to tutors, tutor training, support processes and letting students know that the lecturer's response to individual postings would necessarily be limited.

CS2 was explicit about workload and time issues in managing online discussions but argued that benefits such as critical interaction outweighed more passive student learning methods. CS2's limit of 50% for group work left scope for assessment activities such as individual assignments and exams in traditional formats. Given the large numbers of students, CS2 believed that an automated system for online group work rather than a paper-based system was preferable because it helped to address the complaints about group work described in Table 4.5 and also provided opportunities for peer assessment, a form of assessment that CS2 had specifically commented on a number of times. While CS2's perspectives on using educational technology to support online group discussion for large classes were based partially on considerations of workload and convenience, they were also supported by the case for a more interactive learning environment with the opportunities for peer review and peer assessment.

CS2's comments about school-based distance education courses raised questions about the quality of learning and teaching. Schools certainly had the capabilities to establish the physical infrastructure to develop and deliver distance courses to off-campus students and some were engaged in this mode of delivery. In relation to assessment for example, some schools had processes to:

*...collect assignments, bar code them, tick them off and send them to academics on paper to mark rather than expecting academics to download them electronically and mark them you know for example, even though they require electronic submission and then they print them off and hand them to the university.*

Schools had established the physical infrastructure but the critical quality issues from CS2's perspective were whether they had sufficiently prioritised the full spectrum of support for a distance education culture, including processes for course development, delivery and evaluation, as well as educational design and guidance for staff.

The final issue involved an institutional shift from norm-based to criterion-referenced assessment and CS2 saw this as having the potential to have a major impact on the assessment culture and practices of academics throughout the university.

#### 4.4.5 Representing CS2's perspectives about assessment conducted online [RQ4]

##### 4.4.5.1 Approaches to learning, teaching and assessment

Essential elements of a good learning experience, as perceived by respondent CS2, were clarified during the interview series and included the following:

- Students should be actively involved in creating or undertaking well designed learning activities.
- The experience associated with completing the learning activities should be stimulating, interesting, challenging.
- The design of learning activities should be informed by substantial theory or approaches e.g., constructivism, problem-based learning, collaborative learning.
- Assessment should be integrated and aligned with the learning activity.
- In teaching large classes a difficult decision was to determine how much should occur by direct instruction and how much should occur in an experiential, constructivist or problem-based learning environment.

CS2 did not recognise assessment as discrete from learning and teaching but “as somewhat integrated with something I call learning approaches, learning methods and it’s one aspect of that” and so “assessing that learning activity is what in a sense defines what the students should do”.

As an educational developer, CS2 accepted the role of being a change agent in relation to learning, teaching and assessment when working with teaching staff, stating that:

*...the reason why I am talking to somebody is that they want to achieve something that very, very standard approaches to teaching and assessment don't reach and so I have the advantage that people are kind of on my side because they recognise that something or other isn't getting them the result that they would like in the first instance and they are therefore willing to look at new ideas.*

Innovative assessment practices, advancing upon present practices, were an important consideration and often CS2 advocated “problem-based learning, interesting learning activities” but did not have a high professional regard for “the kind of assessment that has specifically right and wrong answers”. CS2 did however recognise different disciplinary practices in this area.

For CS2 the biggest single institutional change in assessment was a “move to criterion-based assessment instead of normative methods for assessment” but generally CS2’s experience was

that most academics did not critically re-evaluate the overall assessment system they worked within and accepted that “you don’t change the curriculum much, you don’t change assessment much, but if you start on curriculum change then you’ve really got a tiger by the tail because it can pull you along in all sorts of strange ways”.

#### 4.4.5.2 Conducting assessment online

CS2 did not have a “concept of online assessment as such, because online materials are always simply the support for a learning activity rather than defining the learning activity in my view”. In fact CS2, as the following extract reveals, was strongly opposed not just to a separation of assessment from learning generally but also to the notion of *online assessment* as a separate category of assessment:

*I mean I just really have trouble with this whole notion of online learning, or that kind of thing because you know learning is learning and bits of it are done online, and bits of it are not done online and how you define it as online learning rather than learning which is supported by online resources or scaffolds or whatever. Yes, it's just weird. So it's really like assessment is assessment: there are certain forms of assessment like quizzes you know, objective tests and that kind of thing that can be done online but it's still a quiz, whether it's on paper or online. It's still assessment by quiz, by objective testing and so I just don't like this.*

#### 4.4.5.3 Understanding of effective assessment online

The response of CS2 to this first round question [Question Identifier: 1.3.2] was acceptance of the idea of students completing formative online assessment quizzes in situations where “they know it’s not assessed, that it’s a practice then they might sit down and learn from it” but generally CS2 promoted the types of learning and assessment activities:

*...where people will very often get together in groups and negotiate, and construct and problem-solve and develop, and all that kind of thing, and I like to see that as a bigger learning experience which doesn't mean of course that you don't have to do your individual stuff and learn your formulas and learn your procedural things but this takes it to an application level as quickly as possible so that it provides a much more enriched context for the things that students learn.*

#### 4.4.5.4 Significant contribution to assessment online

CS2 had been involved in the design of online discussions, where students had been allocated different roles. CS2’s general focus had been on students working in groups in science-based disciplines with high student enrolments. The project focus was on the development of a learning sequence that involved combinations of lectures, tutorials and laboratory practicals, relating conceptual ideas and the physical environment. Blended learning and the online environment were also used to develop a “better mental model relationship between formulae and numbers and real world objects and properties and the physical theories that encompass

these two. I just see [that] out of that is going to come some interesting issues for assessment”. In a significant sense CS2’s perception was that s/he had contributed as part of a project team to innovations in learning, teaching and assessment in a science-based subject with high enrolments and introduced expertise in the use of educational technology, online learning and the creation of interactive learning environments.

#### **4.4.5.5 Future directions for assessment online**

In responding to this question [Question Identifier: 1.4.3] CS2 commented on the depth of the analytical approach that was used to determine just what it was that was being assessed and how assessment was related to learning processes, arguing for the need to “structure your assessment to reflect what it is you are trying to teach” and this incorporated thinking about the critical area of curriculum change.

In the final interview CS2 referred to an emerging agenda related to portfolio assessment “where you’re getting students to develop a portfolio, but a portfolio almost of reflections on particular things like group work design done through stages, reflecting on their own learning”. Involvement in this project had just commenced and the concept was a student portfolio built up over a full degree.

#### **4.4.5.6 Comments about forms of assessment online**

In the second round question about the frequency with which participants encountered various forms of assessment [Question Identifier: 2.3], CS2’s perspective about traditional assessment submitted online was that, except for off-campus students “whether it’s submitted on-line or whether it’s not, is totally peripheral in the scheme of things”. CS2 was aware of all the categories presented in Table 4.3 and stated that “you’ve certainly got all the big categories there and I know we are, I am glad to say, experimenting with some of the more advanced things”.

#### **4.4.5.7 Summary of CS2 to RQ4**

CS2’s approach to learning, teaching and assessment is represented in the form of an integrated model where assessment is aligned with learning and teaching. Information and communications technologies neither drive the design process nor are they kept separate from it. Decisions about ICT, as with other curriculum choices, are made on the basis of how appropriately they support learning outcomes.



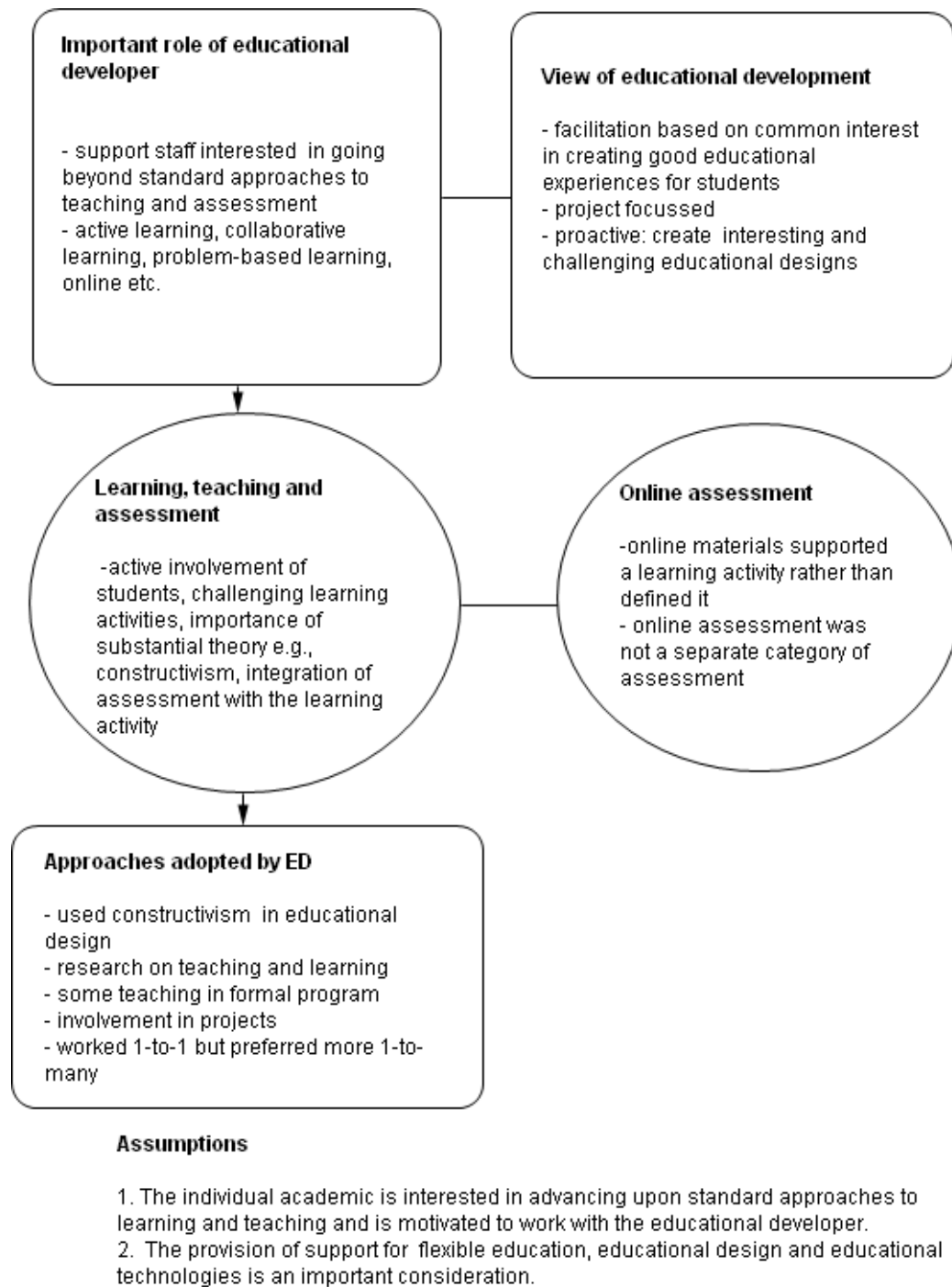


Figure 4.3. Representation of CS2's thinking about assessment conducted online

#### 4.4.6 Overview of CS2

A significant theme that emerged during the second case study is CS2's distinction between academic staff development focussed upon classroom teaching and educational development for flexible learning that is informed by constructivism. CS2's thinking is identified with the latter approach and in her/his view it is a better framework for determining how educational

technology can support learning, teaching and assessment. CS2 has a well considered philosophy of learning, teaching and assessment and does not accept assessment online as a separate category. CS2 is associated with a proactive, challenging approach to educational design and supports academics who are interested in going beyond standard approaches to teaching and assessment. CS2 worked on strategic projects across the university, often in courses that had high enrolments, and introduced teaching and assessment innovations that involved educational technology and online elements.

## 4.5 Case study 3

### 4.5.1 Introduction

Case study CS3 presents the perspectives of an educational developer who had been working part-time on a consultancy basis during the data collection phase of this project, employed in an organisational unit that supported flexible and e-learning. CS3 had originally been contracted to support fully online teaching but had later become involved in supporting blended courses that were taught on-campus and had an online component. This university was formally listed in the group of Innovative Research Universities (Australian Education Network, 2005). Member institutions within this category sought to establish research concentrations and investment across the group, as well as to promote opportunities to benchmark against each other along with collaborating in professional development initiatives, e-learning and new information and communications technology, income generation, and industrial issues.

### 4.5.2 CS3's characteristics as an educational developer [Q1]

#### 4.5.2.1 General characteristics

Table 4.6 presents some of CS3's general characteristics.

*Table 4.6. General characteristics of CS3*

Category	Details
Position title	Educational developer
Title used by participant during interviews	Educational developer and instructional designer (but there were instructional designers in the project team and CS3 was employed as an educational developer at a higher level)
University classification: academic/support/contract	Contract

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Length of experience as educational developer	>25 years
Background	With a strong Economics component in a Masters degree CS3 was also a doctoral student in the area of emerging global trends in higher education. CS3 had experience in both the VET and higher education sectors and had worked on large e-learning projects in a number of different universities. CS3 conducted research in course development and e-learning and presented at conferences. For part of the data collection phase CS3 was employed on a part-time contract at another university but the interview comments were specifically confined to the university case study in the IRU category unless stated otherwise.

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#### 4.5.2.2 Educational development

##### *Understanding of educational development*

CS3's views on educational development of fully online, whole-of-program courses created for international sale occurred within a strategic framework where parameters were established at the level of "the professors/head of department who are managing the actual course, with the deputy vice chancellor and the international marketing people who are marketing the course, and then once all these things are organised you can start dealing with the individual academics". International course offerings were project-managed and development was supported by course teams. CS3 liaised closely with academics and provided educational development for subjects within these courses. Across the three interviews CS3 endorsed the quality of the development processes noting only occasional lapses:

*Sometimes the lecturers simply don't want to do it and it's perceived to be part of their job that they do it. That often doesn't work. If they don't want to do it they'll pull it or they'll go on sabbatical for six months or the files just won't come in, so a lot of cases it's like milking ... sometimes it is a matter of helping academics come to terms. But I must say if they're resistant, they're resistant and there can be little that you can do. Usually after a while the Head of the department will appoint someone else to write the unit.*

CS3's views on educational development within the context of blended or hybrid course development are clarified in the following comments:

*I do work on an invitational basis: lecturers are perfectly free with the support of their Head of Department to approach us and say, "We'd like to put this online". So I'll work with that individual lecturer to do that but more often than not I'm an educational change agent.*

Educational development was strategically aligned with institutional course initiatives and leadership but it was not mandatory. In fact, CS3's experience was that if lecturers were antagonistic because of workloads or attitudinal resistance to new modes of flexible delivery, then it was unlikely that any worthwhile educational development occurred at all.

CS3 presented academics with different ideas and strategies and the aim was to "stimulate some ideas about how there will be a better student interaction in the end and so how there will be a better learning environment".

#### *Understanding of current role*

CS3's discipline expertise had led to employment and work on large economics course development projects but the principal focus was on online course development and delivery. CS3's current role in large projects involved:

- creating a productive working relationship with the academic(s);
- providing advice about how content was best designed and presented online;
- convening and participating in meetings with academic(s) and other course team members;
- assisting academic staff in designing assessment activities;
- determining editing style and other e-learning guidelines; and
- ensuring some commonality of design in subjects within a course where more than nine academics were involved.

In the second round of interviews [Question Identifier: 2.2.4], CS3 added another role to the list, that of a change agent, and commented briefly upon some specific roles [Appendix H, Table 1]. CS3 was not involved in teaching in formal award courses; this role was undertaken by another unit in the university. In the role of ensuring copyright compliance CS3 commented that, "I advise and we have a lovely system here whereby the library basically takes care of the copyright". In relation to the final role of being a change agent, CS3 stated that, "I suppose I see as an important role the fact I move between different universities and so I take information, ideas and I evaluate initiatives, so in that sense I'm a change agent". CS3 had exposure to different models of online learning and teaching in different universities and could view course development with an outsider's perspective, well attuned to innovation. In fact

CS3 elaborated: “I can see things that are happening from outside the normal perspective and I find that fascinating”.

*Evaluating effectiveness as an educational developer*

In response to this question [Question Identifier: 1.2.4], CS3 commented:

*...intuitively you can look at a product and say that's really good, it's seamless, it works. You can track students about how they access the technology, how they work, and how they move through the course and you can see that's working or there's a problem there. You can talk to the academic and get their evaluations and say how did the students evaluate the course, how did you evaluate the course, how do you think at a gut-level it is working for you, are you pleased with it?*

Although CS3 referred to a number of formal evaluation processes, such as student course statistics available through WebCT, formal student course feedback and academic staff evaluation, there was still a large spectrum in CS3's responses that was left to professional and intuitive judgment.

*Valued characteristics in a successor*

In response to this topic [Question Identifier: 3.1.2] CS3 made a series of points and these are summarised below:

- A straightforward, process part of CS3's role involved checking files from the web developer and this could have been done by anyone with good instructional design skills.
- A more difficult role was working with the academic(s) developing templates or a paper for a project or showcasing a range of options. An example cited by CS3 involved developing showcase options for academics to demonstrate how enquiry-based or problem-based learning could be done online; two of these were in a Learning Activity Management System (LAMS) sequence and two were in WebCT. This was also done concurrently for another university.
- Working closely with a project manager was extremely important in CS3's view and even if a successor had an excellent knowledge of technology or coding, they also had to have substantial ideas on how to disaggregate a course and show how things might be done alternatively. These skills were acquired with experience and an understanding of learning, teaching and assessment was required.
- Possession of high-level people skills was also necessary: if one could not work in a team the project would not move beyond a certain level. It was important to challenge

and present alternatives but if you pushed too hard an academic might withdraw, or the project might be jeopardised. Judgment and balance were important qualities.

- As a consultant, CS3 believed it was important to be aware of possible changes of direction in project focus, especially in relation to finance e.g., short term/ongoing funding.
- To protect the institutional reputation for quality, it was sometimes necessary to recommend that a course was not ready to proceed to the peer review stage. In these instances you needed to have the confidence that other course team members would also have the background to come to the same independent conclusions and support difficult decisions.

#### 4.5.2.3 Technology skills and approaches

With a diverse professional background as an educational developer CS3 was clearly aware of the capabilities and features of online technologies, as well as the plug-ins and enhancements that added value to the learning environment. CS3's basic approach, however, as a member of a course team, was to use "specialised designers and specialised coders and people who can create Flash and Java script" to support designs that s/he had developed in association with the academic(s).

Commenting on learning management systems, for instance, CS3 remarked:

*I feel that these learning management systems were developed in the '80s and '90s. We don't really need them anymore. We can put up our own websites. What is it that WebCT does for us? It provides a bit of a structure and it's easy, it's easy. They even allow us to do reasonable assessments, like they allow for multiple choice, they give a nice little assignment drop-box, they allow for discussions. But you pay for it in rigidity and inflexibility of the tool. Probably their most useful function is administrative: automatic enrolment and provision of grades.*

The view that emerges here is that, given the support of a course team with ICT expertise, learning management systems are useful but not an essential ingredient for online learning, teaching and assessment. CS3 adopted a critical perspective about technology and was confident the course team could produce more relevant online learning environments than those commonly available through the commercial learning management systems.

#### 4.5.2.4 Characteristics relevant to institutional processes

Being employed as a consultant in educational development in Australian universities generally means that either one's professional expertise and skill set are not matched by existing staff or that staff in the organisational unit are fully employed in their current roles and are unable to take on additional work. CS3 was a well-qualified specialist in economics projects, had worked

in other universities in this area and was employed on this basis because the institution was enhancing its flexible delivery profile in economics disciplines e.g., management, marketing and accounting courses. Many Australian universities are involved in off-shore teaching. Sustainable delivery in this mode and establishment of a reputation for quality often require more strategic course development. It was CS3's view that the university had this strategic focus and commitment:

*...all of my work is internationally orientated and so I have to have that perspective that it's not only being an instructional designer, an educational developer, but of being able to operate internationally and understand the cultural context and the need for cultural diversity.*

Successful design and development of courses for off-shore delivery require cross-cultural perspectives and CS3's experience had helped her/him to acquire these.

As time went on, however, CS3 did work on other projects beyond the economics discipline base because of her/his experience in online learning, course design and development and capacity to work as a valued member of a project team. The types of characteristics CS3 outlined for a replacement in the previous section could also be included in this section. Being able to work harmoniously with a course team and the project leader, as well as contribute significantly to online quality agendas, were recognised as valued characteristics.

#### **4.5.2.5 Summary of CS3 to RQ1**

CS3's course team experience as an educational developer over many years, discipline expertise in economics and high level skills in online course delivery were important characteristics. Perhaps the most significant characteristic about CS3, however, was working as a consultant on a contractual basis, illustrated by the statement that, "if I just knew the instructional design methodology and pedagogy that still wouldn't be enough". In CS3's view the key point was that:

*Because I'm an entrepreneur it's not only a matter of how I operate within the context of the job, but it's also a matter of getting jobs and getting contracts and getting consultancies and that kind of support, that collegial support has been really important, networking, so not only does it bring me information and knowledge about new practices, but it also provides me with a career, so for me it is all bound up together and that's hugely important.*

As an external consultant, CS3's advice about assessment was strongly influenced by the project context and assessment policy and practice that had been developed for international course delivery but as a change agent s/he brought considerable experience and knowledge to the educational development team.

### 4.5.3 Significant influences upon CS3's thinking about assessment conducted online [RQ2]

In commenting on the model evolved from responses in the first round of interviews (Figure 3.3), CS3 suggested that the international element was missing and that assessing international students “brings a whole new perspective”. CS3 was referring to international students studying in a fully online mode off-shore or studying off-campus within Australia in web-enhanced/blended courses. The critical area in assessing international students was their standard of literacy and CS3's view was that:

*What you're getting, what I'm seeing in a number of different universities, is a real polarisation between people whose first language is English and those who are still working to acquire a good-enough understanding of English to study in an Australian university.*

CS3 continued:

*...it's an issue and a concern here at an institutional level and it's kind of the decisions that policy and leadership make and so then it has to factor into these conceptions at an individual level about teaching, learning and assessment.*

The international element has been incorporated and highlighted in black in the individual and institutional issues [Appendix H, Figure 1] but as CS3 observed, they could also be included in other parts of the model as well.

#### 4.5.3.1 Individual influences

In an individual sense, CS3's experience and professional practice, for twenty-five years as an educational developer or curriculum writer, have been of major importance. A significant number of those years were spent in an institutional environment where commitment to deadlines, processes and practice inhibited deeper reflection on practice despite professional development opportunities. CS3 linked significant changes in conceptions of learning, teaching and assessment with employment in other institutions and commencement of doctoral study.

These changes led CS3 to:

*...understand the value of writing papers and attending conferences and extending a little bit further outside what I perceived my area to be, that I suddenly understood. It was like a dawning, that I understood that there was a huge body of information and body of people, who could support me in my professional endeavours. And I kind of grieve, now, for all those years where I wasn't aware of that, where I was striving individually and in isolation to reach this level.*

CS3 developed professional and scholarly interests in “using network theory to look at the role of learning outcomes, the role of assessment and the role of evaluation” and sought a broader view of the impact of assessment and evaluation that went beyond traditional assessment and learning outcomes. CS3's experience and professional practice also exposed her/him to



different models of educational development that were more research-orientated and centered upon “working to change academics’ understanding of teaching and learning”. The focus had also moved away from creating sites for academics and from working on a one-to-one basis with them.

In commenting specifically on influences that had led to changes in thinking about assessment [Question Identifier: 1.4.1] CS3 stated that, “Colleagues have done a lot for me, that collegial support. That’s been huge”. CS3 linked collegial support with keeping updated about “information and knowledge about new practices” and some of these were specifically linked to assessment. An example was working with logs, diaries and practicum reports as embedded reflective activities, leading to the view that, “The community of practice thing is something that I think might develop fairly quickly now”. In working as an educational developer over a long period, CS3 had a perspective of a professional journey that was distinguished by considerable change and development with increasing opportunities for scholarly engagement and critical reflection in recent years.

#### 4.5.3.2 Institutional influences

In terms of institutional influences upon present practice (Question Identifier: 1.2.2), CS3 identified the central importance of funding and maintaining “the big picture, the macro picture in order to enable the project to succeed” and within this framework were CS3’s views on the important role of the project manager. CS3 was also well aware of the role of the organisational unit, that was “responsible for putting courses online”, and clearly differentiated this from other roles such as “developing lecturers and general staff”.

Table 4.7 presents CS3’s comments rather than ratings of issues that affected advice about conducting assessment online [Question Identifier: 2.7]. CS3 preferred to comment rather than use a ratings system and some specific remarks are included in the following table.

**Table 4.7. Ratings of issues that affected advice about e-assessment (CS3)**

Important issues that affect advice for subjects that had an online assessment component include:	SA	A	N/A	D	SD
Plagiarism	Lecturers are “very concerned with it”.				
Academic workload/time	If there are only ten hours available for instance “that’s it, you do it in ten hours with them, though it might mean you do a lot more work or you make a lot more decisions”.				

Technology support	"Oh huge".
Numbers enrolled	Given numbers of 500 students "there was a compelling factor to put a lot of stuff online".
Academic'(s)' interests	Significant and some academics "want to be seen as the talking head" whereas others don't.
University policy	"Absolutely" important influence.
Time available for development	This was not considered so important because all courses "have to meet certain standards" and if a course was not recognised to be at this level new timelines would have to be negotiated with the writer and CS3 liaised with the project manager and was involved in these arrangement.

Table 4.8 presents other comments by CS3 in preference to ratings about issues that affected the quality of assessment in subjects that had an online component.

**Table 4.8. Ratings of issues that affected quality of e-assessment (CS3)**

<b>Important issues that affect the final quality of assessment in subjects that have an online component include:</b>	<b>SA A N/A D SD</b>
Relationship with academic(s)	"It doesn't really matter if I have a great personal relationship with the academic or not, I'm still going to say this is what I think and I'll even put it in writing".
Time available for development	There needs to be time for development and re-evaluation: e.g., "we've done that in the pilot with 8 students, it's obviously not going to work for 200 students".
Resources and finance	"The levels of educational development required may vary, depending on the files that are submitted, but this is a very important element".
Aligning assessment with learning outcomes, teaching/learning activities	"You're working for seamlessness in assessment and outcomes and teaching and learning activities" - so at times it was necessary to change the outcomes.
Levels of IT support	"It's available".

Government quality initiatives such as AUQA, L&T Performance Fund	Money was available but with the support of the Head of Department and the academic(s) you have to see the opportunities and “you’d hope that some of that would filter down”.
University policies	This was obviously important: “we have a unit that’s capable of developing products that can be sold offshore and we have a model that’s designed to support academics”.
University leadership	CS3 endorsed “its vision and leadership across the university and at the highest levels”.

#### 4.5.3.3 Summary of CS3 to RQ2

In CS3’s context there is a model for online course development and delivery, associated with support and established processes. Strategic leadership, funding, project management and quality criteria are also evident. In terms of educational development, CS3’s interactions with academics are informed by objective concepts and criteria. In the important role of advising the academic, CS3’s thinking about assessment was articulated, even in written form, but there was no obligation on the part of the academic to accept it. In this case however, other institutional quality processes were also operative, such as piloting and re-evaluation, so one could see in an institutional sense how CS3’s thinking about assessment is influenced by individual and institutional factors.

#### 4.5.4 Critical assessment issues when online components are introduced [RQ3]

A summary of some critical assessment issues identified by respondent CS3 [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] is presented in Table 4.9.

*Table 4.9. Critical issues when assessment incorporated online components (CS3)*

Issue	CS3’s comments
Maintaining the balance between technology and pedagogy	Working with multimedia people, designers, Web designers: “the relationship with the academic is also incredibly important”.
Mandated online discussion	“If we actually formally allocate marks to that then it kind of forces the student into going online but in my experience tutors need to withdraw from the discussion at times: often a tutor will come in and respond practically to every student’s comment”.
Plagiarism	“Plagiarism is a huge consideration”.

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The language of assessment in off-shore, online courses	"Students have to complete the assessment in English".
Quantitative vs qualitative assessment	Automated assessment "saves the lecturer a huge amount of time".  100% marked online: "I don't think that's great".
International education	"I have to be able to operate internationally and understand the cultural context".
Lecturer resistance to online teaching and assessment	As indicated previously, "If they don't want to do it they'll pull it or they'll go on sabbatical for six months or the files just won't come in".
Collaboration between universities	"...what I've become interested in lately is the way that universities are linking with each other...evolution of new global spaces".
Distinction between instructional designer and educational developer	CS3 distinguished between an instructional designer who worked independently on the files, whereas the educational developer worked closely with the academic to develop the educational materials and was on a higher rate of payment.
Time for research and reflection	Referring to another institutional model, CS3 observed: " we were so oriented to deadlines, and to process and to practice, even though you know, we knew about, the understanding of the importance of reflection, in our own practice it was very difficult to stand outside and reflect and discuss".

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#### 4.5.4.1 Summary of CS3 to RQ3

In Table 4.9 a number of critical issues were presented that invited additional comment. A very recognisable issue in online assessment generally is maintaining the appropriate balance between pedagogy and technology but the tension revolving around these different perspectives, CS3 observed, also carried over to the relevant groups of staff, the academics and the technology support specialists. The educational developer who liaised with both groups had to balance competing demands. CS3 noted that for the technology specialists there was commonly:

*...give and take between the constraints of the technology and what you need to do or what you think you need to do in the actual design. You need to have a kind of balance with those people and to respect them and have them trust your needs.*

Given the workload and focus of academics on content, the aim from CS3's viewpoint was quality in the total learning environment, including content and design. CS3 sought to maintain this balance but also indicated that an essential element was that "you really need to have time to develop a course".

In an earlier comment, quoted in Table 4.8, CS3 stated that the educational developers' relationship with the academic was not an important matter but seemed to contradict this in Table 4.9 where s/he describes the relationship as 'incredibly important'. The point is though, CS3 was prepared to disagree with academic's views on occasion and state this in writing.

CS3 also believed that many tutors needed to reduce some of their contributions to online discussions and learn how to allocate leadership roles such as moderator, synthesiser and summariser to students. This is an interesting observation in terms of e-moderation competencies. CS3 also commented on the value of relating such discussions to the need for social interaction and making them mandatory for assessment purposes.

CS3 had some considered views on plagiarism, informed by experience in working with many staff involved in teaching international students. In the first interview CS3 highlighted the issues that arose when some students passed their assignments on to other students. The subsequent punishment paradigm, shame and expulsion of students, was better replaced in CS3's view by a pedagogical shift that recognised plagiarism "as a cry of distress". In the second interview CS3 mentioned again that lecturers were "very concerned" about plagiarism, that new software to detect plagiarism was being used and that there were links in every WebCT course to University Handbook policies on plagiarism.

In the final interview CS3 stated that as an issue plagiarism "has to be addressed in a way that's sympathetic to students. Because of the environment it's not even sympathetic to universities". CS3's belief was that students should be educated early "to the point where they don't feel they need to plagiarise" and later CS3 recommended some lateral thinking in dealing with the issue. Students who had been plagiarising for example, might be located in a loop and returned after three or four months of intensive work; alternatively, they could progress in parallel within a course. CS3's thinking was that educational strategies should be implemented to address the problem rather than closing off their futures. It was a problem that perhaps needed to be lifted from the shoulders of individual academics who detected plagiarising students. The problem should then be referred, in CS3's view, to those specialised in working with students at risk.

CS3 suggested that for international courses some pedagogical re-thinking about the language of assessment was worthwhile. Did the language of assessment have to be English in these courses? Could students submit an essay in Mandarin for instance? Could translator services be

used to enable such assignments to be assessed appropriately? CS3 was aware that “doing an English course, doing it at an English university, has status associated with it” but was prepared to adopt lateral thinking to address complex issues.

CS3 was sympathetic to lecturers’ issues of workload and time involved in assessment processes but expressed some reservations about fully automated marking in online courses. CS3 conceded that in quantitative disciplines there may have been more of an argument for this approach but even in the particular course referred to, believed a qualitative assessment component was worthwhile.

The final issue in Table 4.9, lack of time for critical reflection on professional practice, may have impacted on assessment but more detail was required to establish such a connection. The issue was worth noting however because it had the potential to impact on the quality of the assessment that occurred in fully online courses. Students appreciated immediate access to marks and feedback. One detail noted was that when given a choice between online and paper-based qualitative (short answer and essay) assessment, students who chose to complete the assessment online tended to do better because they could all type faster than write, and their words counted for marks.

#### **4.5.5 Representing CS3’s perspectives about assessment conducted online**

##### **[RQ4]**

##### **4.5.5.1 Approaches to learning, teaching and assessment**

Some extracts have been selected from the series of three interviews with CS3 to illustrate this participant’s approach to learning, teaching and assessment. Invited to comment on approaches to learning, teaching and assessment in the first interview CS3 stated, “I am trying to respond to the designs of the program and the wishes of the academic”. CS3’s professional engagement was with these two broad elements, the more objective design considerations of each subject, and the course as a whole, counterbalanced against the focus of the teaching academics. Quite a number of courses had already been determined for off-shore/online delivery so for CS3 it was a matter “of simply supporting the academic in their choices or I’m suggesting alternatives”. Although CS3 generally supported the academic, an important option for her/him was to challenge their thinking and present alternatives.

In terms of online learning CS3 noted that one of the problems was “that the student is missing out on the social interaction”. Part of CS3’s approach was that if there was face-to-face discussion in the on-campus version of the subject, then it was worthwhile trying to recreate this in the off-campus, online mode. This meant using the communication options in the

learning management system (WebCT) and it also had implications for the design of assessment.

CS3 stated specifically that her/his practice was to integrate assessment within the subject design, but expressed some reservations about the use of learning outcomes in the following terms:

*Learning outcomes I try to move away from. It's very, very rare that you come across someone who understands that it doesn't have to be focussed around learning outcomes, even in fact a philosophy - I mean most people argue that any problem-based learning or enquiry-based learning still needs to come back to certain learning outcomes. But I suppose my agenda is to bring about a more radical understanding that we don't.*

The underpinning thinking for this was that, “we’re not necessarily teaching for someone to be able to operate in the workplace according to how an employer perceives what their needs are”. CS3 argued for a more open-ended approach or for more generic skills. CS3 associated competency-based learning outcomes in particular, with a more structured form of learning that was often designed in the interests of employers. There were also reservations about the predictability of learning outcomes and the assumptions underpinning such phrases as “learners should be able” or “learners will be able” at the beginning of a subject or module. In CS3’s experience learners responded in sometimes unpredictable ways and the development of thinking that questioned and critiqued work-based models was valuable. CS3 had reservations about behaviourist thinking that structured learning in very predictable ways.

Finally, CS3 had definite ideas about the integration of content and form to constitute aesthetic and pleasing design:

*You need to get content and really content is still king. From my point of view context is incredibly important and from the academics' point of view content is important, so there's a balance there between making it come off, pulling it off and making it exquisitely good.*

Different tensions were experienced in the development process: the emphasis on subject matter was important, especially from an academic’s perspective; but CS3 was also aware of how professional inputs from graphic and web-design course team colleagues could enhance the final quality. CS3 commonly sought to achieve aesthetic integration of content and context within a unified design.

In interview 2, CS3 stated, “I think students believe assessment drives the learning and that it can be separated but personally, my own philosophy is that they should be integrated and in fact that’s what I strive for, to have them very well integrated”.

Many of the courses which CS3 had worked on were for off-shore delivery and s/he expressed some concerns about the validity and reliability of assessment. CS3 remarked that, “how we’ve

been trying to assess international students in our judgment of their plagiarism is very negative, and we can do better by considering our impact on them”. In a broader sense CS3 was “interested in kind of using network theory to look at the role of learning outcomes, the role of assessment and the role of evaluation” and this was linked with the impact of assessment on learners in different international settings such as the:

*...woman who is studying part-time, three-quarters of the globe away, you know, who is she going to talk to about this, and what impact is this going to have, not only in her life but in the life of everyone who interacts with her. And so I suppose I'm looking for different theories, like network theory, which has been derived from chaos and complexity theory, to explain, to give a wider view of impact and assessment and evaluation than what is so traditionally supposedly covered by assessment and learning outcomes.*

CS3 was very aware of educational frameworks related to the design of assessment for online environments but was critically reflecting on some of the broader impacts of assessment and its effect on the lives of learners.

#### **4.5.5.2 Conducting assessment online**

In designing online assessment CS3 was conscious that students studying online could be isolated from each other so a strategy was promoted, in appropriate contexts and especially where there had been tutorials in on-campus offerings of the subject, to “allocate that ten percent of the mark to this online discussion”. The rationale, in CS3’s words, was that:

*...if we actually formally allocate marks to that then it kind of forces the student into going online, engaging in the chat room or discussion or whatever and that can be useful because it makes the student feel like yes they are part of a class and they do disclose things about themselves that make it easier for them to bond with each other or that just leads to better group work. It's really the same principle as in a tutorial.*

In this context, assessment of online interaction addressed wider patterns of communication within the online class and established the dynamics that promoted better group work and this developed as students progressed through the course sequence.

#### **4.5.5.3 Understanding of effective assessment online**

It was common in CS3’s interaction with academics that they often sought to simply transfer the same assessment they had used in face-to-face classes to the online environment. Effective assessment in online environments was much more than this in CS3’s view: in these situations her/his approach was to “talk about the reasons why and explore how you might set it up differently”.



#### **4.5.5.4 Significant contribution to assessment online**

In response to this question [Question Identifier: 1.2.3], CS3 described working with two academics who had in the previous semester of the subject conducted assessment around identification and critical review of a journal article. They wished to continue this assessment with many of the same students in a new subject but wanted to ensure that students did not resubmit articles that had been assessed in the previous semester. They were concerned about plagiarism and were starting to consider the creation of a database to track articles submitted by individual students.

CS3's solution was to suggest that students only be allowed to submit articles that had been published in the last six months because it could not have previously been reviewed by another student in an earlier semester. This simple suggestion of CS3's was accepted and is an example of how some contributions to online assessment are solutions to problems that arise in development contexts at particular times. A significant contribution was one that resolved the presenting problem in CS3's view.

#### **4.5.5.5 Future directions for assessment online**

In responding to this question [Question Identifier: 1.4.3], CS3 commented on the following issues.

For *international students* CS3 argued for the removal of the punishment paradigm for plagiarism where they were sent home in disgrace and “start helping students to have confidence in and be able to provide good responses”. International students needed to recognise that “discourse within an Australian university may not be the same as discourse within their own university or those in undergraduate studies may never even have been to a university”. This required pedagogical shifts in assessment and one of the implications was that English was not necessarily the most appropriate language of assessment.

In reviewing historical assessment trends, CS3 observed how traditional universities had *moved from 100% exams* to situations where “what we have now is students getting components of marks for discussion work, and for group work, and for independent research and essay work”. This was not always accepted online and CS3 observed that, “I have got a course where it is a hundred per cent marked online through an online quiz and basically it is just multiple choice”. CS3 recognised the validity of quantitative approaches in disciplines such as Mathematics and Statistics and conceded that these methods saved the lecturer a considerable amount of marking time because of the automated dimension.

CS3's view, however, was that the contextual nature of some subjects and careers associated with them required more qualitative assessment. In areas such as derivatives, medicine and discourse analysis in liberal arts, qualitative assessment was appropriate but obviously "intensive on the academic to mark things like that". Getting the balance right between quantitative and qualitative assessment was a critical issue that remained unresolved.

#### 4.5.5.6 Comments about forms of assessment online

In the second round of interviews each participant was asked about the frequency with which they encountered the following forms of assessment [Question Identifier: 2.3] with the option to comment as well. Significant comments by CS3 have been summarised or quoted in Table 4.10.

*Table 4.10. CS3's comments on forms of assessment conducted online*

Assessment Type	CS3's comments
Traditional assessment delivered online	"Normally most of the assessment now requires some kind of computer-oriented searching or some technological skills."
Automated assessment	Increasingly encountered by CS3, especially in business-oriented subjects: "quantitative subjects lend themselves to the easily assessable answer. You can also click for the lecturer's comments (example of the answer if provided) and students can compare their answers with that".
Automated assessment (Advanced options)	These were frequently developed – "especially things like match the graphic with this or do a little flash movie for drag-and-drop or something or a bit of Java script coding; you know, pick the right word."
Invigilated online exams	"We booked out three computer labs and the students all came in, sat down, did the exam and went home again. Most were marked automatically but some short answers had to be assessed by staff. Faculty were impressed and have asked for further assistance in this area".
Online interaction	"I've come across instances where a lecturer will send out a word template for assessing online discussions: they ask the student to nominate two postings, indicating what they thought was good about that posting and that's what they base their assessment on. They don't want to necessarily see the posting".
Authentic assessment	CS3 commented that students in such courses as Marketing

	were often required to approach companies and they may even have had limited access to their databases. MYOB, Excel spreadsheets were commonly put into WebCT.
Critical reflection and meta-cognition	“Sometimes we do encourage students to keep an online journal or an electronic portfolio not necessarily for sharing, just to help them to come to some self-reflective kind of understanding, but it’s not as common I have to say – it’s logs, diaries, yes, blogs, wikkis no, fieldwork that’s common, practicum reports that’s common”.
Advanced problem-solving	CS3 referred to an example in another institution where advanced scripting enabled students to verify attitudinal responses where the answers were not right or wrong but fell within certain percentage ranges and this was done within a WebCT environment.

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A point of interest in the assessment of online interaction is that the assessment process in the example described was a critical reflection on the learning process and could just as easily have been included in the category on critical reflection and meta-cognition. It was a different way of assessing online discussion and in this example the lecturer did not require access to the original posting: the focus was on the meta-analysis of the learning that occurred from the student’s perspective.

In the institution in which CS3 worked there was considerable technology innovation supporting fully online courses delivered off-shore. A diversity of innovative online assessment approaches was promoted by CS3 within a project/course team model. Because the international courses were delivered fully online there was a more systematic approach to using the full range of forms of assessment that would be effective in an e-learning environment.

#### **4.5.5.7 Summary of CS3 to RQ4**

CS3’s approach to learning, teaching and assessment is represented in the following model.

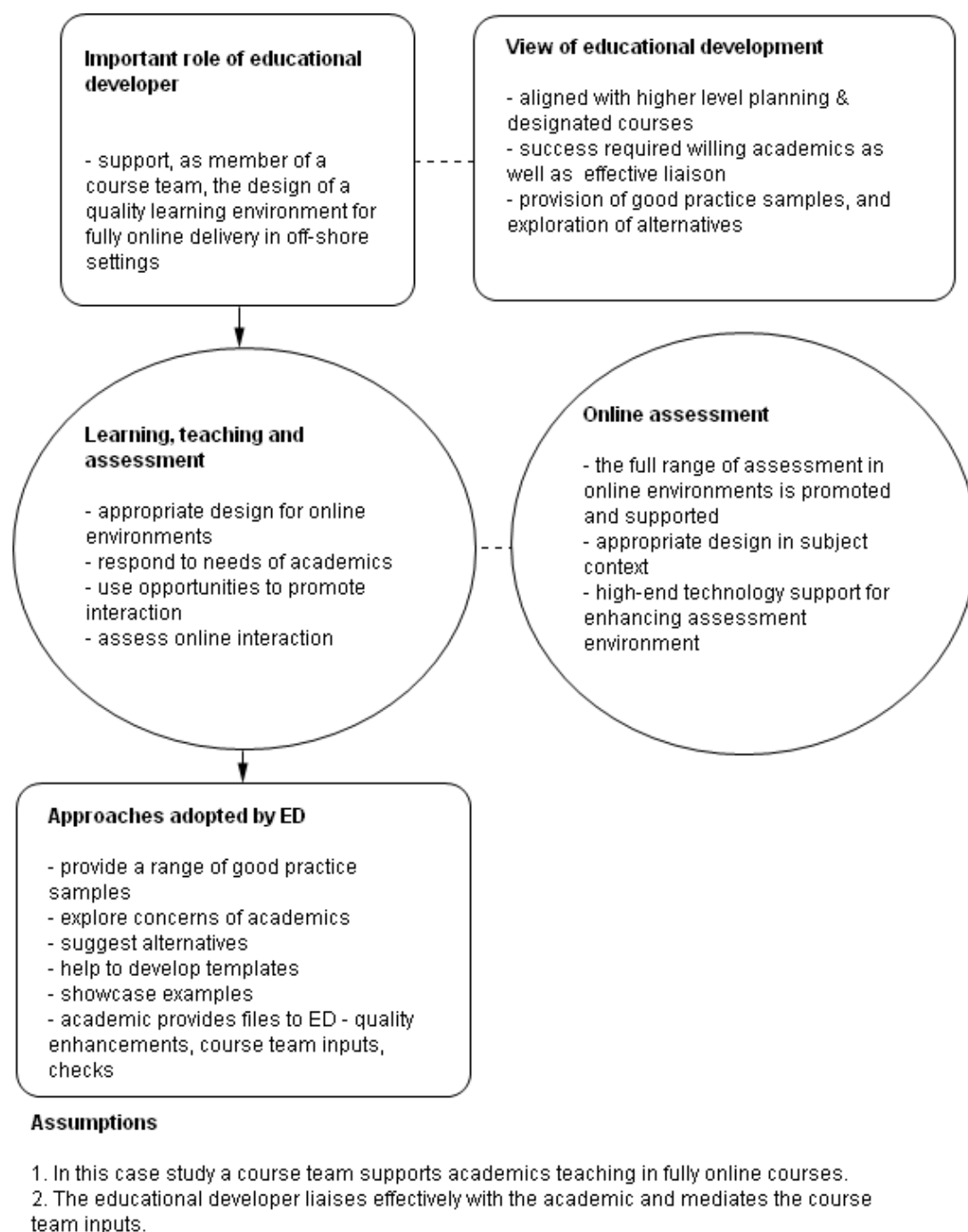


Figure 4.4. Representation of CS3's thinking about assessment conducted online

#### 4.5.6 Overview of CS3

CS3's perspectives about assessment in online environments were derived from extensive experience as an educational developer in many institutions, from networking with colleagues and from working in course teams that included many technology specialists. The fact that CS3 worked on a contract basis and was an educational consultant had an enormous influence upon

her/his thinking about assessment. To remain employed in this area as CS3 had done, it was necessary to be innovative, capable of solving difficult learning and teaching problems, and to possess communication skills to work with a cross-section of teaching and support staff. CS3 had well developed ideas about assessment based on instructional design frameworks but as a change-agent was also extending and refining these through research and doctoral study. CS3's thinking about assessment was most significant in its application in offshore education, in relation to plagiarism, in technology-enhanced assessment and in a range of areas where there was some dissatisfaction with more structured and behaviourist approaches. CS3 had reservations about traditional learning-outcomes approaches and this had implications for the design of assessment. CS3's previous experience in production with strict deadlines and little opportunity for scholarly reflection on practice, were significant influences. CS3 gave greater prominence to the development of the online learning environment than the relationship with the individual academic but recognised the importance of maintaining the nexus between the two.

## **4.6 Case study 4**

### **4.6.1 Introduction**

CS4 presents the perspectives of an educational developer who was working during the data collection phase of this project in an organisational unit that was supporting the integration of educational technologies into learning and teaching within a large university. As a member of a course team, CS4's roles included providing educational design support for blended courses where the incorporation of a minimum level of online components in every subject had been mandated. This university was formally listed in the group of eight leading universities (Australian Education Network, 2005) and member institutions within this category cited research outputs, industry links and the competency of their academic staff as distinguishing criteria.

### **4.6.2 CS4's characteristics as an educational developer [Q1]**

#### **4.6.2.1 General characteristics**

Table 4.11 presents some of CS4's general characteristics.

Table 4.11. *General characteristics of CS4*

Category	Details
Position title	Educational designer
Title used by participant during interviews	The titles educational designer and instructional designer were used interchangeably by CS4 during the three interviews.
University classification: academic/support/contract	Support
Length of experience as educational developer	>20 years
Background	With a substantial component of instructional technology in a Masters degree, CS4 had an extensive background in media production and had worked in more than nine Australian universities in such roles as lecturer, instructional designer and educational development manager; CS4 had also worked as an educational consultant in the private sector with various industry groups and had engaged in research and publication in areas of instructional technology and curriculum development.

#### 4.6.2.2 Educational development

##### *Understanding of educational development*

Educational development was designed to support innovative integration of ICT into learning and teaching and CS4 observed that, “there was a small uptake, in the realms of five to ten percent, initially, who went beyond the initial presence of WebCT”, but was then able to refer to statistical information “to indicate we are running now more like twenty-five per cent of the undergraduate courses and similarly postgraduate are using the site beyond the bare minimum”. Staff development was strategically linked to supporting technology adoption and CS4 stated:

*About a year and a half ago, I spent six months in one faculty because I felt like we were waiting too long for people to come through the door so I was trying to kick-start or be proactive in that activity.*

Adoption rates of educational technology could be observed, and statistics were available about usage of particular tools (Abbott, Siskovic, Nogues & Williams, 2000) within the learning management system. CS4 referred to presentation sessions to staff where:

*We hired WebCT people to do some of the presentations, so we've got high level technical support down to how can I work with icons – you know, that kind of level. So we had everything in between, targeted specific faculties, had a faculty day.*

Multiple strategies were adopted and one-on-one educational development was also part of this support process as the following comments indicated:

*Having said that, the bulk of my approach is that because the way we are set up, [the Program Leader] would tend to go at a high level and initiate innovation that would flow onto me so I've got it so the educational change agent bit is done for me but I still do have a role but it tends to be less of that. As a result of [the Program Leader's] involvement across faculties it tends to kick-start projects that I pick up and that I am invited to participate in. They see a need for me to be part of that initiation. So it works from a high level down.*

Educational development, as it emerges in this extract, was strategically identified at a higher level in terms of discussion between unit leaders. The understanding was that educational development was consultative and freely entered into but the processes, commitments and undertakings were made explicit. It was, however, in this instance a more top-down process, negotiated between unit leaders. CS4 observed that:

*...quite often I have to sit down and give people a rundown on roles and responsibilities and say your role is this, we've got support people who can also have an impact on what we do, this is going to take a certain amount of your time.*

This observation introduces the idea of the course team, so that staff development was not just a one-on-one process but also involved a range of specialists who contributed to the quality of the resources that would support learning and teaching in the academic's subject. CS4's role was to work closely with the individual academic in the design of the learning environment. The need for commitment on the part of the academic during the development phase was a significant factor as suggested by the following comment:

*It's not fully understood or sometimes there is initial enthusiasm and then the workload of an academic gets in the way of working in a consultative environment.*

CS4's views on educational development indicate comfort with a range of models including faculty-based educational development on a more distributed basis, initiated by CS4, or educational development initiatives following discussions with unit heads.

*Understanding of current role*

Within CS4's institution there was an understanding that online learning and teaching added value to the face-to-face experience of on-campus undergraduate and postgraduate students and a strategic decision had been made that every subject would have an online presence. This consisted of an automatic upload of the subject Handbook entry into the learning management system (WebCT); the provision of a calendar tool; the availability of an icon where teaching staff could upload content in various formats; and the option to use a range of communication tools. There were also some strategic courses where off-campus delivery was a significant dimension and these subjects required additional multimedia and online support. In the first interview CS4 observed that "we have got about ten courses which are fully online".

Generally CS4's approach had been to adopt a model that addressed phases of analysis, design, development and evaluation and this entailed a course team approach where:

*...we've analysed the learners, we've analysed the content, we've analysed the delivery constraints, these front-end type things that are going to impact on the course, then the design would be based on certain learning outcomes, objectives and so therefore the development of resources could be a number of pathways, a number of media, not necessarily online.*

In working with academics, CS4 started:

*...with focussing on the way they think about the learning/teaching/assessment aspect. I want them to think about alternatives as practice; and then I think from that you can move across to quality.*

To some extent, the strategic predisposition for an online presence in every subject constrained the range of alternatives but within this framework there were still many options.

In the second round of interviews [Question Identifier: 2.2.4], CS4 provided ratings on the roles [Appendix I, Table 1] and added curriculum development, media selection, evaluation and research.

Although CS4 had a background in teaching and lecturing, the roles of teaching in formal award courses and formal workshops on learning and teaching were not applicable because they were undertaken by staff in another unit of the university. CS4 was a very experienced project manager but stated that, "I would hire a project manager" in the best possible world and also suggested the hiring of editors on staff for editorial and structural support. In regard to placing content online CS4 remarked, "I like to avoid it but having said that, I've done it".

CS4 added four additional roles that were not present in the list and made the following comments about evaluation:

*We constructed our own instrument. We used peer review for our evaluation instrument. I have worked in conjunction with people who have got psychology*



*or social science background to check my evaluation instrument. So I don't work independently in terms of saying I am the font of all knowledge for evaluation. So I am very consultative: that's to ensure the quality of my evaluation, the validity of my evaluation, because there's a lot of that and I've got to go through that process with peers.*

On the role of research CS4 saw “it as an important quality impact – conducting some research”, noting “that’s even from the point of view right now of a non-academic”.

#### *Evaluating effectiveness as an educational developer*

The most efficient system CS4 had encountered was in another university that posted student feedback forms to off-campus students. The completed forms had a specific tear-out section for educational development inputs and this provided valuable, generally quantitative information about such areas as the number of readings, the level of information presented and the clarity of the subject conceptual structure so it was “a measure of success or otherwise, a very tangible one”. It was not used at the present university where the online environment was the primary medium in which CS4 was working.

In lieu of such systems, CS4 generally relied upon anecdotal feedback and “had a lot of returned customers in various contexts and that’s an indicator that people are satisfied with the process and that they are comfortable in working with me and are favourably impressed by the outcomes”. The system of using specific tear-outs described in the paragraph above was related to student feedback and the perceived quality of the learning materials, whereas the anecdotal feedback and return custom were from academic staff with whom CS4 had worked in developing the online learning environment.

#### *Valued characteristics in a successor*

In response to this issue [Question Identifier: 3.1.2], CS4 indicated that two people had recently approached her/him on this matter and CS4’s response was twofold. In the first instance, “I’ve steered them towards graduate courses” at other institutions. Heading CS4’s recommendations for formal qualifications were enrolment in a course at the University of Southern Queensland in the area of online learning, teaching and instructional design.

The second part of CS4’s response to this question emphasised how important it was to work with academic staff as a facilitator if you were going to improve learning:

*With regard to what do I do this is where, you know, I emphasise to them that the role is one that is very much about working as part of a team and you’re going to be a facilitator and that’s very much the role where it requires you to ask a lot of questions and not necessarily come up with posing, you don’t go posing solutions immediately, until you’ve done a lot of analysis and discussion with academic staff, finding out what it is they want to achieve and that’s a big part of your role. So I emphasise that part of the role.*

What emerged in CS4's response was that even if respondents had good technology skills and knowledge of WebCT, this was insufficient because "if you're going to make a difference, if you're going to improve learning, you've got to work with academic staff as a facilitator".

#### **4.6.2.3 Technology skills and approaches**

CS4 had had extensive experience in the development of multimedia learning resources and was supported in this role by colleagues within the unit who specialised in graphic design, web design and software engineering. CS4 also had high-level knowledge of learning management systems such as Blackboard and WebCT, the tools within these systems and the educational uses to which they could be employed.

CS4 worked within a unit that was supporting the integration of ICT into learning and teaching and stated:

*We are doing a fair bit of pushing but it is in the technologies area; it's not in the teaching and learning area, it's the adoption of new technologies, the LAMS (2005) and the content management systems, so we can tell people, we are able to take people along the new technologies path such as D-Space and all these other things, repositories.*

#### **4.6.2.4 Characteristics relevant to institutional processes**

CS4's previous position before joining the present institution had involved development of fully online courses for clients partnering with universities worldwide and s/he stated that "I'm sure that position put me in good stead to move into the [present position]".

Within the university, funding of \$40,000 for technology grant recipients had been instituted and CS4's experience in project management, as well as in designing online learning environments, was a valued characteristic, especially when linked with learning/teaching expertise. Staff that possessed all of these characteristics were rare within the university. CS4 commented that despite the support by production specialists in the unit, instructional design was very much "a one-person operation" and in fact, there was a need for other such positions.

CS4's background in online learning, new technologies and evaluation, was also a valuable characteristic when the university was exploring the implementation of new technologies such as using DVDs for supporting learners, the Learning Activity Management System (LAMS), digital repositories and e-portfolios.

#### **4.6.2.5 Summary of CS4 to RQ1**

CS4's most prominent characteristics include extensive experience in many Australian universities working with academic staff to incorporate instructional technology in their learning and teaching. Expertise in the development of multimedia resources and online

technologies, as well as an instructional design perspective, made this participant highly employable in the tertiary sector at a time when blended learning includes web-based delivery. Project management skills, experience of working in course development teams in a collegial culture and a close knowledge of learning management systems such as Blackboard and WebCT are also significant characteristics that influence the assessment advice that CS4 provides to academics.

#### **4.6.3 Significant influences upon CS4's thinking about assessment conducted online [RQ2]**

In commenting on the model evolved from responses in the first round of interviews (Figure 3.3), CS4 suggested the inclusion of a quality review tool:

*With quality I always believe that there needs to be say a checklist or some kind of benchmarking instrument in place that provides a reference point. So that's a stage if you like almost between the centre one and going out into quality; there's that one little area where there's that quality check if you like, where it's product and process, both a check for quality. So have we done all the things we could have done? What have we produced? Have we produced the right measures of whatever it is? There's a way do you know what I mean, so it's a review type tool.*

What is evident in these comments is that the individual inputs of the educational developer were also part of a larger fabric, that of the course team, and all of these inputs contributed to the total quality of the learning resources and the learning experience and this has been highlighted in the model [Appendix I, Figure 1].

##### **4.6.3.1 Individual influences**

With extensive experience at many different institutions, CS4 remarked “I’ve done a lot of project management”. This had meant involvement in developing and producing quality learning materials on time and on budget. During this period CS4 had refined an instructional approach that involved analysis of learner needs and this made CS4 sensitive to the context of off-campus students studying online. CS4 remarked:

*I still think we have got a long way to go with lecturers understanding the wonderful ability – I think it's pretty wonderful – of students submitting electronically, assignments can be submitted electronically, can be marked online, and returned, feedback to the students quickly, reasonably quickly and maintaining records.*

At CS4's institution s/he was the only educational designer employed and remarked that, “I feel like I am a little bit of a voice in the wilderness at times”. This may have been compounded by the fact that in this institution CS4 was on the support staff but had been an academic at other institutions. CS4 commented that:

*...the only significant difference that I've found is that when I was in the academic role, as an academic, I found that my role was a little different in that I collaborated just a little bit more with other academic staff in research and publication. My research and publication output in my current role: I've done some presentation at conferences which has been generated by my own interest, no sorry, generated by work that I have done and it's been less collaborative. I've had less, probably less, less involvement in the decision-making groups of the university, because they don't necessarily see at a faculty level particularly, there is a role, there is a need to have someone at the table who's at a non-academic level.*

In a personal sense CS4 detected slightly reduced opportunities to collaborate with academic staff in research and publication; there was also a perception that her/his influence in decision-making groups may have been diminished because of classification on the support staff.

CS4 referred to colleagues who had influenced her/his thinking and practice about assessment, citing a particular person as “extremely strong on assessment” and how s/he had been a source of advice, had published in the area and was a valued colleague with high credibility in the assessment field. Personal reputation and influence were difficult to define but CS4 referred to academics “that are comfortable in working with me”, “the personal credibility, the word of mouth, the fact that people return or their colleagues become part of your group”.

#### **4.6.3.2 Institutional influences**

In terms of institutional influences upon present practice (Question Identifier: 1.2.2), CS4 identified “the fact that we are not on cost-recovery system” as a promoter in her/his role; and the principal inhibitor was “the fact that you can easily lose a client through the impact of time commitments, through pressures on time”. A recurring theme in interviews with CS4 was how academic workloads inhibited quality at the highest level in teaching and assessment. CS4 elaborated on influences [Appendix I, Table 2] that affected advice about online assessment noting:

- strong agreement from a personal perspective that plagiarism was important but that it could become more or less “important in administration’s eyes at a high level” and this impacted on what occurred in terms of initiatives such as identifying and evaluating plagiarism software;
- a strong correlation between academic workload and the quality of the online assessment component; and
- a view that quite a number of academics had misconceptions about what was possible in the online world for assessment and that was an issue that was particularly relevant for educational developers.

In terms of issues that affected the quality of assessment in subjects that had an online component [Appendix I, Table 3] CS4's perspective was that academic peer review of assessment approaches was underestimated. An example was given of how an assessment specialist, who had published in the area of assessment, was employed to provide expert input and advice.

Specific issues arising from the first interview [Question Identifier: 2.4] were followed up with the respondent, in particular the institutional relationships between a unit which was at the intersection of learning, teaching and technology and another unit in the same university which was a more traditional staff development unit. CS4's views on the separation of the two units on the one campus were:

*I don't believe it's a very efficient model to have two entities: it causes confusion and it's not as efficient as having us all under the one roof under the one director. I go for the integrated [model].*

In the final interview, commenting further on this issue, CS4 recalled a videoconference involving an interactive presentation on the learning styles of the current generation, with implications for digital natives and assessment approaches. Where there was a separation of units, there was more likely to be a lack of communication and insufficient follow-up of e-learning agendas in CS4's view. The structural separation of the two units, both concerned to a lesser or greater extent, with the intersection of learning, teaching and technology, was a factor that impacted on assessment conducted online.

#### **4.6.3.3 Summary of CS4 to RQ2**

Respondent CS4 was influenced by instructional design traditions that introduced a systematic approach to the design of online learning and assessment. The analysis phase, for instance, highlighted constraints such as policy rigidities in relation to assessment, administrative vacillation about how to deal with plagiarism and occasional lapses in communication between two units that shared some common interest in online learning. Promotion of formative assessment, the use of a wide range of assessment samples and exploring the possibilities of online teaching and assessment were features of CS4's approach in working with academic staff. A strong emphasis on evaluation, including the idea of peer review of assessment, and a review tool for quality illustrates how this framework extended beyond design and development to the evaluation phase.

In an institutional sense, how CS4's role was conceptualised from a unit organisational perspective also had an impact on assessment practice. It was significant that CS4 worked as a member of a course team and was able to introduce a range of specialist support from unit colleagues in areas of web design, graphic design and assessment peer review. On larger

projects CS4 was part of a support team which provided scripting and videoing expertise for a self-paced learning module that included a DVD. It was also CS4's view that one's classification, either as a member of academic or support staff, was a factor on occasions in one's capacity to provide advice and influence decision-making processes. The decision that every subject should have an online/WebCT presence and the strategic predisposition to support online learning were important institutional drivers upon CS4's role in supporting online teaching and assessment.

#### 4.6.4 Critical assessment issues when online components are introduced [RQ3]

Some critical assessment issues identified by respondent CS4 [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] are presented in Table 4.12, either in direct quotes or summarised form.

**Table 4.12. Critical issues when assessment incorporated online components (CS4)**

Issue	CS4's comments
Policy constraints upon innovation in assessment	"It's at the policy level that assessment will take some pretty constrained, rigid forms". The final exam/two assignment assessment model affected capacity to be innovative in online assessment.
Time available for project involvement in e-learning on the part of academics	The initial enthusiasm of teaching staff may be dissipated when the realities of necessary time commitments for involvement in projects become more obvious. CS4 stated, "the least time model though is by far the more favoured where a specific block of time is allocated to resource development and for staff development time too".  "We came down fairly heavily on the notion that you plan a year in advance and it was well received".
Where is essential information provided to students?	"You cannot expect students to come to every lecture" so WebCT was the best repository for them to access essential information because of its asynchronous dimensions.
Limitations in academics' approaches to online design	Academics "put their courses up almost in a minimalist fashion so once they have done that, and as far as they are concerned, as long as there is access to content, as long as there is some kind of area for communication, they usually shy away from chat, it's usually the discussion board as long as they can have that kind of presence; they have an assessment area certainly;

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	they really want a base model so that then falls into the area of preconceived instructional strategies because they don't tend to think outside that kind of thinking. They wouldn't think of linking to streamed material or going into other technologies for example. They're in their safety zone".
Validating identity in online assessment	"They moved into a multiple-choice environment in which they were going to administer by WebCT – they got a little bit nervous about doing it online because how can you verify that the person taking it etc."
Online marking: quantitative or qualitative criteria?	"If you participate in this online environment, you will get 15% of your marks just for participating. Then there's a quality issue which puts a value on, not just the number of times the person interacts in an online community, in discussions in the online community, but the quality of the kinds of responses".
Peer review of assessment approaches	"An underestimated aspect is using peer input or peer review of materials or assessment approaches. I encourage that a lot."

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#### 4.6.4.1 Summary of CS4 to RQ3

CS4 identified a number of critical issues at the policy level that impacted on assessment but the constraints were experienced more at the undergraduate level where two assignments/essays and an exam were the norm within the university. Available time for quality development and thinking through constructive alignment of assessment with the learning outcomes and other critical components in the subject was an issue, but academic staff generally accepted a lead-time of one year. The argument of the course team from a quality perspective was that, "we will support you in getting the materials out there but in terms of the soundest pedagogy, the best developed materials, think in terms of a one-year scale".

Many academics adopted a minimalist model of design and the implications of CS4's observations were that conceptions of teaching held by many of these academics were based on content transmission. The elements of interactivity, hyperlinked to resources in a range of formats and more extensive use of the online discussion environment were elements that CS4 promoted with teaching staff. Academics could have argued in turn perhaps, that most learning and teaching was conducted on-campus, occurring through lectures, tutorials and laboratory sessions, so the online sites were only intended as a minimalist supplement to traditional teaching. CS4 believed from a quality perspective, however, that greater lead-time,

commitment to staff development and study of good design practice for online teaching would have helped to address the issues.

CS4 touched upon issues of marking online discussions and the question of whether quantitative or qualitative criteria should be used. In terms of a solution, CS4 argued that just as students were aware of significant criteria for marking an essay, “so I think you could be quite clear up-front about the kind of contributions that people make on the online environment and specify that”.

The final issue was related to the quality of the online materials and the online assessment activities. It was CS4’s view that peer review was valuable and illustrated this by referring to:

*...four lecturers who were all involved in developing things, so someone would work on the assessment component of a course, someone else would do some of the other aspects of it. Yes, they tabled it, they shared it, we used to go to meetings, they would pass it around and we would read their material, respond to it.*

This type of peer review occurred in the context of developing more substantial online courses and CS4 had promoted this approach in other courses with success. It was a model that CS4 associated with quality teaching and assessment.

#### **4.6.5 Representing CS4’s perspectives about assessment conducted online [RQ4]**

##### **4.6.5.1 Approaches to learning, teaching and assessment**

CS4’s approach to learning, teaching and assessment was informed by an instructional design perspective that had been used with academic staff over a long period: the primary elements were the learning outcomes or objectives and CS4 invited staff to consider “how best can we measure or match up the assessment to the objective”. The focus was on encouraging academic staff to be objective about the way in which they made decisions about assessment and “that they look at all of the assessment”.

CS4’s experience was that “certain terminology has almost become mainstream; a couple of things have, like formative and summative assessment”. CS4 had not generally used the term *alignment* “until the last year or two and I’ve used correspondence of objectives with assessment items” because staff needed to understand what you were talking about.

CS4 did not “push a particular form of assessment” but used “about a dozen different forms of assessment” as examples in working with staff, encouraging them to consider such approaches as formative assessment.



In the institution in which CS4 worked, ninety-five percent of students studied in the traditional on-campus mode and the basic assessment model, supported by policy, consisted of two assignments/essays and an exam. In this context summative assessment was generally prescribed, there was a significant exam culture and staff assessed within this general framework at the undergraduate level.

As a result of exposure to assessment regimes in different universities, CS4's basic view was that there was scope for much greater flexibility in the forms of assessment adopted. An instructional design framework clearly suggested that other forms of assessment would have been more relevant in achieving the learning outcomes stated in some subjects. It was CS4's view "at the policy level that assessment will take some pretty constrained, rigid forms". It was also CS4's perception that staff were attracted to more flexible forms of assessment, especially at the postgraduate level. CS4's view was that "formative assessment is critical" and that the concepts of constructive alignment, "correspondence of objectives with assessment items" and distinctions between deep and surface learning were helpful in discussing assessment with staff. An instructional design model that incorporated close analysis of the learners and the learning outcomes was constrained by an assessment culture that included a significant exam component for summative purposes.

#### 4.6.5.2 Conducting assessment online

CS4's starting point was "the most appropriate assessment in the situation". This was determined by instructional analysis and consideration of a range of options, with a primary focus on what was being assessed rather than where or how. CS4 appreciated the diversity of choice within the online environment commenting on:

*...the alignment where some other piece or some kind of other form of student work would form this and part of that is being the fact that there's so much happening in an online world that there are other ways of doing it.*

CS4 recognised however that automated assessment was the principal attraction of the online assessment environment because:

*...the temptation with online is to automate the assessment process if we are looking at assessment specifically, because that's what the computer does well. It can't mark essays; it can't mark non-objective style assessment.*

From a learning, teaching and assessment perspective CS4's view was that the online environment offered particular advantages in supporting formative assessment:

*I think formative assessment is critical. I've come round to that as being a really important tool to build into the online environment because it's easily done in the online world. The tools are there now to do that, easily. The reflections, that's another part I would consider as a feedback mechanism for students to monitor their own progress.*

#### **4.6.5.3 Understanding of effective assessment online**

CS4 identified a number of approaches that for her/him constituted effective assessment in online settings. In the first instance CS4 stated that, “I encourage people to build-in, even if it is a ten percent component, for participation in online discussion”. CS4 valued interactivity and discussion in online forums. Effective assessment recognised and rewarded participation along these lines, so this was an assessment strategy that CS4 promoted with academic staff when it was appropriate in the subject context.

The second approach was implied in CS4’s comments that, “it’s just-in-time assessment often” or, the proximity of “assessment soon after the learning had occurred and not leave it as a terminal sort of objective”. The understanding here was related to the immediacy of assessment. Its role in early reinforcement and the capacity of the technology to provide automated marking and feedback promoted this.

#### **4.6.5.4 Significant contribution to assessment online**

In response to this question [Question Identifier: 1.3.3], CS4 referred to a large project to develop a self-learning module of two-weeks study duration for a fully online subject that had more than 200 students. There was considerable development involved, including the production of a DVD that incorporated video interviews with industry practitioners. The overarching shell was the WebCT site and this contained scaffolding and support for study, including links to readings, documentaries, other websites, resources and guides.

In commenting on the significance of the assessment for this module, CS4 identified tutorial participation and formative exam feedback:

*...participation in tutorials was certainly a measurement but that was limited.*

*They were given a model exam question based on those two weeks of learning, which was going to be the final exam, in other words, a practice exam question so they could attempt that practice exam question, submit it, get some feedback so that they will be prepared for the final exam. A written formative assessment essay style where they had to answer a question.*

Comments about CS4’s valuing of online participation have been discussed earlier and the first assessment item, participation in tutorials, was consistent with CS4’s general approach. The second form of assessment, the model exam answer, could just as easily have been submitted by mail or fax but electronic submission, marking and online return, allowed for much quicker feedback. The written essay assisted students to prepare for the final exam and it illustrated CS4’s understanding of formative assessment.

#### **4.6.5.5 Future directions for assessment online**

In responding to this question [Question Identifier: 1.4.3] CS4 stated:

*I think what I would like to see people exploring, eventually, this is a fairly interactive one, is the opportunity for students to develop online materials themselves which they will post to their site as part of the assessment. In other words you are providing them with a medium that's different from anything else that they've used themselves, in most cases, a lot of cases. So plenty of students have experience building Web sites, especially the eighteen year olds coming on stream now but I think the opportunity to put information into an electronic form with hyper-linking capacity which will then expand, to be getting more and more into a constructivist way of demonstrating their knowledge rather than simply being in a linear fashion, of submitting an assignment so that's something for the future.*

CS4 had not seen this form of assessment online ever used but it indicated future options where the focus was on interactivity, as well as the use of the online environment as a natural medium in which students could explore, create and demonstrate their learning within a constructivist framework. The non-linear structure of learning in this scenario used the hyperlinking affordances of the online environment.

#### **4.6.5.6 Comments about forms of assessment online**

In the second round of interviews each participant was asked about the frequency with which they encountered various forms of assessment conducted online [Question Identifier: 2.3] with the option to comment as well. CS4's comments are summarised or quoted in Table 4.13.

**Table 4.13. CS4's comments on forms of assessment conducted online**

<b>Assessment Type</b>	<b>CS4's comments</b>
Automated assessment	Summary: this was not frequently encountered in CS4's experience because the essay and exam culture within the institution were the dominant paradigms.
Group projects	CS4's response indicated this was "a growth area but it's only just starting to happen".
Advanced problem-solving	In CS4's experience this was only encountered in pockets of the university such as in the medical faculty.

A clear theme is that many types of assessment initiatives in the online environment, especially at the undergraduate level, were constrained by the assessment policy and this indicated the critical role that learning, teaching and assessment policy had upon institutional practice.

#### **4.6.5.7 Summary of CS4 to RQ4**

CS4's approach to learning, teaching and assessment is represented in Figure 4.5.

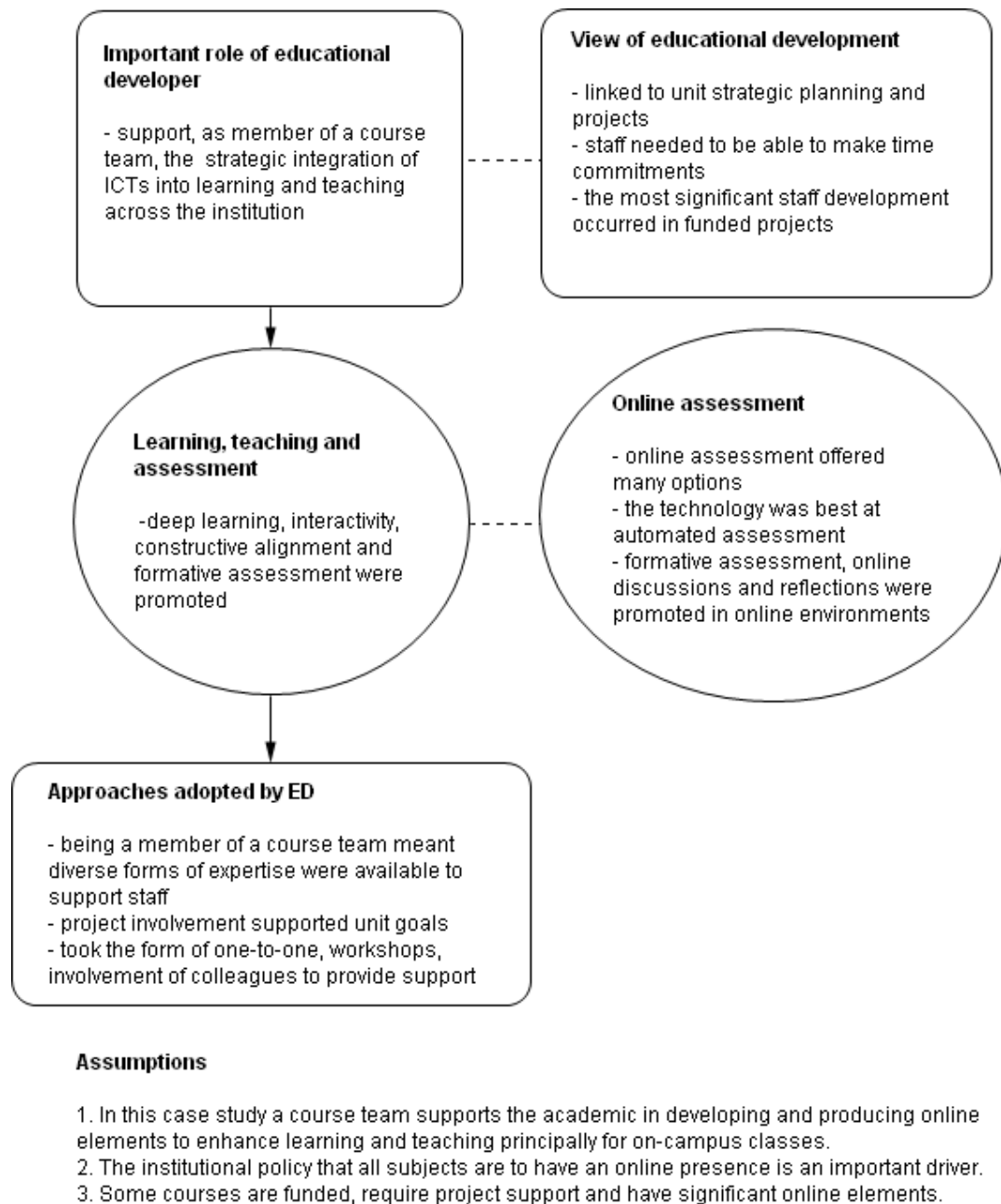


Figure 4.5. Representation of CS4's thinking about assessment conducted online

#### 4.6.6 Overview CS4

CS4's perspectives about assessment in online environments were derived from a background that included experience as an educational development manager in another Australian university, and recent employment in the corporate sector developing online courses for three Australian universities. CS4's background incorporated extensive experience in distance education institutions where educational technology had been used to mediate learning for off-

campus students. This meant that CS4 had worked closely with educational media and technology before the arrival of the Internet. Subsequently, CS4 had a perspective on the period when there was a burgeoning of online learning associated with learning management systems such as TopClass, WebCT and Blackboard and s/he continued to develop and refine these perspectives. With expertise in media production, CS4 had also been associated with the development and production of many CD-ROMS, DVDs and high-end, multimedia resources to support learning and teaching. With a grounding in instructional media, distance education, instructional design and staff development to support the learning needs of off-campus students, CS4 had established frameworks to identify and promote a diversity of online assessment practices. For the interviews associated with this case study, CS4 was located in a largely traditional university that had mandated a certain level of online presence in all subjects.

## **4.7 Case study 5**

### **4.7.1 Introduction**

CS5 presents the perspectives of an educational developer who was working during the data collection phase of this project in a city-based university campus in an organisational unit that had a strong focus on teaching and learning with technology. CS5's roles included assisting academic staff to improve the learning experience of students, especially when information and communication technologies were used to mediate learning. While CS5 was engaged in a broad spectrum of general academic development activities, online learning and teaching were an important component. The university was formally listed within the Australian Technology Network (Australian Education Network, 2005) and members within this category claimed a special strength in the way practical outcomes were achieved through their academic activity; the emphasis was on graduate attributes and research aligned closely with the needs of industry and the wider society.

### **4.7.2 CS5's characteristics as an educational developer [RQ1]**

#### **4.7.2.1 General characteristics**

Table 4.14 presents CS5's general characteristics.

Table 4.14. *General characteristics of CS5*

Category	Details
Position title	Lecturer
Title used by participant during interviews	Academic staff developer
University classification: academic/support/contract	Academic
Length of experience as educational developer	>10 years
Background	CS5 had a background in information technology, in computer programming and multimedia programming and in earlier years was engaged in workshops designed to assist staff in acquiring the skills to use technology, but had been moving to a position where the learning and teaching issues were the core concerns. CS5's research interests were in the area of professional development of academic staff associated with the use of information and communications technologies for mediating learning.

#### 4.7.2.2 Educational development

##### *Understanding of educational development*

In the practice of educational development, CS5 had an affiliation with three faculties, each approximating to a half day each week and this involved developing a presence and relationships with teaching staff in those faculties:

*It's basically wandering around the corridors, it's knocking on doors, it's becoming known, it's participating and leading, it's chatting, being friendly, helping people out with bits and pieces.*

CS5 enjoyed visiting staff in their offices and recognised this as important role in enhancing learning, teaching and assessment.

A significant element of CS5's practice was to:

*...try and provide them [teaching staff] with an enormous range of suggestions, advice and so on and support but I guess our guiding policy would be it's up to the teacher to determine rather than up to us to impose our views.*

Respect for academic autonomy was clearly embedded in CS5's views. The quality of professional advice was equally important in this process and currency with the literature, "tapping into the literature", was a recurring theme in the three interviews.

CS5 had a well considered view that much educational development of teachers occurred informally and the building up of relationships to the point where staff "come to trust you over time" was significant. CS5 emphasised values of patience, sensitivity and plausibility. These values implied that educational development and changing academic practice were gradual processes.

#### *Understanding of current role*

In response to this question [Question Identifier: 1.2.1] CS5 specifically stated that, "I used to think of it as skills" where the focus was on assisting staff to acquire the skills to use the technology. Over a long period of time CS5 had moved from this conception to one where teaching and learning issues were more central, as described in the following extract:

*...it is a critical step for many people to be able to use the technology; facility with the skill itself, knowing which buttons to press and so on, has almost no impact whatsoever on the teaching and learning issues and it is the teaching learning issues that we are most interested in getting towards. I guess one of our mantras is, it is appropriate use, rather than any use, or use at any cost, and so our focus is primarily on ensuring that if an academic is interested in using the technology, in some shape or form, to listen a little bit to how they are thinking about it. That can come to you first of all as a question about how do I load documents up online but sooner or later you get down to the hard yards.*

CS5 recognised the value for academics in developing competencies to use the technology. In her/his view, skills acquisition was not necessarily related to effective learning and teaching. CS5's primary focus was directed to appropriate use of educational technology for learning and teaching. There was a recognition that opportunities to address this often arose indirectly e.g., technical inquiries about how to upload files. An understanding of some responsibility for promoting quality is evident in the phrases "rather than any use" and "use at any cost"; furthermore, there is an understanding of the role that encompassed how to support academics who were coping with change and innovation. The final comments about getting "down to the hard yards" indicate that CS5 located the real challenge of the role in engaging with the academics' thinking on an ongoing basis and this was a complex and gradual process.

In the second round of interviews [Question Identifier: 2.2.4] respondent CS5 rated the tabular categories, added two additional roles to the list and commented briefly upon some specific

roles. The additional roles were advising department heads and providing policy advice on teaching and learning [Appendix J, Table 1].

Providing advice on online teaching to program leaders, program department heads, and department heads, trying to persuade, challenge and identify teaching and learning agenda items for these groups, were recognised as very important by CS5 and also had benefits for course review and course teams. Providing advice about institutional policies and procedures to the steering group responsible for coordinating online learning and teaching was also recognised as another important role. Advice incorporated both teacher and student perspectives.

In commenting upon the categories [Appendix J, Table 1] CS5 preferred the term *academic staff development* to *staff development* because usage of the broader term was understood to include areas such as Human Resources, disability and other services. For the role of teaching in formal award courses, CS5 did not assign a category and queried whether it was a formal expectation, though noting that, “it has happened in multiple semesters”. In terms of designing learning activities CS5 strongly agreed that this was a very important role but observed that, “a lot of teachers are not up to the point where they can start to engage with those issues”. As regards editorial and structural support, CS5’s view was that support for an academic rethinking their learning materials would be provided but in terms of editorial support, that s/he “couldn’t care less at that level”.

#### *Evaluating effectiveness as an educational developer*

Over a long period CS5 had concluded that while all staff had professional development options for using ICT, including formal study in a Graduate Certificate or attending shorter workshops which had ICT components, the facts were “that the vast majority of the teachers at the university don’t go to either of these things”. CS5 also described three approaches to course design: minor revision, perhaps consisting of making lecture notes available online; partial revision of a subject where some significant learning outcomes were addressed or some assessment activities were reconceptualised; and a more radical re-design where the revision was extensive. CS5 was particularly interested in working with the teachers in the second group.

In responding to the question about evaluating one’s effectiveness as an educational developer [Question Identifier: 1.2.4], CS5 stated, “I guess the indicator that I’m looking for, in my effectiveness is, does the teacher continue to talk to me? Is the teacher interested in some of the things that I’m saying?”

#### *Valued characteristics in a successor*



In responding to this question [Question Identifier: 3.1.2], CS5 noted the importance of professional development in this area and also clarified the distinction between an industry-accepted standard for professional development and preparing someone with the same individual focus as CS5 brought to the role. It was this latter category, the personal and the tacit understandings about the role, that were informative but both interpretations were of interest.

CS5's comments focussed on:

*Knowledge* – “understanding of the literature of teaching and learning, the deeper the better of course”.

*Skills* – plausibility, being personable and good listening skills were identified and “definitely a critical factor of being a developer is, in a deep sense you’ve got to be able to put yourself in the shoes of the teacher”. This idea of immersion in the perspective of the teacher, of being able to fully appreciate the issues the teacher is grappling with, included being able to get into the context and “re-position or interpret the idea within that context for teachers”. The idea of being a critical, empathetic colleague as teachers wrestle with issues of change and innovation was emphasised and it also included a communication style that promoted, persuaded and sold difficult ideas to the academic, as well as the ability “to hose down negative concerns”.

*Values* – “you have to be ethical in a profound sense”, sensitive and careful with information that is revealed during interactions with teaching staff. While it is very natural to want to work with academics who intuitively shared similar views about learning and teaching, “there are occasions where you have to work with people that perhaps you don’t see eye-to-eye with”. CS5 believed that any replacement coming into the position needed to have high professional and ethical standards.

#### **4.7.2.3 Technology skills and approaches**

With a background in information technology, CS5 possessed high levels of technology expertise and had on many occasions made representations at an international level to the manufacturers of the university’s learning management system recommending changes that would enhance learning, teaching and assessment. Some of CS5’s suggestions for change in the design of the learning management system included the option to allow students to write a quiz, reconfiguring the design to allow integration of teachers and students and an option to nest discussion folders for group work and scheduled activities. In fact CS5 stated that, “I’ve got hundreds of things that I would suggest about changing the tools”.

CS5 had a concept of the technology as “a bit of a shadow play” in the sense that it provided the opportunity to engage staff in discussing their ideas and attitudes to teaching, especially

when there was a natural reluctance. CS5's perspective was that "it is useful to be able to put the teaching and learning down for a bit and just talk about the administrative or perhaps even the technological things". In fact it was CS5's experience "that the more sophisticated the view of teaching and learning that the teacher has, the less relevant the technology becomes in a way" and a particular research interest of CS5 was that when "technology is involved teachers find it easier to talk about their teaching practice".

#### 4.7.2.4 Characteristics relevant to institutional processes

There were many dimensions of CS5's role that supported institutional learning and teaching agendas. CS5's advisory role to institutional program and departmental leaders on online learning, participation in the university steering committee for online learning and teaching and involvement in the academic staff development roles listed in Appendix J, Table 1 all helped to advance institutional initiatives.

CS5 emphasised collegiality with academic colleagues and supported institutional initiatives although observing, "I don't think I have ever been perceived by anyone as an arm of management". Even though there were many ways in which CS5's role contributed to institutional agendas, there was a sense that advice about learning, teaching and assessment was strongly independent of managerial agendas. In response to further questions on this theme [Question Identifier: 2.2.4] CS5 indicated that the two orientations were needed and in terms of working as an academic developer with individual teachers on a 1-to-1 basis, CS5 stated:

*I am not and never have said that it's the only spot to work. I don't think it's the most effective; the most effective is where you have got good carrots and sticks at the next level up but that doesn't happen because I start talking to them. That's a more complex one; that's where the strategic leadership comes into play and without that strategic leadership paying off dividends in terms of getting strong acceptance by individual program departmental heads and so on to say 'ok we're going to make this happen', until that happens you are left with the bits around the edges.*

CS5 had a considered view about the full spectrum of support that was conducive to innovation and change: there was a need for multiple approaches including strategic leadership, policy at the faculty and departmental level, formal staff development programs such as a Graduate Certificate and a departmental culture that accepted all of this. Until change was accepted at the program level, however, it was CS5's contention that, "the only thing you have left is working at the individual level".

#### 4.7.2.5 Summary of CS5 to RQ1

CS5's most prominent characteristics as an educational developer included well considered views of academic staff development, informed by experience and close acquaintance with the

literature. A strong endorsement of the value of informal, ongoing, one-on-one educational development was evident and this was after more traditional methods had been and were still offered. For CS5 educational technology or administrative convenience issues were often lead-ins to the subtext of teaching assessment practice but in the process values such as academic autonomy, plausibility and ethics were identified as fundamental to the success of the interactions. Assessment was explicitly nominated as a critical element in CS5's thinking about learning and teaching practice.

### 4.7.3 Significant influences upon CS5's thinking about assessment conducted online [RQ2]

In commenting on the model evolved from responses in the first round of interviews (Figure 3.3), CS5 suggested two additions: the first was the importance of "how to help teachers with workload because for teachers they see their workload as being full-on and it's a way of getting into their thinking space", and the second was on barriers to change: "What are the things that stop teachers from trying some stuff we think they should be doing?" These additions are highlighted in Appendix J, Figure 1. CS5 was also consistent in emphasising these concerns in other interviews.

#### 4.7.3.1 Individual influences

A major influence upon CS5's perspectives about assessment conducted in online environments was the literature on learning, teaching and assessment. "Tapping into the literature" was a significant feature of CS5's practice and authors such as Biggs, Laurillard, Salmon and Ramsden were referred to across the three interviews. Biggs' (2003) *Teaching for quality learning* was cited as the most influential text. CS5 commented on specific literature in the following terms:

*We have a great advantage over many teachers I think in that being aware of, being in touch with, being connected to, being familiar with the literature in teaching and learning, it's part of our job I argue and, you know it's not questioned that I'm sitting here with you know thirty or forty different papers on various bits and pieces on issues pointing to Sumson and Goodfellow in the HERDSA issue. Yeh, you know it's not questioned that you know, we have an interest in looking at these things and I've recently come across Black & William's paper in the March 1988/1998 journal "Assessment in Education", and it's a classic literature review of assessment in classroom learning.*

*In that whole raft of articles by Price & O'Donovan of which this Chris Rust one is a classic, 'Improving student learning by developing their understanding of assessment criteria and processes' in "Assessment and Evaluation" (2003) there is a stream of probably about six papers connected to that and they talk about some beautiful things in there.*

These two extracts indicate how CS5 explored the literature on assessment in a systematic, committed and scholarly way. In commenting on such concepts as criterion-referenced assessment, CS5's thinking encompassed a spectrum of impacts on staff, tutors and students. It was also obvious that in interacting with academic staff, CS5's scholarly acquaintance with the assessment literature would be evident.

CS5 also warmly acknowledged the influence of particular individuals within her/his unit, as well as academics with whom s/he had worked over the years. In answering the question [Question Identifier: 1.4.2] on specific influences that had led to advances in CS5's thinking about assessment the following influences were described and are presented in Table 4.15.

**Table 4.15. CS5's comments on influences about assessment online**

<b>Area of possible influence</b>	<b>CS5's comments</b>
Workshop	"I have come to realise that workshops are pretty ineffective for me unless I am directly going to be applying what it is I have learned in the workshops almost immediately".
Seminars	"I always found them quite interesting, quite inspirational in the sense of getting you to think about bigger picture items. Not much ....direct application to practice".
Conferences	Summary: Intensely stimulating; not so much about really interesting ways to do new things. Because of changes that occur in educational developers' thinking and practice over the years, they begin to draw different things from conferences.
Personal teaching practice in small postgraduate courses	"I find it useful"; "it's an opportunity to see and experience personally some of the things that I claim to be the case".
Innovations in teaching	"One of the most valuable of that has been allowing students to negotiate their own learning ...and what they want to do with their major piece of assessment work. I make it impossible to do something that isn't relevant to the context and they tell me over and over again how useful that is to them".

### 4.7.3.2 Institutional influences

Commenting about institutional influences upon present practice (Question Identifier: 1.2.2), CS5 identified relatively flexible work practices as a promoter in her/his role although an indirect inhibitor was an expectation to be in the office five days a week.

Table 4.16 presents CS5's comments on issues that affected advice about conducting assessment online [Question Identifier: 2.7]. CS5 recognised that all of the items in the table were issues that may have affected assessment but they were not necessarily linked with online assessment. This was consistent with CS5's view that it was not "fruitful to talk about online assessment as an end in itself". For this reason ratings were not allocated, except for the second item.

**Table 4.16. Ratings of issues that affected advice about e-assessment (CS5)**

Important issues that affect advice for subjects that have an online assessment component include:	SA	A	N/A	D	SD
Plagiarism	No rating : "don't rely on what you assume are fairly impervious walls between things online".				
Academic workload/time	SA	A	N/A	D	SD
Technology support	No ratings were provided for these categories although CS5 agreed that they could impact on assessment advice.				
Numbers enrolled					
Academic'(s)' interests					
University policy					
Time available for development					

Table 4.17 presents ratings of issues that affected the quality of subjects that had an online component but CS5 preferred qualitative comments rather than ratings/comments so the most pertinent of these are reproduced in the following table.

**Table 4.17. Ratings of issues that affected quality of e-assessment (CS5)**

Important issues that affect the final quality of assessment in subjects that have an online component include:	SA	A	N/A	D	SD
Relationship with academic(s)	"a huge effect", "critical".				

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Time available for development	"a classic problem", "teachers never come to you a semester ahead", "you can't change assessment from the start of semester".
Resources and finance	"I don't have much to do with that".
Aligning assessment with learning outcomes, teaching/learning activities	All that I do "is essentially within that structure".
Levels of IT support	"a problem on occasions", "the answer to that is to have better lead-time by the teachers".
Government quality initiatives such as AUQA, L&T Performance Fund	"not sure how that will translate into changed advice or quality of online learning".
University policies	These issues were discussed in other interview sequences.
University leadership	

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CS5 recognised the importance of institutional influences such as university policy and leadership but maintained that, "until the individual teacher translates that at the coalface in terms of changing his or her assessment, then I contend that change hasn't actually occurred". CS5 stated that, "a whole series of things are in the background trying to promote that change, trying to influence departmental and faculty policies, trying to help them with their work practices".

#### **4.7.3.3 Summary of CS5 to RQ2**

The most significant individual influences upon CS5's thinking about assessment when it was conducted online were deeply embedded in the literature and in an approach that considered questions in a logical teaching sequence. An example might be a primary question such as, "How do I get my students to participate?" and this may or may not have led to a secondary question such as, "How are they going to use the online discussion forum?"

CS5 stated that, "I keep coming back to the fact that until the individual teachers decide to change their assessment almost all the institutional initiatives have not reached their point of practice or whatever". While CS5 recognised the role of institutional influences, especially in relation to academic workload issues and barriers in the institutional culture that impeded

teachers' engagement with the deeper issues, her/his primary thinking about assessment was orientated to individual influences [Appendix J, Figure 1].

#### 4.7.4 Critical assessment issues when online components are introduced [RQ3]

A summary of some critical assessment issues identified by respondent CS5 [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] are presented in Table 4.18.

**Table 4.18. Critical issues when assessment incorporated online components (CS5)**

Issue	CS5's comments
University culture	Over half the staff within the university had not participated in any staff development.
Barriers to innovation	Teacher workload was measured in terms of teacher contact hours rather than student learning hours: this did not encourage the development of self-moderated or self-learning resources. Research was valued and supported much more highly than learning and teaching.
The impact of semester scheduling on changing assessment	Most academics did not liaise with the educational developer a semester ahead. Assessment could not be changed once the semester had started so this was an issue.
Academic workload issues	The online environment had a real contribution to make in reducing academic workloads.
Linking assessment with generic skills	This issue stood out and linkages were very poor in many of the subjects CS5 examined. A large number of teachers resisted the idea that generic and graduate attributes were meaningful.
Professional development	There was an expectation that CS5 be in the office five days a week and responsive to academics so this curtailed some opportunities for deeper thinking about issues and some research. Finding time to attend to professional development was an issue.
Motivation to adopt online assessment practices	Some staff adopted online assessment practices because of the current set of fads or to help them administratively but the key indicator should have been whether or not assessment had changed. In CS5's view it was almost impossible to devise a meaningful online assessment activity unless it was powerfully linked to a teaching and learning activity.

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Plagiarism	There was not anything specific about the online environment that made plagiarism harder or easier but it depended on the design of the assessment task itself. The conception of plagiarism held by some staff was catching students out.
What constitutes meaningful assessment of online discussions?	At a crude level some staff may have awarded five marks for 400 words: this was equivalent to awarding five marks to a student who spoke for two minutes in a face-to-face tutorial.
Learning management system	It was not as robust as it should have been and there were many changes that CS5 would like to have seen.

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#### 4.7.4.1 Summary of CS5 to RQ3

Most of the critical issues that CS5 identified as impacting on assessment were related to the organisational culture within universities. Non-participation in educational development initiatives, valuing of research over teaching, just-in-time planning within the confines of a single semester, excessive workloads and how they were measured, teacher-centric approaches and adoption of online teaching/assessment for administrative relief were recognisable themes that CS5 iterated on a number of occasions. In most cases these issues represented unwillingness on the part of academics to engage with some of the real learning and teaching issues associated with assessment. In fact it was CS5's view that when academics engaged fully with the issues associated with online assessment it meant engaging in very powerful ways with learning and teaching activities. What emerges from CS5's perspective is that it was a minority of academics who confronted the real assessment issues and who were prepared to critically reflect upon their teaching and assessment practice. Fundamentally it was the conceptions of learning, teaching and assessment held by academics, as well as priorities around workloads, that inhibited innovation.

CS5 related issues of plagiarism and marking online discussions to the design of assessment. This respondent did not perceive any causal links between plagiarism and the online environment but the design of the assessment task itself was seen as critical. CS5 had a negative reaction to quantitative methods of assessing participation and was much more interested in critical thinking and graduate attributes. In CS5's view, assessment should have addressed higher-order thinking and also invited opportunities where students themselves were able to be critical about their own learning. Once again, this was related to conceptions of teaching held by academic staff and required a change from teacher-centric to student-centric orientations. A constant theme in the three interviews was that if teachers engaged with the issues, then change occurred but it was gradual and ongoing rather than dramatic.



The final issue was related to the learning management system, an area of technology that has already been discussed. What is of interest was that most of the issues were constraints emanating from university culture and conceptions of learning, teaching and assessment; two were related to the design of assessment and only one was connected with the technology.

#### **4.7.5 Representing CS5's perspectives about assessment conducted online [RQ4]**

##### **4.7.5.1 Approaches to learning, teaching and assessment**

In a general sense CS5's perspective was that although many institutions endorsed a rhetoric of support this was belied by their actions and there was insufficient "belief or interest in the issues of teaching and learning". This contrasted with CS5's view about the funding and institutional linkages that supported research agendas. In talking with staff about learning and teaching, CS5 clearly recognised the "central role that assessment plays in how a teacher thinks about their teaching and learning" and indicated that assessment was often at the forefront of her/his thinking. In terms of a well-designed learning and teaching experience, CS5 indicated the importance of constructive alignment between the subject's assessment activities, the subject learning outcomes and the course and graduate attributes. A sound understanding and implementation of criterion-referenced assessment by staff and students, as well as formative feedback, were also important in CS5's general approach.

The critical relevance of assessment in CS5's thinking has already been highlighted and was evident in her/his comment that, "whenever I am talking to a teacher about whatever it is they're doing, I've got assessment in my mind at the forefront". CS5's thinking about assessment focussed upon theory and principles that could be applied in any setting and aspects of CS5's perspectives about assessment are presented in Table 4.19.

*Table 4.19. CS5's comments on some assessment concepts*

<b>Concept that impacts on assessment</b>	<b>Interview comments</b>
Purposes of assessment	"the whole point of what we're doing at universities is to prepare people for what happens later on and consequently assessment structures need to prepare them for that process".
Constructive alignment	"would hope that everything that we are doing is essentially within that structure".
Incorporation of graduate attributes	"sitting here with you know thirty or forty different

within subject assessment	papers on various bits and pieces on issues pointing to Sumsion and Goodfellow in the HERDSA issue". This paper (Sumsion & Goodfellow, 2004) identifies generic skills through curriculum mapping and was of interest to CS5 in terms of how assessment practice addresses this area.
Formative feedback	"very interested in formative feedback"; "until you get the teachers engaging with these issues you're not going to get anywhere about things like constructive alignment, if they're not down that line, about improving the quality of their feedback".
Assessment	"It's not necessarily in their mind" [i.e., to the forefront of most academic's initial thinking in revising subjects].
Criterion-referenced assessment (use of proforma assessment based on template)	"starts to reduce the amount of feedback they are having to individually craft".
Self and peer assessment	"a lot of teachers don't value the students' ability to do their own assessment but when we look at graduate attributes, from all over the world, statements along the lines that the student needs to become a capable, self-evaluating, life-long learner and so on".
Impact of marking and assessment on students	"...allow the students time before the assessment tasks start for them to work out what you mean by the criteria" [referring to series of papers on assessment by Price and O'Donovan].

CS5's thinking about assessment demonstrated a substantial knowledge of assessment theory and critical concepts but what was also evident was a sense of priorities in areas such as graduate attributes, criterion-referenced assessment, formative feedback and the role of assessment in promoting life-long learning. There was also a clear sense that CS5's interactions with and advice to academic staff about assessment would have encapsulated these priorities.

#### **4.7.5.2 Conducting assessment online**

CS5 had well developed ideas about conducting assessment online, arguing basically that, "I don't think it's terribly fruitful to talk about online assessment as an end in itself", or, "whether

or not assessment happens online is almost irrelevant from my point of view; it is what is being assessed”.

CS5’s perspective was that the online environment offered administrative rather than pedagogical advantages so the value was “the enabling power of the technology, not the fact that it is online itself”. Supporting this view, CS5 gave two examples: that of a summative, multiple choice quiz definitely with an online component, but with the option of achieving the same learning outcomes in a paper-based format; and then, of a peer-review assessment process that could be conducted using a paper-based format but that offered administrative and time-saving advantages when it was transferred online and contributed to a potentially improved assessment process.

#### **4.7.5.3 Understanding of effective assessment online**

This respondent differentiated between determining the most appropriate form of assessment to address learning outcomes and the secondary question that if a decision had been made to conduct assessment online then: What was the most efficient way to design it? In CS5’s experience:

*...teachers are not often, in my experience, looking for interesting assessment activities that they can do online, they already have an idea of what it is they want to do. What they are interested in is: this is the activity I would like to assess; how do I do it online? and that’s quite a different question to what is a good online assessment activity.*

In response to the specific first round question [Question Identifier: 1.3.2] on what constituted effective assessment in online environments, CS5 made a series of points:

- It was about learning and teaching rather than technology.
- Aspects of the technology afforded or permitted particular practices, with specific administrative advantages.
- Administering a multiple-choice quiz or providing feedback was often easier in an online environment.
- The online format offered re-use options that were not so readily available in paper formats.
- If you asked the teacher what was the point of the quiz it became an educational issue.
- It was often possible to make transitions from summative to formative approaches which allowed students to self-evaluate their progress.

- A lot of administration appeared and the technology changed how things were done and presented other learning and teaching possibilities.

The central issue for CS5 was how the academic conceptualised the role of assessment and at one level it was “about shifting where the teacher’s views on teaching and learning are, and that’s a transition that can take years”.

#### **4.7.5.4 Significant contribution to assessment online**

In response to this question [Question Identifier: 1.3.3], CS5 drew attention again to the time span and the need for patience, mentioning “things that I thought were spectacularly good but which have failed to be taken up by the teachers” often because of a lack of readiness.

CS5 referred to the case of working effectively in assisting an academic to develop an online, off-campus course. After five years the academic was promoted to a senior role in the faculty and as a result of the previous successful relationship, CS5 was then increasingly involved in faculty learning and teaching initiatives. CS5 also cited examples of working with academics who were initially resistant to change but found, through ongoing interactions with CS5, that their interest in learning and teaching was revived and that in time these academics informed policy and practice in their own faculties. Such comments illustrate that benefits of sustained conversations and deeper engagement with learning and teaching issues become evident over a longer time-frame.

#### **4.7.5.5 Future directions for assessment online**

In responding to this question [Question Identifier: 1.4.3] CS5 stated:

*I think the whole secret to sustained appropriate powerful use of online technologies lies in the shift from teacher-centric views of teaching to student-centric views of teaching and learning and that the key transition is the move towards self and peer assessment.*

In elaborating upon this response, CS5’s view was that the richest potential of the technology was its capacity to provide communication rather than information but the transition would be problematic because the views of many teachers were resistant to self-assessment and peer-assessment.

#### **4.7.5.6 Comments about forms of assessment online**

In the second round of interviews each participant was asked about the frequency with which they encountered the following forms of assessment [Question Identifier: 2.3] with the option to comment as well. CS5’s comments are summarised or quoted in Table 4.20.

**Table 4.20. CS5’s comments on forms of assessment conducted online**

Assessment Type	CS5's comments
Automated assessment	Summary: Ensure that teachers have done their homework because they are likely to encounter a series of nasty shocks; the online tool was not as robust as it should be. Students too need to go through the process in advance because screen transitions and links can be easily broken.
Automated assessment – advanced options	Summary: Randomly generated answers based on formulae and calculations would be more widely used but the tools have limited abilities.
Critical reflection and meta-cognition	“I am very much of the view that if you're really keen as a teacher on reflection, you really should think about having two prongs to it: one bit that only the student sees and the bit that you, the teacher, sees. You may also go for a third option which is the bit that is public to the other students and the world at large and I don't see that it is necessarily my role as the teacher to be seeing and reading everything the student is doing. I've used reflection in my own assessment many times and I have found it extremely valuable”.
Advanced problem-solving	Complex problem-based learning scenarios: “complex is an interesting one because for some teachers complex means it's got four variables in it and for other teachers complex means it's a semester-long group-based project and I have definitely seen that type of stuff. To the extent that these are online as distinct from face-to-face or conventional I don't really know; I don't see that as an issue so much because again the online is an enabler”.

In the first two categories above, CS5's knowledge of programming and technology options led to observations about how the tools could be redesigned for better learning and teaching. In the third category of problem-based learning CS5 drew attention to the various models that existed in this area, noting that some were online whereas others were embedded in face-to-face classes.

#### 4.7.5.7 Summary of CS5 to RQ4

CS5's approach to learning, teaching and assessment is represented in Figure 4.6. Assessment was a critical element and very much to the forefront in CS5's interactions with academic staff on learning and teaching issues. Effective design of online assessment was an important

process but decisions in this area only occurred after more fundamental issues had been resolved such as constructive alignment of assessment with the learning outcomes and other subject components.

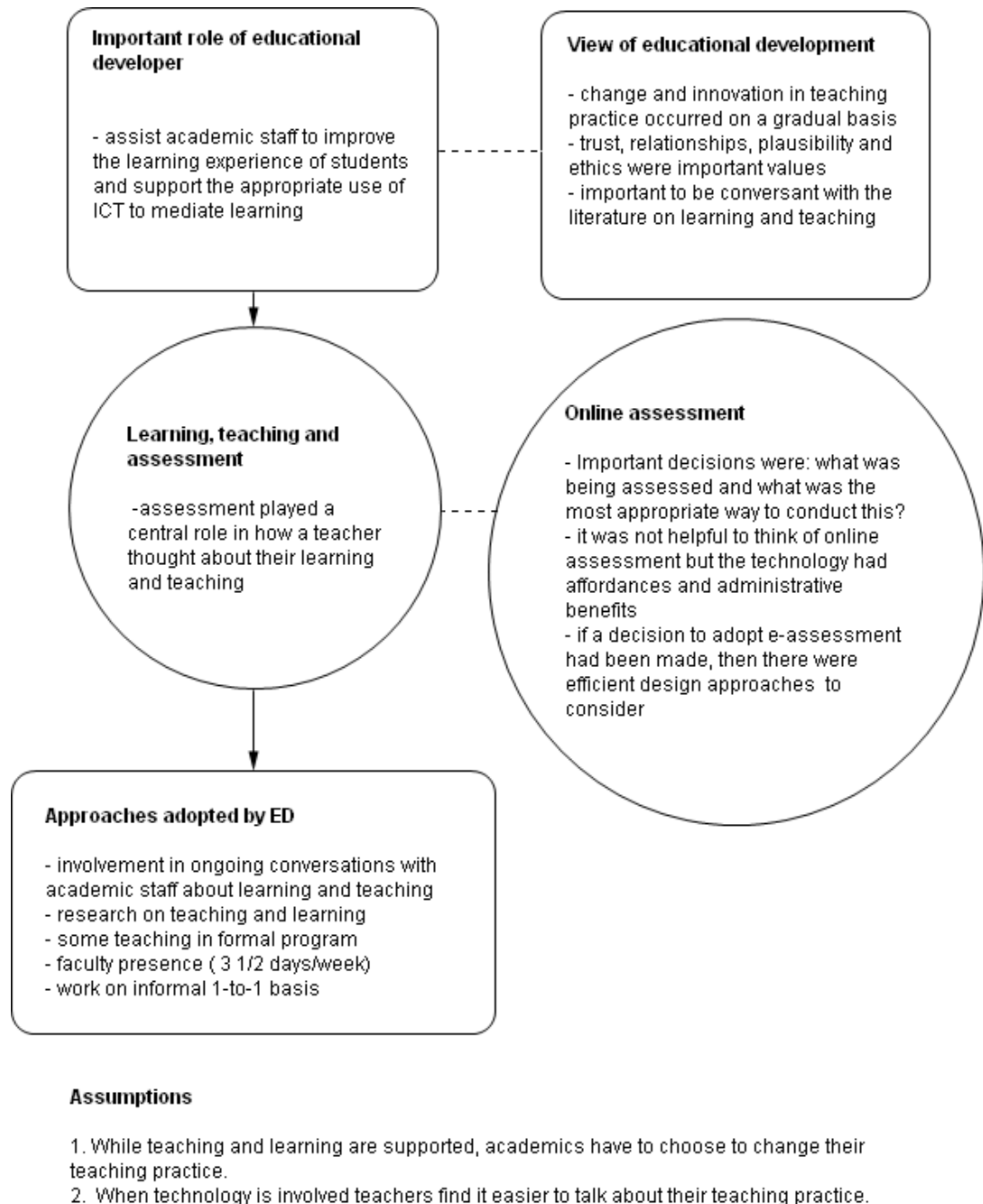


Figure 4.6. Representation of CS5's thinking about assessment conducted online

#### 4.7.6 Overview of CS5

The most significant aspect of CS5's thinking about assessment from this study's perspective was the view that "whether or not assessment happens online is almost irrelevant". While CS5

possessed high level expertise in understanding and using technology, this was only incidentally revealed in the interviews; CS5's metaphor of technology as shadow play, as a way of making deeper thinking about assessment more transparent, represents an important critical perspective. The affordances offered by the online environment from CS5's point of view were associated with administrative and time-saving dimensions. Once the assessment issues had been thought through at a deeper level, however, and the online environment, whether partially or fully, had been recognised as a natural context in which to conduct the assessment, then questions of how to best design the assessment to take advantage of the online environment became significant.

## 4.8 Case study 6

### 4.8.1 Introduction

CS6 presents the perspectives of an educational developer who was working during the data collection phase in an organisational unit that supported academic staff involved in flexible learning on that particular campus. This university was formally listed in the group of eight leading universities (Australian Education Network, 2005) and member institutions within this category cited research outputs, industry links and the competency of their academic staff as distinguishing criteria.

### 4.8.2 CS6's characteristics as an educational developer [RQ1]

#### 4.8.2.1 General characteristics

Table 4.21 presents some of CS6's general characteristics.

*Table 4.21. General characteristics of CS6*

Category	Details
Position title	Educational developer
Title used by participant during interviews	Educational developer or educational designer
University classification: academic/support/contract	Support staff
Length of experience as educational developer	>6 years
Background	With a background and associated qualifications in teaching, curriculum

design and information technology, CS6 had worked at another university before accepting the present position. With degrees from three universities, CS6 was also involved in additional tertiary study in educational technology and had significant involvement in a national professional association.

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#### **4.8.2.2 Educational development**

##### *Understanding of educational development*

Some of CS6's views on educational development are encapsulated in the following comments:

*There are a number of philosophical stances on this that I take that underpin a lot of things. The first one is primarily to understand where the person is, that I am working with, understanding how they're thinking about their role and the nature of the learning that needs to happen and what levels of technology or educational jargon or any of those sorts of things that they are going to be comfortable with. It's largely intuitive. If I'm called on it then I will go to a fairly stepped process about how I can justify it in terms of a needs analysis, all those sorts of things but the majority of the time the people I am working with are time-precious as I am - and you work in the way that's going to get them the best and quickest results.*

Generally CS6 worked on a one-on-one basis with academics although s/he indicated in the second interview a preference for working with a school-based team. There was a clear focus on the individual academic and on appropriate learning. In this extract CS6 indicates that a formal theoretical model could be applied but that a largely intuitive process was generally more effective. In the second interview CS6 observed that, "some people move away from the label of instructional design because that does have a very clear process attached to it, which in most of the real contexts, particularly in the educational institutions, you can't follow". CS6 was familiar with theoretical models of instructional design but found them inappropriate in practice. Not only were there workload and time pressure issues for most of the academic staff, but CS6's own workload plot for the majority of the year was that "I am working at 140% to 160%".

CS6 had a clear sense of the possibilities that could be achieved in the role of being an educational developer but adopted a more pragmatic approach to staff development given the organisational constraints.

Finally CS6's experience was that there was a significant difference when academics were involved in developing learning resources but not involved in the teaching of that course. This was the staff development that instructional designers were engaged in, and it was different



from the work of an educational designer or educational developer in CS6's view. Generally CS6 worked in staff development where "the subject matter expert also had a huge vested interest in the teaching of it, the assessment of it, the conduct of it and therefore it's a different way of working". So in that situation the model was "how that person in particular is thinking about the world and their roles". If the focus was on producing stand-alone learning resources and the teaching academic was not involved in the development of the course, an instructional design model was more likely to be useful but this was not the case in most of the educational development in which CS6 was engaged.

#### *Understanding of current role*

CS6 was involved in supporting blended learning, generally at the postgraduate level and in online environments, and emphasised two main aspects of the current role:

*It's shaping the way academics think about possibilities of flexible learning in its scope, its broadest scope, but it is also ensuring that students get a quality learning experience and a quality product. It is perceived publicly as a materials development role but it is really a staff development role and the material underpins what exactly happens.*

In the second round of interviews [Question Identifier: 2.2.4], CS6 provided ratings for the tabular categories [Appendix K, Table 1] and added three new roles:

- *Futures- planning* - "informing the organisation about future planning for educational technologies".
- *Explore assumptions* - "thinking critically about processes. And it's encouraging reflective practice".
- *Evaluation and feedback loops* - "...one of the things I found after speaking with everyone across the organisations I've spoken to so far. The evaluation is kept secret to the lecturer if it happens at all or possibly to their supervisor and to the people who might help to respond appropriately to that input from the students; [we] are not given access to it".

For the role of editorial and structural support, CS6 referred to a "high level edit but it's really not design and it's not advice on assessment". CS6's comments indicated a clear awareness that this role was not a primary one and was not related to assessment but it could nevertheless provide transition opportunities for more important roles.

A theme that emerged in CS6's comments about futures-planning and access to student evaluation was a sense that the roles of individuals were important but holistic organisational change only occurred when strategic decisions were made at higher levels.

*Evaluating effectiveness as an educational developer*

In response to this topic [Question Identifier: 1.2.4] CS6 made the following points:

- a current institutional project on this question was in progress;
- there was a subjective sense of how satisfied academics were with the level of support;
- occasional public compliments were received;
- there was quite a lot of feedback from students about the quality of the resources and the learning experience; and
- there were some quantitative data about production statistics.

*Valued characteristics in a successor*

In response to the question about preparing a replacement [Question Identifier: 3.1.2], CS6's observations are summarised below:

- A successor would need to be a very open-minded person able to contribute to the relevant areas.
- It was important that such a person was able to work across disciplines.
- In the past there have been staff who possessed backgrounds in teaching, editing or technology but all of these skills need to be integrated and overlaid with communication and systems-thinking competencies.

**4.8.2.3 Technology skills and approaches**

CS6's formal qualifications and close involvement with educational technology meant that her/his technology skills were at a very advanced standard. CS6 was very familiar with the capabilities and tools in the learning management system and had test sites of the latest versions of other systems to maintain a watching brief. CS6's view was that, "Technology is here to stay and it has an important part in learning". The following comments indicate CS6's awareness of technology agendas within universities:

*And I think we are getting, all universities, are being influenced by technology salesmen and they are very careful in who they target in organisations and they don't come through to people who have concerns or may be able to assist to screen things effectively if something is adopted. And I think a lot of the big purchases in particular with the learning management systems, the content management systems and similar products are very much being sold on a fear factor.*

CS6's approaches to technology involved concerns about having the necessary infrastructure, processes and procedures for innovation. Systematic evaluation was also part of this but the

more immediate concerns were about sufficient staff and time to support academics in making the best use of educational technology.

#### 4.8.2.4 Characteristics relevant to institutional processes

In terms of workload and engagement in a diversity of roles, CS6's commitment far exceeded what would be expected in many organisations, especially as a member of general staff. In fact CS6 was aware of being inhibited by:

*...an organisational context which doesn't acknowledge the full role I play or the value that that I can add, and behind that a lot of other things in terms of lack of resourcing support, insufficient time allowance I guess, weak policies and frameworks that deal with the area.*

CS6 contributed to institutional planning, stating that, "We've already started a student audit to get their feedback about technologies and about their ideas for future technologies". CS6 had a keen sense of the need for institutional educational technology futures-planning where the focus was on "looking at really where we need to be in another five to ten years time and what therefore we need to be putting in place now to get us to that point".

Despite such a demanding work schedule CS6 recognised how important it was:

*...to have somebody who actually has the time to investigate the emerging technologies and to do some testings and trials and investigations into whether some of those provide better options than the things that are in the existing organisation.*

CS6's expertise and contribution to institutional planning in this area was a knowledge of educational technologies and the impact of these on learning and teaching. CS6 believed that managers "need to recognise the bridging capacity of people who work quite clearly with educational technologies".

#### 4.8.2.5 Summary of CS6 to RQ1

In reviewing CS6's characteristics as an educational developer, a prominent focus was seen to be on influencing the thinking and practice of academics in improving the quality of flexible learning. An extension of this was CS6's concern about the quality of the learning resources. In working with academics CS6 adopted an intuitive, pragmatic approach as distinct from a theoretical model. CS6's broad view of educational development encompassed not only interactions with the academic but the quality of the student learning experience. CS6 was interested in sharing student feedback with all participants in the development process. As an educational developer conversant with educational technology, CS6's view was that this perspective was a valuable input into medium-term institutional planning about flexible delivery. Advice about assessment was more likely to be related to the context and the opportunities that interactions with academics in particular subjects offered or invited.

### 4.8.3 Significant influences upon CS6's thinking about assessment conducted online [RQ2]

In commenting on the model evolved from responses in the first round of interviews (Figure 3.3), CS6 strongly endorsed the representation of the institutional influences upon educational development practice but did not suggest additional elements.

#### 4.8.3.1 Individual influences

In an individual sense CS6 referred to important background experience upon coming into the area of flexible learning and educational development, consisting of “mentoring arrangements with a couple of people who I felt were experts who were willing to talk about it” and this was supplemented by wide reading and exploration of examples, especially online.

During the course of the three interviews CS6 referred to readings and sites that encapsulated innovative practice and stated that if “you are not pushing yourself in terms of the leading edge things, you are going to lose currency”. Specifically asked to nominate a reading about assessment that had influenced her/his thinking, CS6 nominated Valcke (2004) because it followed:

*...the whole process through, so the assessment was not a separate thing, but you got online co-operative, supported, scaffolded tasks that lead you up to collaborative group work that they can peer-assess and all that sort of stuff. So it worked as a complete unit.*

CS6 referred to systems thinking during the interview and the comments above illustrate how CS6 thought about assessment in a considered and integrated way. This also involved educational technology futures-planning, evaluation and a particular focus on the quality of the learning experience and materials from the student perspective.

CS6's context as the only educational developer and as a member of general staff in a traditional university environment were significant influences upon individual professional practice.

#### 4.8.3.2 Institutional influences

In terms of institutional influences upon present practice (Question Identifier: 1.2.2), CS6 referred to “a number of philosophical stances on this that I take that underpin a lot of things”: the first was to understand the thinking of the academic and how they conceptualised their role; the second was to clarify the learning that needed to happen and the levels of technology and educational terminology with which the academic felt comfortable.

CS6 provided ratings of issues that affected advice about conducting assessment online [Question Identifier: 2.7] and these are presented in Appendix K, Table 2. In relation to

technology support CS6 stated that, “there are cases even where we discourage people from adopting technology because we can’t support them. We don’t have time”. Similarly, CS6 agreed that the number of students enrolled in a subject was an important consideration and on occasions this influenced advice “particularly when we don’t want to put a high overhead of development time into something. So we look for more strategic answers”.

CS6’s view about the relationship with the academic was that “you are able to move their thinking about assessment further when the relationship is good”. In relation to the Australian Government quality initiatives, CS6’s view was that these were having an impact on the way the university thought about quality at an institutional and managerial level but not in terms of any “impact whatsoever at the level of course design when we do assessment”.

CS6 added the issues of evaluation and the educational developers’ advice to the list of factors that affected the quality of assessment in subjects that had an online component (Appendix K, Table 3). CS6 emphasised the necessity in evaluation to be “asking the right questions of students and to be paying attention to their answers”; and the importance of the lecturer paying attention to the advice provided by the educational designer.

#### 4.8.3.3 Summary of CS6 to RQ2

Since CS6 had a holistic view of assessment, it was difficult to identify individual influences that shaped thinking about assessment when it was conducted online. Nevertheless, in a general sense CS6’s professional background, formal study and reading had influenced her/his professional practice and thinking about assessment. It was evident that CS6’s systems thinking about assessment, as well as concern for the alignment of all elements that constituted good assessment practice, was a dimension that underpinned CS6’s activities across a range of assessment issues. CS6 also believed that the organisational context had become increasingly important and contributed significantly to the environment in which assessment online was conducted.

#### 4.8.4 Critical assessment issues when online components are introduced [RQ3]

A summary of critical assessment issues identified by respondent CS6 [Question Identifiers: 1.4.3, 2.4, 2.7, 3.1.4, 3.2.1 and 3.2.3] is presented in Table 4.22.

**Table 4.22. Critical issues when assessment incorporated online components (CS6)**

Issue	CS6’s comments
Plagiarism	“The hardest thing I guess that I have come across in terms of assessment is this huge issue that has blown out recently of

	plagiarism”.
Workloads	<p>“Lecturer workload is one of the things that comes up and I tend to adjust how I am advising in terms of how the lecturers think about their workload and their numbers of students and how they are going to manage marking and those sorts of things”.</p> <p>“Workload is a continuing pressure and we have just done the operational plan for our team for next year and as a result of that setback, I did a workload plot throughout the year and for the majority of the year I am working at 140% to 160%”.</p>
Traditional academic thinking	“There’s still a degree of scepticism about the technology and the security of it, as there is a scepticism about the whole area of collaborative learning and constructivist thinking”.
Commercial technology agendas	“I think a lot of the big purchases in particular with the learning management systems, the content management systems and similar products, are very much being sold on a fear factor”.
Deficiencies in the learning management system	“...the learning management system, and trying to do assessment through it, is itself a barrier. So regardless of almost what system we are using, that’s the point at which you either do it for them or it doesn’t get done. And time limits what you can do with it. I don’t think any learning management system that I have seen so far does a sufficient breadth of assessment options”.
Assessment terminology used in discussion with teaching staff	<p>Affordances: “I think the concept is confusing to lecturers”.</p> <p>“I don’t often talk about formative and summative in those terms”.</p>
Instructional design: an inappropriate model	Summary: Instructional design models were suitable for stand-alone materials but not for working with teachers who were directly involved in their own subjects.
Lack of recognition of the value of general staff inputs into educational technology futures-planning	<p>“I am a general staff member, therefore unimportant”.</p> <p>“There is also a comment that we are only general staff”.</p>

#### 4.8.4.1 Summary of CS6 to RQ3

In CS6's organisation, plagiarism software had been installed and it was underpinned by an institutional strategy of identifying offenders and then implementing procedures. The software was designed to be inter-operable with all electronic assignments, not just those submitted through WebCT. CS6 did not accept plagiarism software as the solution to the problem. CS6 recognised that "students were responding to pressures" and that there was "increasing electronic availability of assignments", either through websites or through direct contacts on a commissioned basis where the assignment was written in response to the set question. CS6 advocated that lecturers "rethink their assessment task and how it might be managed to deal with plagiarism".

In relation to lecturer workloads, CS6 sometimes adjusted advice on the basis of enrolled student numbers and the actual marking time involved. In working with lecturers CS6 also provided information about efficient marking and administration processes in an electronic learning environment. CS6's own workload was demanding and meant that time for discussion of such matters as assessment had to be very carefully managed. CS6's view was that many of the staff had traditional orientations to on-campus teaching and were sceptical about collaborative and constructivist approaches to online learning. Such attitudes amongst staff clearly had a direct impact on whether any assessment was conducted online and if so, on the forms of assessment that were developed.

CS6 commented about the infiltration of educational technology marketing in universities especially the way technology sales specialists operated:

*They fete the people who control the money. The other line of that is what is sort of coming in from the side with the slightly smaller players who are hitting the lecturers directly, in particular publishing companies.*

This was an issue for CS6 because there was a dichotomy between ICT planning and the planning for teaching which also involved educational technology. Commercial publishers, for instance, developed multimedia assessment plug-ins to support their print texts but an individual academic who was approached was not aware of the support issues. This in turn impacted on assessment practice and the way it was perceived by the educational developer.

The learning management system in CS6's view constituted a barrier in many cases because academics either did not have the time or the technical competence to create quality assessment activities. In CS6's case this raised dilemmas: either the assessment activity was created for the academic or it would often not be developed. This in turn raised issues about how assessment was being integrated in the subject from a learning perspective.

In discussing assessment issues with staff, CS6 stated that using such terminology as ‘formative and summative assessment’ or ‘affordances’ was not helpful. CS6’s approach was to “talk about the concepts in different types of terms” so rather than use “affordances” for instance, CS6 might talk about where online quizzes might be located for ease of access by students. Many educational developers had to converse with academic staff about conducting assessment online but while they were familiar with the assessment concepts, the teaching staff had not often been introduced to these terms.

CS6’s views were that some instructional design theoretical models were very appropriate when subject matter experts were involved as part of a course team in developing a subject which they would not be teaching. Such models often encompassed analysis, design, development, implementation and evaluation but CS6 argued that with the involvement of the lecturer in the teaching and delivery of the subject, a significant vested interest was introduced. Issues of ownership meant that more pragmatic and intuitive processes had to be followed in working with the academic(s) to develop the subject that often diminished the value of the instructional design model.

Finally CS6 commented on being classified as a support member of staff and how this impacted on such matters as acceptance of suggestions about educational technology for futures-planning and general perceptions. CS6’s views from reading and experience were that universities were hierarchical and had “a particular culture that doesn’t necessarily encourage collective participation in decision-making”. It was also CS6’s view that it was important to have “time to investigate the emerging technologies and to do some testings and trials and investigations into whether some of those provide better options than the things that are in the existing organisation”. CS6 had certainly been closely monitoring developments in educational technology and believed that s/he could contribute to futures-planning and was also of the opinion that:

*...you do need on occasions to say, well what is a majority decision and on some occasions to say look, the majority is ill-informed. We don’t make a decision on the basis of a majority decision. We need some better evidence than simply majority will.*

Decisions about learning management systems and educational technology generally had a potential to impact on assessment issues in an online environment and the question of how closely the perspectives of an educational developer on the support staff were considered in corporate planning processes was an issue that CS6 articulated. CS6 also referred to a lack of evidence-based decision making “where a senior person comes in, they’ve used x piece of software in another organisation, therefore that should be used here and you know resources



diverted to make that happen”. CS6’s perspective was that there were substantial ways in which the process of making critical decisions about educational technology could be improved.

#### **4.8.5 Representing CS6’s perspectives about assessment conducted online [RQ4]**

##### **4.8.5.1 Approaches to learning, teaching and assessment**

In responding to this question [Question Identifier: 1.3.1], CS6 indicated some general methods, for example:

- A higher personal priority was given to interaction with people rather than to interaction with content in thinking about learning, teaching and assessment.
- A tendency to work a lot with examples that were similar in terms of their capacity to help academics achieve course goals; there was also some use and talking through of poor examples.
- Approaches were staged e.g., in working with a new academic for the first time CS6 did not push too far initially because it was important to build trust.
- Working with staff was never a one-off event: it was always a starting point.

In discussing assessment with lecturers CS6’s approach was to look “at what the lecturer had done before and the sorts of assessment mechanisms they were comfortable with using”. CS6’s general view was that “learning should be driving things but we live in a context culturally and an organisational context in particular and therefore formal assessment drives things”.

Assessment did not generally drive design in CS6’s view but “it might drive the way students perceive things and sometimes it drives the lecturers”.

In terms of the terminology used by CS6 in discussing assessment with staff, the concept of alignment became relevant when staff had “to define their learning outcomes and therefore their assessment of learning”. Terms such as ‘formative assessment’ and ‘summative assessment’ were not generally used but if CS6 observed an imbalance between the two categories, this would be discussed without necessarily using those terms.

##### **4.8.5.2 Conducting assessment online**

CS6’s view was that:

*I don’t think effective assessment is any different in an online environment from any other environment. The same premises exist about the relationship with the goals of the course and the specified learning outcomes and all those sorts of things but there may be additional courses you may have to look at if you are concerned with security.*

This view was reiterated in CS6's second round interview comments in terms of "assessment not being different from online".

#### **4.8.5.3 Understanding of effective assessment online**

The only differential CS6 noted between assessment and assessment in online environments was the question of security and this introduced the issue of plagiarism that was discussed in relation to the third research question dealing with critical assessment issues. CS6 stated that "I'm not aware of, not conscious of myself having a particular passion of recommending anything there".

#### **4.8.5.4 Significant contribution to assessment online**

CS6 stated that discussions with teaching staff about assessment were designed to invite "thinking about how they might be readily done with the technologies that are available and in some instances suggesting areas that they might not have considered in terms of delivery and receipt and processing of assessment". This might have included such things as:

- how to use Microsoft Word to annotate an assignment;
- using an assignment drop box;
- designing a series of items such as self-tests, and post-tests for modules;
- designing summative assessment tasks that are more open-ended (the pre-tests are highly content comprehension-oriented and the assessment moves it to application, synthesis and justification stages); and
- other more complex designs.

CS6 also had significant involvement in major developmental activities involving complex integration of DVDs with a WebCT site for a particular subject but did not emphasise individual inputs.

#### **4.8.5.5 Future directions for assessment online**

In responding to this question [Question Identifier: 1.4.3] CS6 stated: "I can't see anything in the future looking at how I change the way I think about it but I can see more in terms of the way that lecturers might use more immediate communications". CS6 was reflecting on possible directions within the institution where traditional thinking about learning, teaching and research was well established, especially in the science disciplines. Scenarios for the future directions consisted of:

- conducting assessment using online discussions;

- building trust about the educational technology and security/identity issues; and
- removal of the scepticism about the whole area of collaborative learning and constructivist thinking.

CS6 was very conversant with research findings and good practice in online learning, teaching and assessment but experience had shown that “core principles and concepts in other organisations” were not widely accepted in the institutional culture, so as an educational change agent CS6 had encountered cultural resistance to online agendas.

#### 4.8.5.6 Comments about forms of assessment online

In the second round of interviews each participant was asked about the frequency with which they encountered the following forms of assessment [Question Identifier: 2.3] with the option to comment as well. CS6’s comments have only been summarised or quoted when there have been significant areas of difference from other case study responses.

*Table 4.23. CS6’s comments on forms of assessment conducted online*

Assessment Type	CS6’s comments
Traditional assessment delivered online	The majority of assessment is submitted this way.
Automated assessment	A small amount is occurring.
Automated assessment (Advanced options)	This is not frequently encountered: a very small amount is occurring.
Invigilated online exams	It has been discussed but has not eventuated. “People end up deciding it’s more work for them because the organisational processes are not there to support it so they would rather go for a traditional exam at a distance where someone else will look after the administration for them”.
Group projects	“It’s happening more and more. It’s an upward trend”.
Online interaction	“There’s a lot of it happening but not all of it is assessed and what is assessed, not all of it is appropriately assessed. So I think we have made real headway with a lot of people explaining what is required for a discussion and yes you might have to have three posts but your posts need to demonstrate a real contribution”.
Authentic assessment	“We are planning to do some of this type of assessment next year”.

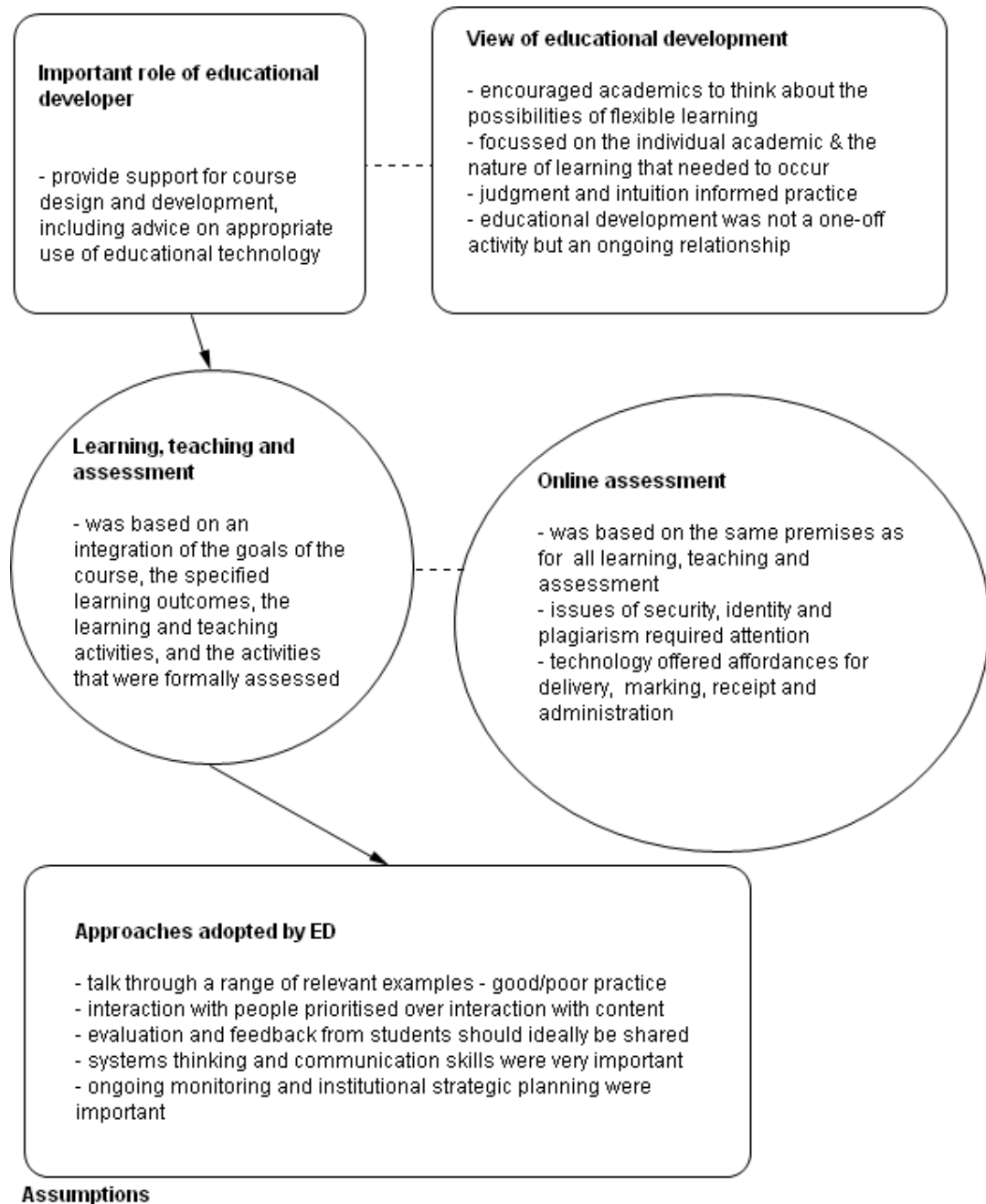
Critical reflection and metacognition	“This is not frequently encountered. One or two in the Humanities may do it but in Science and Engineering there is little tolerance for affective assessment and staff can’t see the purpose of it. A lot of work is needed for that to occur”.
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A significant theme in CS6’s responses was how traditional institutional culture and disciplinary backgrounds, such as Science and Engineering, placed a high priority on research. There was a perception that this inhibited innovative assessment practices. It was also likely to be the case that in Humanities disciplines there was a more natural propensity to incorporate online discussion, group work and reflective processes because these were often part of communication segments that occurred naturally within the discipline, whether in face-to-face settings or online.

#### **4.8.5.7 Summary of CS6 to RQ4**

CS6’s approach to learning, teaching and assessment is represented in the Figure 4.7.



1. In this case study CS6 is the only educational developer on the campus.

Figure 4.7. Representation of CS6's thinking about assessment conducted online

#### 4.8.6 Overview of CS6

CS6 believed that conducting assessment online was not significantly different from conducting assessment in any learning environment. Issues of security, identity and plagiarism required particular attention online but they also arose in other learning environments. CS6 valued collaborative and constructivist approaches, discussions and an extensive range of

assessment approaches in online settings, but believed that the technology platform that was used, as well as the level of the academics' awareness of its capabilities, were significant considerations. In promoting these agendas with academic staff CS6 encountered resistance in some disciplinary contexts. It was also important in CS6's view that academics had a level of commitment to online assessment and followed through on it with their students. CS6 promoted affordances of the technology with staff, particularly in relation to the delivery, marking, receipt and administration phases of assessment. For sustainable online assessment to flourish, as well as learning and teaching generally, CS6 argued that there needed to be alignment of the critical elements in the organisational environment and these have been discussed throughout this case study.

## Chapter Five: Cross-case study analysis

### 5.1 Preview

In this chapter cross-case study analysis will be undertaken and related to the four major research questions that underpin this study. The analysis will also be conducted against the backdrop of previous research findings and the literature review presented in Chapter Two.

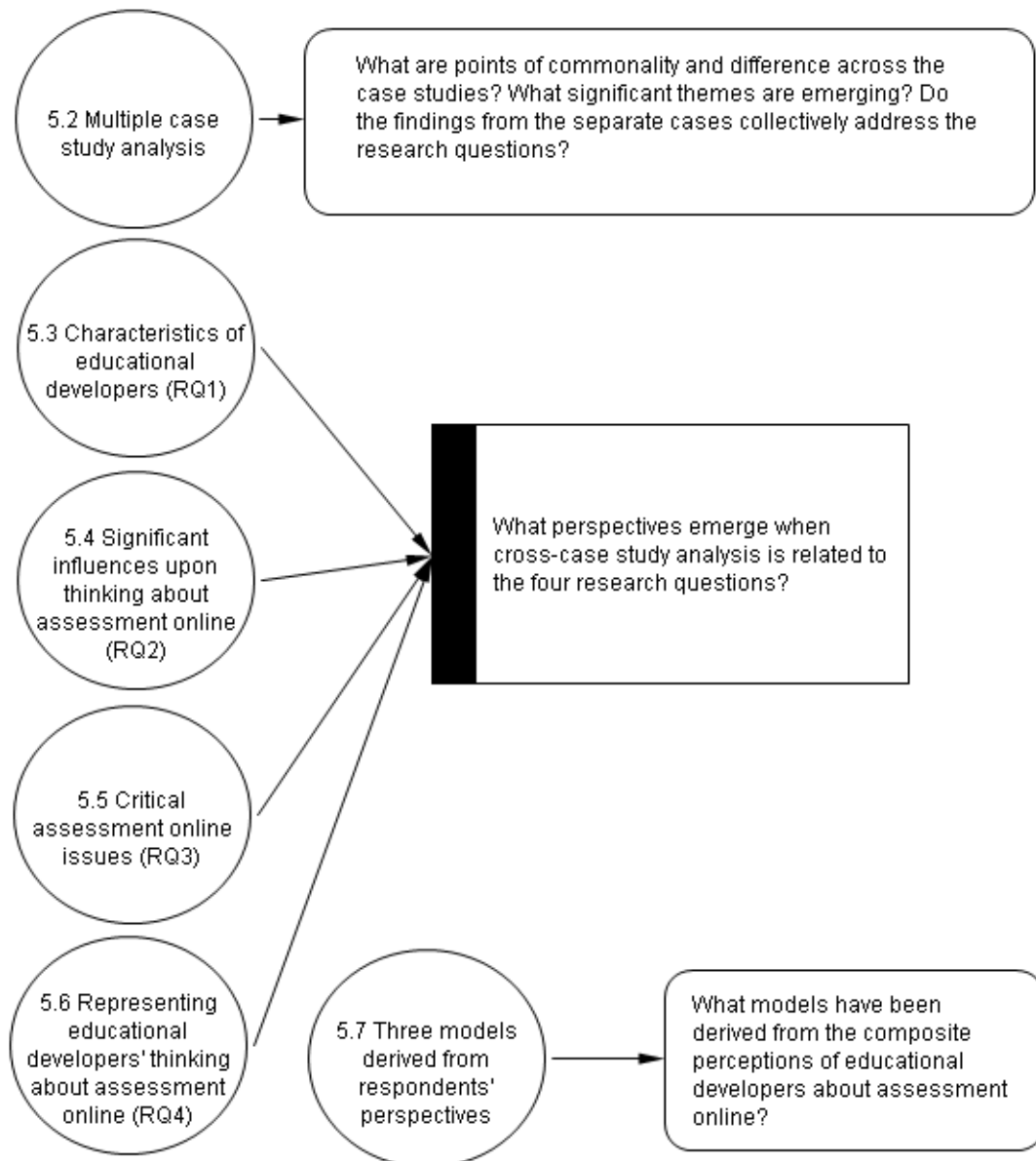


Figure 5.1. Preview of Chapter Five

## 5.2 Multiple case study analysis

The analysis of the case studies in Chapter Four resulted in rich descriptions of the six individual educational developers' perspectives about assessment conducted online. Questions that now need to be considered are:

- What are important areas of commonality and contrast across the case studies?
- How do findings from the six separate case studies collectively address the research questions?
- What significant themes emerge?

Such questions were anticipated in Chapter Three where the reasons for adopting the multiple case study approach were outlined. There was an acceptance of Yin's (2003, p. 1) view that "case studies are the preferred strategy when 'how' and 'why' questions are being posed, when the investigator has little control over events, and when the focus is on contemporary phenomena within some real-life context". The principal point that should be noted in this chapter is that this is a qualitative study with a small sample group of six participants and there is no objective link or replication logic from one case to another; in fact, there was a strong subjective base to each study suggested by the term *perspectives* in the title. Nevertheless, because the focus of the study is on educational developers' perspectives about assessment conducted online, overlapping and divergent thinking amongst the participants in the sample group is of special interest.

## 5.3 Characteristics of educational developers (RQ1)

**What characteristics of educational developers influence the assessment advice they provide to academics?**

Table 5.1 presents a composite of general characteristics of the participants in the study with the number in superscript indicating the frequency of occurrence, with six being the upper limit.

**Table 5.1. General characteristics of participants**

Category	Details
Position titles	Lecturer <sup>2</sup>
	Educational Developer <sup>2</sup>
	Flexible Education Developer <sup>1</sup>
	Educational Designer <sup>1</sup>



Titles used by participants during interviews	Academic staff developer <sup>2</sup>
	Educational Developer <sup>2</sup>
	Flexible Developer <sup>1</sup>
	Educational Designer <sup>1</sup>
University classification: academic/support/contract-consultant	Academic <sup>2</sup>
	Support <sup>3</sup>
	Contract/Consultant <sup>1</sup>
Length of experience as educational developer	>14 years (group average)
Background	The most common included school teaching, Information Technology, media production, instructional design and distance education. Five of the six respondents were engaged in research and publication; three were involved in formal study either at the Masters or Doctoral level; and three were involved in formal teaching of an accredited course in higher education that incorporated formal coverage of topics on learning, teaching and assessment.

In this introductory profile of the sample group, there were two educational developers, CS1 and CS5, with the title of ‘lecturers’ who described themselves as academic staff developers and this contrasted with the four educational developers who were members of support staff and attached to educational technology units, generally associated with flexible learning and the development of learning resources. Both academic staff developers were involved in formal teaching of award courses for academic staff such as a Graduate Certificate but in the group of educational developers only the Flexible Education Developer, respondent CS2, was formally involved in teaching an accredited course. The four participants in this group, CS2, CS3, CS4 and CS6 all had previous experience in distance education and were familiar with instructional design models of course development. In many Australian universities, teaching in higher education is conducted by staff in Academic Development Units or staff in the Faculty of

Education. Educational developers are often involved in teaching in short courses for induction of new academic staff as well as in the presentation of many workshops.

Except for CS1, all of the participants worked primarily with individual academics. CS1 commented on the “challenge to set up processes for groups with projects and that can be more satisfying” but indicated a personal preference “to work more one-on-one with colleagues”, whereas CS6 in contrast indicated a preference to work more with school-based or course teams. Five of the six staff cited involvement in publication and research which was independently verified but could not be cited because of identity issues and the ethics guidelines that protect the identities of participants in this study [Appendix A].

In terms of background, all six participants had previous experience in media or information technology; four of the six had a background in high school teaching. The pedagogy/technology mix in each participant’s experience may have influenced their thinking about conducting assessment online but obviously the link was tenuous and could not be formally established.

### 5.3.1 Educational developers

#### 5.3.1.1 Participants’ understandings of educational development

Table 5.2 incorporates participants’ core understandings of educational development as the starting point to interpret perspectives about roles, presented either in quote or summary form.

*Table 5.2. Participants’ general understanding of educational development*

Participant Number	Understanding of educational development	Understanding of current role
CS1	<p>“I help people grow and develop themselves as part of that process”.</p> <p>“I have a very, very broad view of what development is”.</p> <p>“...I see a change, change in teaching and learning, particularly change in teaching practices, is a slow thing”.</p>	<p>To promote an understanding of teaching and learning that integrated and understood all types of environments, face-to-face as well as virtual. The role of being a facilitator was important.</p>
CS2	<p>“more cognitively based, constructivist theory that I tend to work with”.</p> <p>“I’m very project focussed”.</p>	<p>To promote good educational practice revolving around active learning processes and “...my concept of my role is to facilitate people who are thinking along these lines”.</p>

CS3	<p>Educational development occurred within a strategic course context that was initiated at a higher level with professors who managed the course, and with international marketers who promoted the course.</p> <p>“Once all these things are organised you can start dealing with the individual academics”.</p>	<p>Key processes were to: liaise effectively with the academic; provide advice about how content was best designed and presented online; convene course team meetings; assist in designing assessment activities; determine editing style and e-learning guidelines.</p>
CS4	<p>“...we’ve analysed the learners, we’ve analysed the content, we’ve analysed the delivery constraints, these front-end type things that are going to impact on the course, then the design would be based on certain learning outcomes, objectives and so therefore the development of resources could be a number of pathways, a number of media, not necessarily online”.</p>	<p>To support the strategic goal of innovative integration of ICT into learning and teaching and technology adoption generally.</p>
CS5	<p>“...try and provide them [teaching staff] with an enormous range of suggestions, advice and so on and support but I guess our guiding policy would be it’s up to the teacher to determine rather than up to us to impose our views”.</p> <p>Educational development often occurred informally and involved building up relationships to the point where “staff come to trust you over time”.</p>	<p>To provide advice about the appropriate use of educational technology: “I guess one of our mantras is, it is appropriate use, rather than any use, or use at any cost, and so our focus is primarily on ensuring that if an academic is interested in using the technology, in some shape or form, to listen a little bit to how they are thinking about it”.</p>
CS6	<p>Seek to understand where the academic is in their teaching, how they’re thinking about their role and the nature of learning that needs to occur, their comfort zones with</p>	<p>“It’s shaping the way academics think about possibilities of flexible learning in its scope, its broadest scope, but is also ensuring that students get a quality learning experience and a</p>

<p>technology and educational concepts. A theoretical model can be used if necessary but it is largely intuitive.</p>	<p>quality product. It is perceived publicly as a materials development role but it is really a staff development role and the material underpins what exactly happens”.</p>
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The thinking and theory implicit in these understandings of the roles of educational developers and how they have impacted on thinking about assessment, assist in addressing the first research question (RQ1). CS1’s conception of the role was made more explicit in another part of the interview, with a self-location “in the neo-romantic group as an academic developer, kind of a humanist, hermeneutics, interpretation” and the role of facilitation with staff was proffered as an important dimension. CS2 was strongly located within a constructivist framework and facilitation with staff revolved around active learning approaches. CS3 worked on an invitational basis with academic staff but educational development activity was strategically aligned with the design, development and delivery of off-shore course initiatives that were generally organised at higher levels within the institution and supported by a course team that was project managed. CS4 adopted an instructional design model in conducting educational development and it incorporated distinct stages such as profiling the learners, analysing the content and identifying delivery constraints; it was aligned with strategic goals related to technology adoption in on-campus teaching. CS5 was distinguished by a strong regard for values of individual academic autonomy but diversity of advice about assessment was deeply grounded in the literature and there was a sense that appropriate use of educational technology was the focus of integrating ICT into on-campus teaching. While CS6 was able to utilize instructional design models of course development, there was a clear sense that the process was largely intuitive; what distinguished CS6’s approach was that educational development extended beyond working with the academic to incorporate “quality learning experience and a quality product”.

CS2 maintained that “the constructivists have got the runs on the board when it comes to working with the technology” and also noted that more traditional academic development was grounded in classroom teaching and in theory such as adult learning. For respondents CS1 and CS5, there was a more evident focus on classroom teaching on traditional campuses, an invitational style of working with individual academics, valuing of academic autonomy, and a more explicit emphasis on relationships, ethics and trust. This contrasts with a more strategic, top-down approach that was project-focussed and employed course teams to achieve goals in the integration of ICT into teaching for off-campus or off-shore delivery; reference to models of course design and closer alignment of educational development with institutional leadership

and approaches are also noted. There were, however, no clear dichotomies in the perspectives of respondents because clusters of characteristics were distributed across all respondent categories. A general observation (Ryan, 2005) might be that "...academic developers see their role as ongoing, opportunistic, incremental and 'relationship-oriented'. The 'education developer' is a 'project manager' with defined start and end points, product-oriented, and wants to 'move on' to the next project".

### 5.3.1.2 Types of roles in which participants were engaged

Table 5.3 presents a composite of ratings on the importance of roles for the six educational developers who participated in the study. The number in superscript indicates the frequency of occurrence. Some ratings have not been included because the participant chose to comment rather than provide a rating, so the total in the superscript is not always six.

*Table 5.3. Characteristics associated with formal roles*

Important roles associated with the position	Rating
(Academic) Staff development	SA <sup>6</sup> A N/A D SD
Transforming learning materials	SA <sup>1</sup> A <sup>2</sup> N/A D <sup>3</sup> SD
Teaching in formal award courses	SA <sup>1</sup> A <sup>1</sup> N/A <sup>3</sup> D SD
Presenting workshops on learning and teaching topics	SA <sup>1</sup> A <sup>1</sup> N/A <sup>2</sup> D SD
Providing advice about online learning and teaching	SA <sup>4</sup> A <sup>2</sup> N/A D SD
Advising on assessment	SA <sup>3</sup> A <sup>3</sup> N/A D SD
Designing learning activities	SA <sup>2</sup> A <sup>3</sup> N/A D SD
Project management	SA <sup>2</sup> A <sup>3</sup> N/A <sup>1</sup> D SD
Editorial and structural support	SA A <sup>3</sup> N/A D <sup>3</sup> SD
Ensuring copyright compliance	SA <sup>1</sup> A <sup>1</sup> N/A <sup>1</sup> D <sup>3</sup> SD
Placing content online	SA A N/A <sup>1</sup> D <sup>4</sup> SD <sup>1</sup>

There was a clear understanding that academic staff development was focussed on supporting academic staff in areas of learning, teaching and assessment and that it did not incorporate other general staff development roles related to human resources. Providing advice on learning, teaching and assessment was recognised by all participants as an important role.

The six participants all disagreed that placing content online was part of the role of being an educational developer although respondents CS5 and CS6 admitted that they had done this

occasionally as a way of building relationships with academic staff with whom they were working. This was recognised by participants as a production role.

In terms of presenting workshops CS2 indicated that this role was “gradually being devolved to other units” in the university and respondent CS5, who had presented many workshops in the past, had come to regard them as “pretty ineffective” unless there was some immediate application. A number of the roles in Table 5.4, such as advising department heads and educational technology futures-planning, reflected the capacity of educational developers to influence policy and futures-planning at higher levels within the institution.

**Table 5.4. Educational developers’ roles nominated by participants**

Other roles nominated by participants	Rating
Videoconferencing/audioconferencing	<b>SA<sup>1</sup></b> A N/A D SD
Project support	<b>SA<sup>1</sup></b> A N/A D SD
Research and publication	<b>SA<sup>2</sup></b> A N/A D SD
Seminar co-ordination	<b>SA<sup>1</sup></b> A N/A D SD
Change agent	<b>SA<sup>1</sup></b> A N/A D SD
Curriculum development	<b>SA<sup>1</sup></b> A N/A D SD
Media selection	<b>SA<sup>1</sup></b> A N/A D SD
Conduct evaluation	<b>SA<sup>2</sup></b> A N/A D SD
Advising department heads	<b>SA<sup>1</sup></b> A N/A D SD
Providing policy advice on teaching and learning	<b>SA<sup>1</sup></b> A N/A D SD
Educational technology futures-planning	<b>SA<sup>1</sup></b> A N/A D SD
Explore assumptions	<b>SA<sup>1</sup></b> A N/A D SD
Ascertain students’ perspective	<b>SA<sup>1</sup></b> A N/A D SD

Two of the participants referred to conducting evaluation. CS6’s experience was that student feedback was often confined to the lecturer. This raised questions about how educational developers evaluated their inputs and whether student feedback to the lecturer was also a valuable source of data regarding educational developers’ contributions. CS6 argued that ascertaining the students’ perspective was an important role. CS4 also referred to specific student feedback on returned forms from off-campus students and made available to the developer. Underpinning this proposed new role was the understanding that not only the lecturer but the educational developer and the course team contributed to the quality of the learning resources and if, for instance, there were comments about assessment, these ideally

should be shared, considered and acted upon at the next offering of the subject if appropriate. Within this perspective, educational developers were acknowledged more inclusively as partners in the development process although it could be argued that it was the teaching which was being evaluated and this was done principally by the lecturer, perhaps with the support of tutors. Support roles are now being recognised in the National Awards for University Learning and Teaching (Carrick Institute for Learning and Teaching in Higher Education, 2006). It is also interesting that success at the national level in the Learning Teaching Performance Fund (LTPF) requires student satisfaction unit level data that are now shared with Heads of School, Unit Conveners and also published on university websites; in contrast to the previous practice where it was exclusively available to the unit convener. This level of shared feedback meets some of the requirements that CS6 was advocating.

Table 5.5 presents key perceptions from participants about how they evaluated their effectiveness as educational developers.

*Table 5.5. Evaluating effectiveness in the role*

<b>Participant</b>	<b>Methods, forms of evaluation</b>
CS1	"when my past students and past colleagues, people I've worked with, come back and acknowledge the support and help I gave them"
CS2	"...rather than look at projects separately I am trying to put together all these evaluations and I am sort of saying, well can I look across these evaluations and see what's happening there".
CS3	"...intuitively you can look at a product and say that's really good, it's seamless, it works. You can track students about how they access the technology, how they work, and how they move".
CS4	Anecdotal feedback and "...a lot of returned customers in various contexts and that's an indicator that people are satisfied with the process and that they are comfortable in working with me and are favourably impressed by the outcomes".
CS5	"I guess the indicator that I'm looking for, in my effectiveness is, does the teacher continue to talk to me? Is the teacher interested in some of the things that I'm saying?"
CS6	A current institutional project on this question was in progress.  There was a subjective sense of how satisfied academics were with the level of support.  Occasional public compliments were received.

There was quite a lot of feedback from students about the quality of the resources and the learning experience.

There were some quantitative data about production statistics.

Personal feedback, subjective judgments, return custom and ongoing conversations with the academic were cited by respondents as forms of evaluating effectiveness and these all occurred on an occasional basis. Respondent CS2 adopted a more formal, systematic evaluation strategy by conducting a meta-analysis of a series of project evaluations but importantly these were projects that CS2 managed. This contrasted with other developers in the sample group who advised and supported academic staff. CS1's view was that you "don't always work expecting feedback" and there was a longer term perspective also implied in CS1's observation that "you don't always get thanks for what you do now". Access to student feedback was valued from CS6's perspective and this would generally have included comments about student reactions to how assessment was conducted in the subject.

Table 5.6 presents valued characteristics identified by participants that a colleague or successor would possess as an educational developer.

**Table 5.6. Valued characteristics that a colleague/successor would bring to the role**

Participant	Characteristics
CS1	<p>Experiential induction to educational development:</p> <ul style="list-style-type: none"> <li>Mentoring (six to eight weeks)</li> <li>Exposure to different disciplines, different classes</li> <li>Sit in on quality audits, working groups</li> </ul>
CS2	<p>Prior teaching experience</p> <p>Familiarity with constructivist theory</p> <p>Familiarity with adult learning theory</p> <p>Communication skills and personality to work effectively with a cross-section of academic staff</p>
CS3	<p>Knowledge of processes – Instructional Design, file formats, etc.</p> <p>Ability to develop templates, showcase design options and write papers</p> <p>Ability to work with project manager and course team members</p> <p>Awareness of project directions and funding levels</p> <p>Capacity to adopt a strong position on a subject when quality is at stake</p>



	and for course team members to have confidence in developers' judgment about quality
CS4	Formal graduate qualifications in online learning or equivalent  Essential to be able to work with a diverse range of academic staff as a facilitator
CS5	Knowledge: acquaintance with the literature on learning and teaching  Skills: listening, plausibility, empathetic communication  Values: sensitivity, ethical behaviour, professionalism
CS6	Open-minded, able to contribute to learning, teaching, assessment  Ability to work across disciplines  Communications skills and competent systems thinking

In Table 5.7 the characteristics have been re-conceptualised in a different structure that accentuates core characteristics valued by educational developers. The characteristics relating to financial skills, project management and budgeting were confined to CS3 who worked as a consultant. Within organisational contexts this role would normally be associated with project managers, managers/directors of units.

**Table 5.7. *Categories and valued attributes of educational developers***

<b>Category: Characteristic</b>	<b>Valued attributes</b>
Qualifications	Formal graduate qualification in online learning
Acquaintance with theory	Constructivism, Adult Learning, Instructional Design, close knowledge of the literature on learning and teaching
Prior experience	Teaching
Experiential	Mentoring, Classroom observation, Attendance at meetings
Skills:	
Thinking	Systems thinking
Technology	Ability to develop templates  Showcase design options
Financial	Project budgeting & funding
Interpersonal	Communication skills  Personality to deal with diverse range of people

	Listening skills
	Empathy, sensitivity
	Open-mindedness
Values	Professional ethics

The classification of characteristics in Table 5.7 was derived from the comments of participants but in terms of direct impact on their thinking about assessment one could argue that the first three categories (qualifications, theory and prior experience) were the most influential, whereas the others were more generic characteristics that could, in fact, be applicable to many position descriptions.

Participants' comments in Table 5.8 show a clear focus on learning and teaching, as well as the importance of integrating technology and teaching.

**Table 5.8. *Technology skills and approaches***

Participant	Technology skills and approaches
CS1	"I have never been frustrated by technology in terms of what I plan to do; of course, it can go wrong at short notice. Methodology always comes before technology in my work".
CS2	"I don't ever start with the technology, or its tools, or any of its characteristics, or any of these things".
CS3	"I feel that these learning management systems were developed in the '80s and '90s. We don't really need them anymore. We can put up our own website".
CS4	"We are doing a fair bit of pushing but it is in the technologies area; it's not in the teaching and learning area, it's the adoption of new technologies".
CS5	Technology is "a bit of shadow play", providing the opportunity for staff to discuss their ideas and attitudes to teaching; the more sophisticated the academic's view of teaching "the less relevant the technology becomes in a way".
CS6	"Technology is here to stay and it has an important part in learning".

Technology was not seen as the driver of learning and teaching and where the balance was not maintained, there was a sense of concern, evident in CS4's comments. This is of interest because four of the respondents were located in units that included the term 'technology' or 'flexible learning' in the title.

Characteristics more evident in Table 5.9 are the ways in which educational developers contributed to institutional policy and planning, quality agendas and support processes for staff and tutors within the universities in which they worked.

**Table 5.9. *Characteristics that impacted on institutional processes***

<b>Participant</b>	<b>ED's characteristics and their institutional relevance</b>
CS1	Involvement in "working groups that are focussed on particular projects which are aligned with university policies" requires interaction across disciplines, presenting university policies, communication skills.  Strong reservations about "the performance management development process" – because it served institutional purposes.
CS2	Strong support for teachers and tutors who engaged in online discussions – "you need to have a process for supporting that".
CS3	"...all of my work is internationally orientated and so I have to have that perspective and it's not only being an instructional designer, an educational developer but of being able to operate internationally and understand the cultural context and the cultural diversity".
CS4	As the only educational developer, CS4's background in online learning, new technologies and evaluation was a valuable characteristic when the university was exploring the implementation of many new technologies.
CS5	CS5's advisory role to institutional program and departmental leaders on online learning and participation in the university steering committee for online learning and teaching supported institutional agendas.
CS6	As the only educational developer CS6 contributed to institutional and futures-planning in educational technology and "where we need to be in another five to ten years time and what therefore we need to be putting in place now to get us to that point".

These characteristics were associated with committee membership and institutional structures that incorporated educational developers' inputs. Because the educational developers worked with many academic staff at the grass roots level in terms of subjects and courses, they were in a position to identify concerns that could impact on policy development at higher levels within the institution. If one accepts such descriptors as 'bottom-up', 'middle-out' and 'top-down', it is at the middle level where educational developers' activities are concentrated in Table 5.9. In

CS1's case it may have been the contribution to the university assessment policy, whereas for CS2 it may have been support for conducting and assessing online discussions; and CS5 might, for example, have directly advised heads of schools or program leaders about issues of electronic plagiarism, so these characteristics have the potential to impact on assessment that is conducted online.

### **5.3.2 Characteristics of educational developers: The literature**

The profile of this sample group confirms previous findings (Bird, 2004; Fraser, 2001) that position titles are overlapping and often used interchangeably, that there is a diversity of titles under which staff are employed when online elements are introduced into traditional on-campus teaching and that many educational developers undertake similar roles. The presence of one educational developer in the sample group working on a consultancy basis reflects trends detected in a UK study (Beetham et al., 2001) that audited thirty-three universities supporting learning technology in higher education. It concludes that the new specialists tended to be multi-skilled and peripatetic, on fixed-term contracts and working at a strategic level across the institution. This UK study (Beetham et al., 2001, p. 6) recommends that "educational developers must also ensure that they acquire skills in learning technology in order to be effective" but all respondents in this study believed they possessed the necessary skills.

Four of the educational developers in the sample group had previous experience in instructional design and distance education, confirming Bird's (2004) observation that distance education centres are being reconfigured into flexible learning centres; and that this is where many educational developers are employed. The adoption of constructivist approaches by CS2 and the discarding of rigid instructional design models by CS6 confirms trends evident in the literature (de Lisle, 1997; Gros, 1997; Moallem, 1998) that constructivism is breaking down some of the old rigidities in instructional design and that practice is becoming more intuitively-based rather than adhering to traditional models.

The question of the importance of the distinction between educational developers who are members of academic staff and educational developers who are members of general staff arose in this inquiry. Bird's research (2004), based on a sample group of 200 staff from thirty-five Australian universities engaged in the design and development of flexible learning programs and materials, concludes that significant difference between staff classified as academic or as administrative/support occurs in only one of six general categories. This is in the area of academic/teaching and it included roles such as lecturing, academic evaluation, design for face-to-face teaching, teaching online, research/publication, writing materials, staff development and curriculum design. In this study formal teaching in accredited courses is associated though not

exclusively, with the two academic educational developers in the sample of six. How participants evaluated effectiveness in the role as educational developers was problematic and there were no established formal processes.

The idea of strategic staff development aligned with institutional priorities and supported by course development teams in which the educational developer played an important role is evident in some institutional research (Boezeroy, 2003; Reid, 2004; Taylor, 2003; Valcke, 2004). The fact that educational developers such as CS2, CS3, CS4 and CS6 had linkages with course team specialists who were available to support technology enhancements for a subject that was delivered online, reduced the workload for academics and added quality to the learning environment.

In Allen's study (1996) course and staff development in distance education were closely linked with print learning resources and instructional design. Over the past decade, the use of learning management systems in all six of the participants' institutions has led to changes in professional practice. Instructional designers have extended the scope of their professional activities as they have adopted new roles in online learning and assessment, and there has been a convergence between distance education and traditional on-campus teaching.

### 5.3.3 Summary of findings for RQ1

Table 5.10 encapsulates characteristics identified by participants in this section that influenced the assessment advice they provided to academics. The characteristics that were most likely to impact upon advice about assessment were the qualifications, the theories and the literature with which educational developers were conversant, the roles they undertook and the features of the learning management system that were adopted. The connection between educational developers' characteristics and their impact on assessment advice could only be partially answered in this section. There was a much larger interactive system at the institutional level and this required systems thinking about the contexts in which educational developers work.

Table 5.10 summarises findings about the characteristics of educational developers that influence the assessment advice they provided to academics.

*Table 5.10. Composite of educational developers' characteristics*

Category: Characteristic	Valued attributes
Qualifications	Formal graduate qualification in online learning; Masters or PhD
Acquaintance with theory	Constructivism, Adult Learning, Instructional Design, close knowledge of the literature on learning, teaching and

	assessment
Background/prior experience	Teaching, information technology
Induction processes	Mentoring, classroom observation, attendance at meetings
Position descriptors	Educational developer, lecturer, academic staff developer, educational designer
Classification	Academic staff, general/support staff, contract staff much less common
Roles	Academic staff development, providing advice about online learning and teaching, advising on assessment, contributing to policy on learning, teaching and assessment
Models of working with staff	1-to-1 with academic staff, technology support associated with educational developers attached to technology units, slight trends to working with course teams of academics
Skills	
Thinking	Critical reflection, systems thinking
Technology	Knowledge of LMS and features, integrated pedagogy with technology rather than technology-driven, ability to develop templates, showcase design options
Interpersonal	Communication skills
	Personality to deal with diverse range of people
	Listening skills
	Empathy, sensitivity
	Open-mindedness
Values	Ethical standards

## 5.4 Significant influences upon thinking about assessment online (RQ2)

**What are significant influences upon the thinking of educational developers about assessment when it is conducted partially or fully online?**

The first round of interviews included four broad categories of questions:

- professional background of respondents;
- their educational development context ;
- learning, teaching and assessment ; and
- thinking about assessment for online delivery.

In the second category, there were specific questions about influences upon present practices, including promoters and inhibitors in the present role, while in the fourth category, responses were invited about recent critical influences that had led to advances in thinking about assessment; there was also a question about future directions. A framework was developed based on themes that emerged about particular influences that were identified in the first round and in the second round of interviews, respondents were invited to comment on the figure that had been developed (Figure 3.3).

After the second round of interviews each respondent's comments on the framework were collated [Appendices F to K, Figure 1] and then incorporated in a revised version which has been presented in Figure 5.2. Significant additions by various participants will be discussed in this section.

There was an assumption [Figure 3.3: Conceptual structure for the round two interviews] that quality e-assessment outcomes could be related to the influence of educational developers' thinking about assessment. CS1's view was that "academics are quite capable of producing quality without input from anybody"; CS3 indicated that even if advice about assessment was presented to the academic in written form, there was no obligation to accept it; and CS5 indicated that many staff within the university "have not participated in any staff development". While the role of educational developers was focussed upon promoting good assessment practices in all modes of teaching, it would be extremely difficult to determine precisely the impact of educational developers' advice on assessment practices. This is compounded when it is intermingled with the influences of institutional policies and leadership, as well as the dynamics of the organisational unit that house educational developers.

Figure 5.2 incorporates all of the additions that respondents made to the original framework. Their individual contributions can be clarified by examining Figure 1 in each of the appendices F to K.

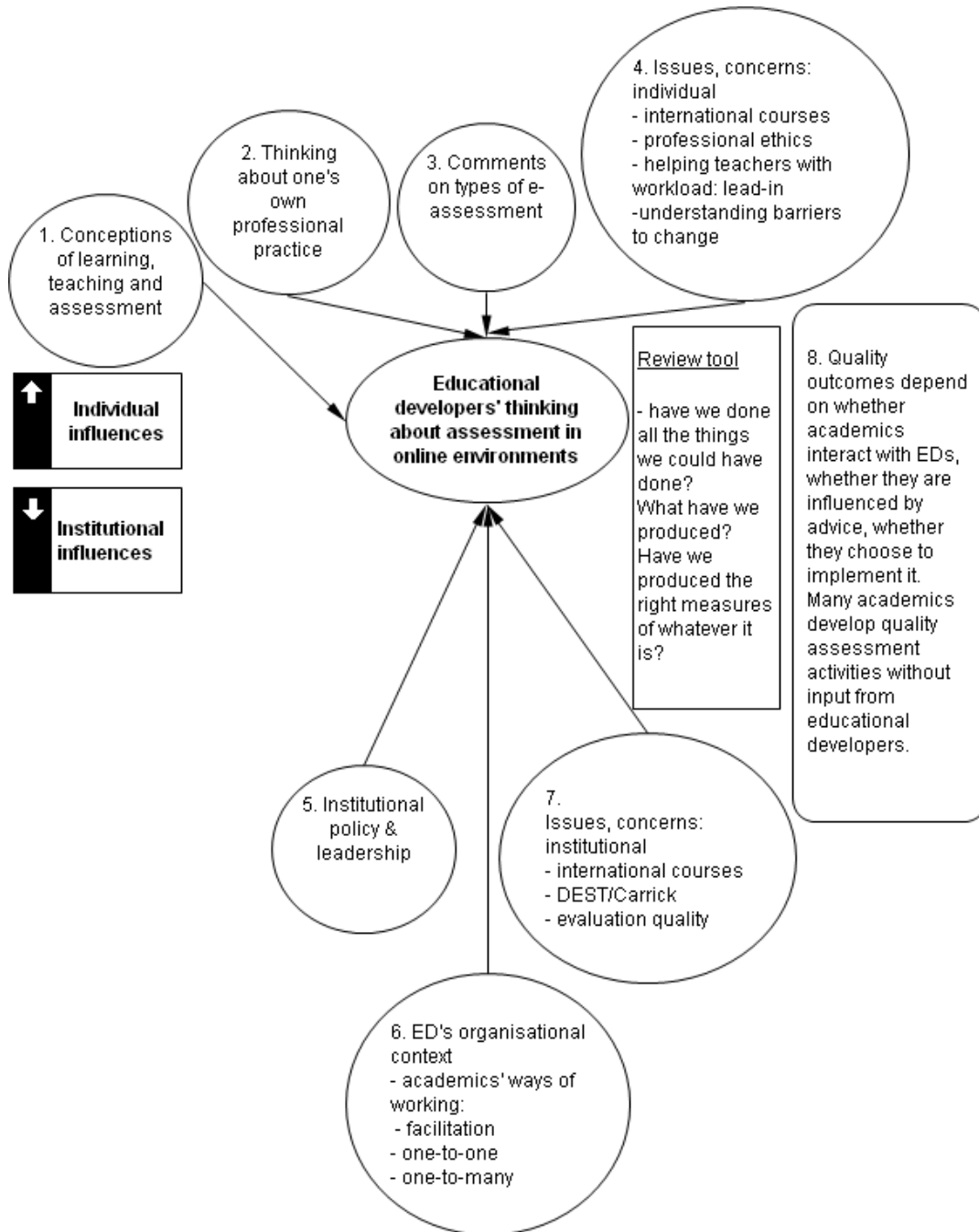


Figure 5.2. Composite participant perspectives of individual and institutional influences

Particular issues and concerns that influenced educational developers' individual thinking about assessment in online environments were clarified by two respondents: CS3 noted that the "international element was missing" and CS5 thought that "how to help teachers with workload" and barriers to implementing educational developers' recommendations should have been included. In terms of institutional issues CS2 believed it was important to include the new government influences such as the Carrick Institute and DEST. CS6 did not specifically identify new inclusions but stated that the "organisational context is increasingly important".



The issues identified by respondents for this framework were also incorporated into a range of perspectives that constituted data for the third research question (RQ3).

Only respondent CS4 suggested the inclusion of an extra category in the framework, a quality review tool, which included such questions as: “What have we produced? Have we produced the right measures of whatever it is?” CS4’s new category implies that there was an educational product, such as a DVD, a CD-ROM, a website or a process, such as particular design stages, that could be reviewed from a quality perspective. Other respondents, such as CS1, for instance, argued that influence was “negotiated through language and text; it’s done through language and is language-based and it’s about how we set up all the texts and contexts”. Within the sample group CS3 and CS6, who had backgrounds in instructional design and coordinated linkages to course team technology expertise, tended to think more in terms of an e-learning environment and resources that were independent of the lecturer. In contrast, CS1 and CS5 tended to think in terms of their interaction with the lecturer, placing an emphasis on the relationship. Their rationale was that if you change the lecturers’ conceptions of learning, teaching and assessment, then the external resources and the design of assessment would also change.

This broad framework, developed from the first round of interviews and refined following subsequent comments from participants, established the categories of questions for the second round of interviews.

#### **5.4.1 Specific issues that influenced educational developers’ advice about assessment online**

In exploring patterns of responses about issues that affected educational developers’ advice about conducting assessment online, plagiarism was identified as a significant issue and this will be explored in relation to the third research question. The areas of academic workload/time, numbers enrolled and time available for development constituted a common theme, associated with the logistics of assessment, and this was a significant issue. The only rating that CS5 provided was for academic workload/time and CS3 did not provide ratings at all. University policy was also recognised as an important issue.

In Table 5.11 five issues were added by various participants but there were no patterns of agreement.

*Table 5.11. Ratings of issues that affected advice about e-assessment*

<b>Important issues that affect advice for subjects that have an online assessment component include:</b>	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>
Plagiarism	SA <sup>2</sup>	A <sup>2</sup>	N/A	D	SD
Academic workload/time	SA <sup>4</sup>	A <sup>1</sup>	N/A	D	SD
Technology support	SA <sup>1</sup>	A <sup>2</sup>	N/A <sup>1</sup>	D	SD
Numbers enrolled	SA <sup>2</sup>	A <sup>2</sup>	N/A	D	SD
Academic'(s)' values/interests	SA <sup>1</sup>	A <sup>1</sup>	N/A <sup>1</sup>	D <sup>1</sup>	SD
University policy	SA <sup>3</sup>	A	N/A <sup>1</sup>	D	SD
Time available for development	SA <sup>2</sup>	A <sup>2</sup>	N/A	D	SD
Others:					
Distance education (blended)	SA <sup>1</sup>	A	N/A	D	SD
Discipline	SA <sup>1</sup>	A	N/A	D	SD
Tutor support	SA <sup>1</sup>	A	N/A	D	SD
Misconceptions about what is possible in the online world for assessment	SA <sup>1</sup>	A	N/A	D	SD
Benefits of formative assessment	SA <sup>1</sup>	A	N/A	D	SD

As indicated in Table 5.12, the concept of aligned assessment was strongly endorsed but CS5's view was that "even though we might be trying to work that way it doesn't necessarily get to be there". CS1 also reinforced this perspective: "I am not sure that alignment is ever achievable because it's something about perfection but certainly trying to work towards alignment". Just as time available for development was an issue that affected how educational developers provided advice to academic staff, so too was it a factor in their perspectives about the quality of assessment. University policy in the area of assessment and university leadership were also recognised as influences upon assessment quality.

Table 5.12. *Ratings of issues that may affect quality of e-assessment*

Important issues that affect the final quality of assessment in subjects that have an online component	SA	A	N/A	D	SD
Relationship with academic(s)	SA <sup>1</sup>	A <sup>2</sup>	N/A	D <sup>1</sup>	SD
Time available for development	SA <sup>3</sup>	A <sup>1</sup>	N/A	D <sup>1</sup>	SD
Resources and finance	SA <sup>1</sup>	A <sup>1</sup>	N/A <sup>1</sup>	D <sup>1</sup>	SD
Aligning assessment with learning outcomes, teaching/learning activities	SA <sup>3</sup>	A <sup>1</sup>	N/A	D	SD
Levels of IT support	SA	A <sup>4</sup>	N/A	D	SD
Government quality initiatives such as AUQA, L&T Performance Fund	SA <sup>1</sup>	A <sup>2</sup>	N/A	D <sup>1</sup>	SD
University policies	SA <sup>3</sup>	A <sup>1</sup>	N/A	D	SD
University leadership	SA <sup>2</sup>	A <sup>1</sup>	N/A	D	SD

#### 5.4.1.1 Other individual and institutional influences

In addition to the tabular ratings in the previous section, other respondents' perspectives about individual and institutional influences on their thinking about assessment online are evident in particular comments interspersed throughout the transcripts, particularly in response to specific questions [Question Identifiers: 1.4.1, 1.4.2 and 1.4.3].

The three educational developers who were involved in teaching, CS1, CS2 and CS5, acknowledged it as an important influence upon their educational development practice. CS1's immediate response was, "Firstly it's my own teaching"; CS2 observed that, "teaching itself was of course a huge influence" and CS5 perceived teaching as "an opportunity to see and experience personally some of the things that I claim to be the case". In their teaching, each of these educational developers taught in subjects that included coverage of topics such as assessment, educational technology and assessment online.

What was also particularly significant in the experience and professional practice of respondents was project management expertise and the requirement to work with course teams or large committee structures. CS1 described meetings of more than twenty members of staff that set agendas for large learning, teaching and assessment projects; CS4 referred to "a lot of project management" experience; CS3 commented specifically on the role of the project manager and being able to work effectively with multimedia, web and instructional designers;

and CS2 was “very project-focussed rather than system-focussed”. Respondents had acquired the interpersonal skills and competencies to work in course teams and as project managers over years, sometimes in previous positions.

Strategies of constructive alignment were commonly mentioned by respondents and these influenced the design of assessment online. The influence of research findings such as Biggs, Rust and Ramsden was a recurring theme and as CS5 indicated, “tapping into the literature” was an important activity. Respondents CS2, CS3, CS4 and CS6 also had clear concepts of learning design processes for an online environment so this was another dimension that was included in the framework. CS4 clearly described an instructional design model that s/he commonly adopted when advising academics about assessment or online assessment.

In terms of institutional policy and leadership, all respondents referred to areas such as institutional assessment policies, institutional culture and the important role of leadership at a higher level than the educational development unit, flexible learning unit or educational technology units in which they were located. The role of leadership referred to was generally at the Pro Vice-Chancellor (Academic) level. The questions and comments did not go into specifics because pursuing these directions, into leadership, management and organisational behaviour, would move the scope of the inquiry into a different field of study such as higher education leadership and management.

CS4 referred to an institutional decision to mandate the presence of a website for every subject and also mentioned a basic assessment model consisting of two assignments/laboratory reports and an exam for undergraduate subjects. Clearly these types of institutional practices had a significant impact on assessment that occurred online and in CS4’s view constrained some innovations. A university’s capacity to be successful in external grants such as Carrick projects, or the Teaching Learning Performance Fund (TLPF), was also a reflection of institutional policy and leadership. University policies and practices, such as differential funding for faculties based on course evaluation data, obviously influenced educational developers’ thinking in the area of assessment. Schools, faculties and divisions in which there had been reduced funding, because of comparatively lower levels of student satisfaction of their completed courses, would perhaps be more amenable to educational development.

The leadership of the educational development unit, its structure, members, culture and practices, as well as its relationship with other units in the university, were recognised by respondents as important influences that impacted on their thinking about assessment when it was conducted online. While CS1 conceded that members of the unit could be perceived as an “arm of management”, CS5 had had no experience of being “perceived by anyone as an arm of

management”. CS3 commented that “colleagues have done a lot for me” and CS5’s warm acknowledgement of the influence of particular colleagues within the unit is representative of the participant group as a whole in the way they valued their colleagues. Two of the respondents worked as individual educational developers in their units, and while CS4’s view was that occasionally this was equivalent to being “a little bit of a voice in the wilderness at times”, CS6’s view was that the resulting workload, rather than being the only developer, was more of a constraint.

Despite CS4’s statement that, “We came down fairly heavily on the notion that you plan a year in advance and it was well received”, critical factors in developers’ thinking about assessment were the time involved and the workload implications. CS5 stated for instance that “teachers never come to you a semester ahead”, and if subject outlines had already been finalised then assessment could not be altered until the following semester. Within the institutional case studies associated with the six participants, there were varying practices and ways of working with academics. Some developers advised academics on a one-to-one basis; others worked with course teams of academics; and some worked in a project management model where course development focussed on fully online whole-of-program courses created for off-campus or international delivery.

All respondents recognised that good practice in assessment online required an integration of pedagogy and technology, but within the educational developers’ organisational units it was more often the case that the pedagogical and the technological units were not co-located. CS4’s view was that the separation of the two entities “causes confusion and it’s not as efficient as having us all under the one roof under the one director”. CS2’s view on the other hand, was that often educational technology units involved in flexible and online learning drew upon constructivist approaches, whereas academic staff development units were focussed upon classroom learning and were informed by adult learning theories. Where course team models existed, there was more likely to be a spectrum of pedagogical and technological expertise associated with a range of team members and co-ordinated by the educational developer or a project manager.

The classification of educational developers within their organisational units varied, with two in the sample group classified as academic staff, three as general staff and one as a contracted external consultant. CS4 had worked at many universities, both as a member of academic staff and as a member of general staff. S/he had not experienced significant difference as a result of such classification but observed that as a general member of staff there was less involvement in decision-making at the faculty level and less collaboration in research. CS6 also found that it

was more difficult at times to influence decision-making in larger groups as a general member of staff.

Classification of educational developers was related to the broader issue of how academic autonomy and project management models with course teams were aligned. CS3 commented on academics who had reservations about involvement in off-campus and online delivery, noting that “if they’re resistant, they’re resistant, and there can be little that you can do”. In some institutions, interaction with educational developers occurred on an infrequent or irregular basis, so clearly the organisational context of each educational developer’s unit, its culture, and practices of working with academic staff were integral to the circle of influence and are represented in the Figure 5.3.

Cross-case study analysis highlights additional influences that were added to Figure 5.3 to reflect educational developers’ perspectives. In Figure 5.3 the circles of influence are highlighted in black where components have been added.

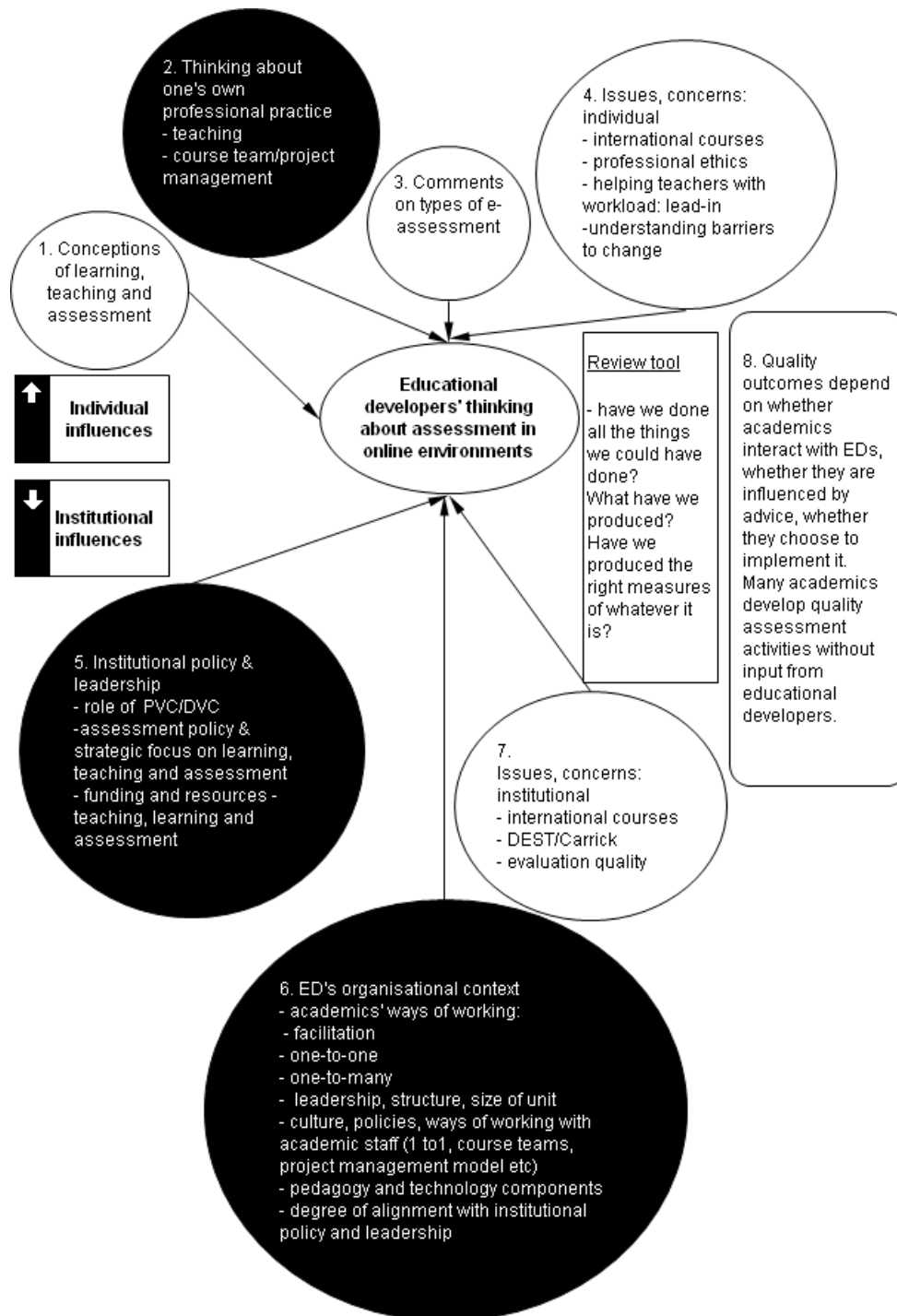


Figure 5.3. Additional elements from interviews to the composite of participants' perceptions

#### 5.4.2 Significant influences upon thinking about assessment online: The literature

A central finding in the literature has been the difficulty of integrating the work of educational developers into the university generally (Trowler, 2004) and this has definitely been confirmed by respondents in this study. Explanations for this have been suggested, including the issue of

academic autonomy and the predominantly individualist culture of academia (Kandlbinder, 2003), coupled with the view that online learning is supplementary to mainstream academic work.

Values surrounding academic autonomy and an individualist culture within academia are more comfortably aligned with a model of educational development based on an invitational ethos, consisting of freely entered-into-relationships based on trust where educational developers worked with staff who wanted to work with them (Land, 2001). Smyth's (2003, p.57) view that authentic consultation needs to be linked with achievable timeframes for discussion and reflection was often not the case in practice. There have also been participant observations that research is of a much higher priority than learning and teaching, a view widely reported in the literature and verifiable from practitioner perspectives (Reis, 2006).

Other models of educational development involve a range of learning and teaching personnel, a project management focus and a course approach where all staff teaching in that course are involved in the development process. CS3's work contained elements of this, CS2 described a project focus and CS4 too had access to course developers and worked strategically on courses. How each educational development unit was structured and how its activities were conceptualised, contributed to the rich picture of influences that developers recognised as impacting on their work, as well as on their advice about assessment online.

Models of educational development have been proposed and critiqued in the literature. Lee (2005, p. 46) states that "ADUs are almost always *service units* (sic), structurally separated and 'clinicised' away from the daily business of teaching and learning in a degree course" and professionally subordinate in a "'service' relationship to discipline-based academics". Some writers (Boud, 1999; Ryan et al., 2004) have described devolved models of educational development located within faculties rather than centrally based. The one-stop shop, involving co-location of pedagogy and technology in supporting academics, endorsed by Shephard (2004), was strongly supported by respondent CS4. Boezereoooy (2003) argues that the traditional culture of universities has been associated with decentralised institutions, yet the nature of technological innovation almost requires a whole-of-institution approach. So what emerges in the literature is a tension between values associated with individual academic autonomy and values that emphasise strategic, centralised or managerial agendas. This tension was confirmed by participants in the study and was most pronounced in the perspectives of CS1 and CS5, as distinct from those of CS3 and CS4.

While CS4 is the only respondent who proposed an integrated model, there were ambivalent responses about being an "arm of management", a phrase used by respondent CS1. Respondent



CS2 described a divide between academic development units and educational technology units based on different intellectual traditions. All respondents were of the view that the organisational context of the educational development unit, and the way in which the links between pedagogy and technology were conceptualised, had an impact on the way they approached the design of assessment online.

Land's (2001) research on the organisational culture in which educational developers conducted their practice in universities, draws upon a series of studies (Becher, 1989; McNay, 1995; Sawbridge, 1996; Wellington & Austin, 1996). The implications of Land's integration of McNay's (1995) framework into the strategic terrain in which educational developers work in universities helps to make sense of educational developers' contexts.

Mapping universities' levels of policy definition and control of implementation on vertical and horizontal axes, McNay (1995) also incorporates Beecher's (1989) four elements of collegium, bureaucracy, enterprise and corporation, present in most universities and in different combinations. This research tradition has identified these elements in every university. In combinations of tight policy definition and tight control of implementation, Land (2001, p. 5) indicates "that a systems orientation implies the meeting of institutional needs as opposed to the meeting of individual needs through a person orientation". The strategic and organisational goals of the university may be implemented despite academic autonomy but as Kirkpatrick (2001) notes, it is a question of balance because negativity and resistance could set in.

This was a peripheral area of research in this study because it moves the focus away from assessment in online environments towards the realm of higher education management but nevertheless it has particular relevance for the conduct of assessment within universities. In CS4's case, for example, it was institutionally decreed that every subject would have an online presence. In the case of CS5 the statement was made that "more than half of the university had not interacted with educational developers". Participants endorsed the importance of university policies and leadership in Figure 5.3 but these processes occurred at higher levels within the institution, above the educational development unit structure. Land's research (2001; Land, 2003) on the impact of policy and implementation on educational development practice helps to illuminate respondents' perceptions in this study and it has been introduced at the back-end of university policy and leadership in the framework in Figure 5.4. In some instances systems and processes that supported assessment online were associated with tight policy and control of implementation but the question of balance remained. As an example, the adoption of more extensive web-based teaching and assessment increased over a period of three years across CS4's institution following a mandated web presence for every subject. Many universities in

Australia would not be able to implement such a policy, especially if elements of collegium, academic autonomy and diversity were in opposition. McNay's (1995) model has been superimposed upon the framework.

After reviewing the findings against the literature, it is evident that many of the more personal and experiential factors that impinged on the thinking of educational developers about assessment in online environments are simply not covered in the literature. Where the literature is most helpful, however, is in the explanation of strategic and institutional processes that impact upon educational developers' practice. Figure 5.4 contains highlighted areas that advance upon Figure 5.3, filling in from the literature what was not articulated by respondents, especially in a causal sense. Participants certainly acknowledged the impact of policy and leadership upon their thinking but they tended to think in terms of individuals within their institutional contexts rather than the theoretical modes evident in the literature.

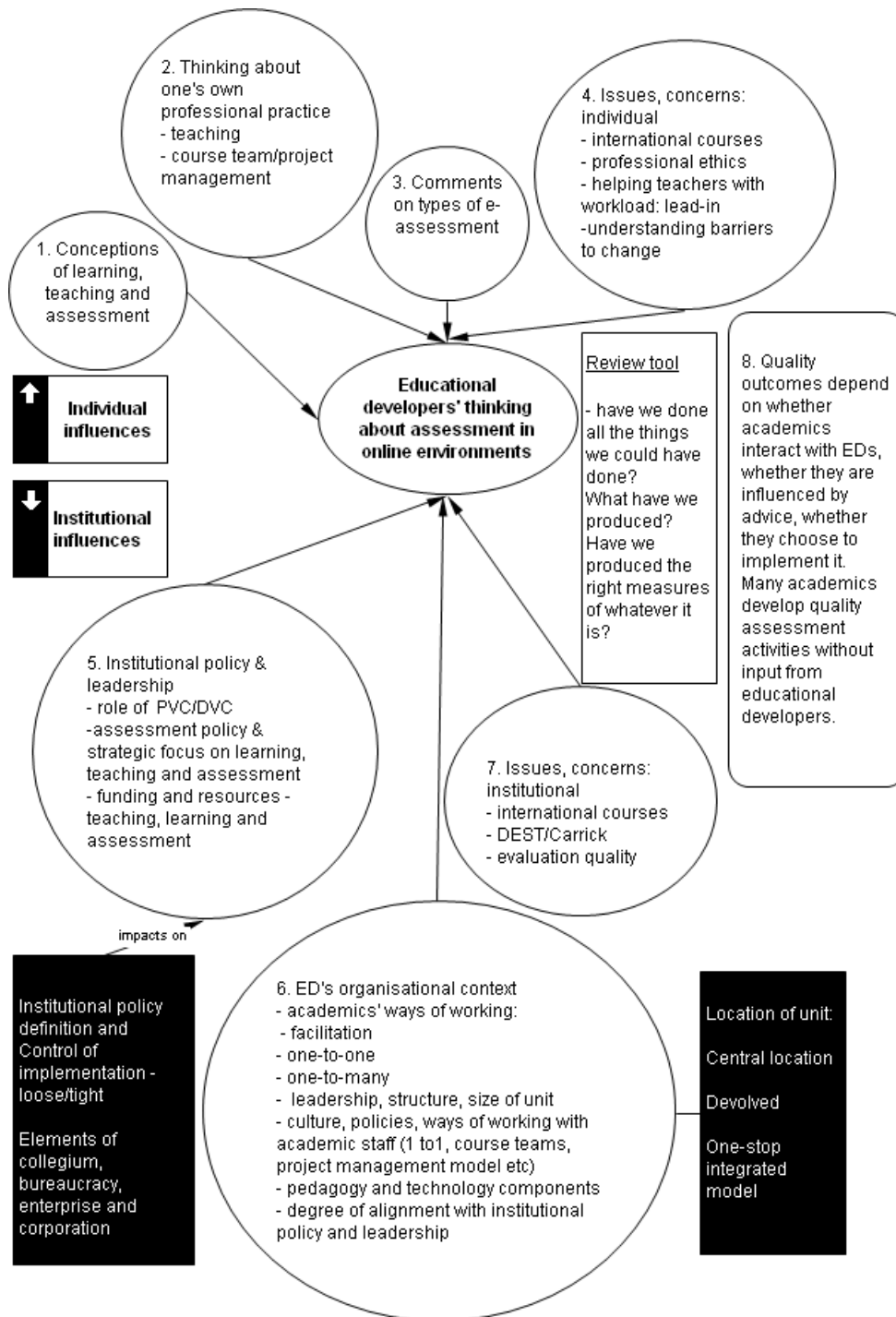


Figure 5.4. Integrating participants' views about influences with the literature

### 5.4.3 Summary of findings for RQ2

Understanding significant influences upon the thinking of educational developers about assessment conducted partially or fully online is a complex process. The dynamics of individual and institutional influences interact within unique but also very diverse contexts.

Figure 5.4, the final framework that has emerged in this study, retains the individual and

institutional dimensions but recognises the critical influence of policy and leadership at the highest level within each university. Educational developers in this study were influenced by the way learning, teaching and assessment policy were defined and implemented within their universities, as well as by dominant institutional elements such as corporate identity. Respondents emphasised the importance of individual influences and characteristics but it is difficult to separate these from institutional components.

### 5.5 Critical assessment online issues (RQ3)

**What are the critical assessment issues identified by educational developers when online components are introduced?**

Table 5.13 identifies participants' perceptions about critical issues that impacted on thinking about assessment online and the number of participants who commented on that issue. Most comments were about online discussion, plagiarism and the identity of online students.

*Table 5.13. Critical assessment issues identified*

Issue	CS1	CS2	CS3	CS4	CS5	CS6
Identity of online students	√			√		
Online discussions	√	√	√	√	√	
Use of the term 'Interactivity'	√					
Plagiarism	√		√		√	√
Online quizzes	√					
Online group work		√				√
Embedding generic attributes in assessment					√	
Criterion-referenced assessment		√			√	
International issues			√			
University assessment policy				√		

### 5.5.1 Online discussions

Respondents were particularly concerned about the validity of marking online discussions, and there were reservations about the adoption of quantitative approaches involving the award of marks for participation based on the number of postings. CS1 referred to it as a “vague category” that was sometimes used by staff at the final assessment stages to promote or relegate students from one grade to another in cases where the other major assignments were inconclusive. CS4 differentiated the allocation of marks for participation from the quality of postings, clearly prioritising the latter; and CS5 located the practice of awarding five marks for 400 word postings at a “crude level”.

It was evident that such practices were reasonably common, especially with large classes, and CS2 observed that marking online discussions was “hard work” and “time consuming” and that it was particularly difficult to manage student expectations in a class of 700 students. In these cases, online discussions were commonly mandated as part of the formal assessment. As CS3 observed it was not only a case of managing student expectations but managing tutor online approaches because “tutors need to withdraw from the discussion at times: often a tutor will come in and respond practically to every student’s comment”. Underpinning all of the comments was a concern about the validity of awarding marks based on the number or length of postings but this was also linked with recognising the time involved to adopt qualitative marking approaches and how to manage both student and tutor expectations.

In Chapter Two, in the section reviewing online discussions in the literature, it was noted that this area is emerging as a small but growing component of online teaching and assessment, offering considerable learning benefits. It was also noted that there are many issues that remain unresolved. Important questions are whether and how online discussions could be assessed in a valid, reliable and transparent way. Respondents’ views in this study indicate two areas of concern: awarding marks for participation and the management of student and staff expectations in online discussions where large numbers are involved. Practices that have been reported in the literature such as Goodfellow’s (1999), focus on the extent and quality of online discussion within online tutor groups and Mason’s (1999) requirement that student online postings are referenced in a larger assignment, in the same way journals are cited, addresses issues of valid marking. Respondents indicated that this was a problematic issue and was largely unresolved. Both Goodfellow and Mason report in a UK context and so the question of resourcing and e-moderating practices in Australian institutions remains a concern.

### 5.5.2 Plagiarism

Plagiarism in online assessment contexts was specifically mentioned by four respondents. CS1 suggested that media interest in this issue was making academics think about their practice, CS3 referred to it as a “huge consideration” and CS6 described plagiarism as “the hardest thing I guess that I have come across in terms of assessment”. Interestingly, CS5 stated that “There isn’t anything specific about the online environment that makes plagiarism harder or easier”. The adoption of specific plagiarism software developed within the institution was mentioned by CS6 and other respondents were clearly aware of a plagiarism detection software such as Turnitin (2006). CS5’s view was that plagiarism was best addressed by the design of the assessment task itself rather than basing it on the concept of “catching students out”. CS3 also strongly disapproved of a “punishment paradigm of shame and expulsion” and suggested that lecturers should recognise plagiarism as “a cry of distress”. CS6 supported this view and mentioned that plagiarism software had been developed at other levels in the institution.

In CS3’s institution new software to detect plagiarism was being used and there were links in every WebCT course to University Handbook policies on plagiarism. CS3 argued that the most appropriate solution was to educate students early “to the point where they don’t feel they need to plagiarise”. CS3 was particularly concerned about international students and proposed that educational strategies should be implemented to address plagiarism rather than closing off student futures.

There has been a considerable body of literature on plagiarism and James, McInnis and Devlin (2002) believe that access to the Internet in recent years has made plagiarism easier in written assignments and they present a comprehensive framework for dealing with the problem. Core elements include clear institutional and faculty policies, renewed educative approaches, good practice in the design of assessment, as well as monitoring and penalising offenders. Thirty-six supporting strategies are presented on the accompanying AUTC website. Zuluaga, Morris & Fernandez (2002) report on the routine use of anti-plagiarism software for assignments submitted online and Simon (2005) describes how researchers at the University of Newcastle included watermarks and double spaces in assignment files as strategies to detect plagiarism.

Respondents in this study were well aware of the plagiarism detection software but their preferred approaches were educative strategies that focussed on the design of assignments that reduced the likelihood of plagiarism occurring. The underpinning rationale sought to recognise why plagiarism was occurring and to develop teaching strategies to address these issues, particularly in the case of international students.

### 5.5.3 Identity of online students

CS1 stated that the issue of certainty about the identity of students completing online quizzes or exams “plagues my colleagues” and CS4 also described nervousness amongst teaching colleagues surrounding the question of how to verify the identity of online students completing multiple-choice quizzes in WebCT. These observations simply confirm reports in the literature. In reviewing research on computer-aided assessment, Sim, Holifield and Brown (2004, p. 223) refer to such practices as the logging of submissions, verification that a stored document used for assessment is the same as the one used by the student; feedback mechanisms informing students that their submission has been received and identity confirmation measures. The highest level of security for confirmation of student identity had been invigilated online exams but this involved staffing, costs and a reduction of the flexibility that had been associated with asynchronous online learning. Invigilated assessment will be explored in the section that deals with the fourth research question.

### 5.5.4 Other critical assessment issues

The area of criterion-referenced assessment was not widely commented upon by participants but CS2’s view was that the most significant change an institution could make “would be to move to criterion-based assessment instead of normative methods of assessment”. This is an interesting observation because there is considerable support in the literature for criterion-referenced assessment (Biggs, 2003; Campbell, 2003; Dunn, Parry & Morgan, 2002; Northcote & Kendle, 2002; O’Donovan, Price & Rust, 2002a; Rust et al., 2003). Although criterion-referenced assessment had been strongly promoted in educational research and incorporated in the assessment policies of Australian universities, the implication was that it was not always embedded in practice. CS5 stated that until it has been taken up by individual academics at the grass roots level, change has not occurred.

The issue of embedding graduate attributes or generic skills in institutional assessment is a similar issue. Many universities have policies about generic attributes but CS5’s perspective was that:

*This issue stands out and linkages are very poor in many of the subjects I have examined. A large number of teachers resist the idea that generic and graduate attributes are meaningful.*

Examples from the literature (Sumsion & Goodfellow, 2004) and from a university website (University of Sydney, 2006b) illustrate systematic strategies for embedding generic attributes within a curriculum and assessment context. This study was neither designed, nor was it able, to establish linkages between assessment and generic attributes but it is an important area for

research and CS5's observation about linkages and lecturers' resistance, were it generally true, is a critical point.

University assessment policies clearly influenced CS4's thinking about e-assessment, especially at the undergraduate level. Her/his observation was, "It's at the policy level that assessment will take some pretty constrained, rigid forms", and one model was of a final exam and two assignments/laboratory reports. Carnevale (2001) reports on Western Governors University where the entire degree revolved around the assessment tests and an associate degree, for instance, may involve 30 hours of testing. Abbott et al. (2000) describe an institutional policy of proctored online exams. James et al. (2002) describe an organisational cultural shift in assessment, using a case study from Queensland University of Technology, where the first phase consisted of a review of assessment policies and practices within the faculty. They indicate how an integrated, multi-layered methodology, linked with staff development initiatives, fostered change. Their view is that 'top down' and 'bottom up' strategies intersected to promote change, supporting the framework that emerged in this study. The role of educational developers in relation to assessment was embedded in institutional contexts and the assessment policy itself was a major issue that either enhanced or constrained practice.

CS2 was particularly attuned to collaborative group work conducted online and was interested in computerised systems such as Self and Peer Assessment Resource Kit [SPARK] (2005) that assisted in recognising differential individual inputs in the dynamics of group projects.

### **5.5.5 Summary of findings for RQ3**

In this section there has been a discussion of the critical assessment issues identified by developers when online components were introduced. Table 5.13 highlights the issues and how commonly they were identified by different respondents. These issues are generally evident in the literature although respondents' comments about online discussions raised significant concerns about the validity of marking online discussions that have not been widely reported.

## **5.6 Representing educational developers' thinking about assessment online (RQ4)**

**How can educational developers' perspectives about assessment conducted online be represented?**

### **5.6.1 Introduction**

In this section there were two main objectives:



- to establish educational developers' perceptions about the forms of assessment that were encountered online; and
- to represent educational developers' thinking about assessment conducted online.

In both instances this also involved relating their perspectives to their institutional contexts.

### 5.6.2 Respondents' perceptions about forms of assessment encountered online

This section compiles and interprets educational developers' comments about forms of assessment that they encountered online [Question Identifier: 2.3]. The types of assessment are categories that had been derived from the literature and were used as prompts during the second round interviews.

**Table 5.14. Educational developers' comments on traditional assessment submitted online**

Assessment Type	Educational Developers' Comments
Traditional assessment submitted online	Frequently encountered. [CS1]
	"Whether it's submitted on-line or whether it's not, is totally peripheral in the scheme of things". [CS2]
	"I think it's pretty wonderful - of students submitting electronically, assignments can be submitted electronically, can be marked online and returned, fed back to the students quickly, reasonably quickly and maintaining records". [CS4]
	"The majority of assessment is submitted this way". [CS6]

If students were studying off-campus or off-shore, electronic submission of assignments through the learning management system had become the norm. At large on-campus universities, where CS1 and CS2 were located, electronic submission was increasing. As CS2 implied this was simply a form of delivery and whether assignments were typed, printed and physically placed in a lecturer's or tutor's mail box within the school, or were emailed as an attachment or through the submission processes of the learning management system, the substance of assessment was unaffected by the delivery mode. In this sense it was a misnomer to classify this as a form of assessment. However the significant benefits of the more rapid turn-around of assignments, quicker feedback and administrative time-savings for staff were noted by CS4.

*Table 5.15. Educational developers' comments on automated assessment*

Assessment Type	Educational Developers' Comments
Automated assessment	<p>"I think there is always a tension between quick and dirty quiz-based assessment". [CS1]</p> <p>"Automated assessment is a very narrow view". [CS1]</p> <p>"Increasingly, especially in business-oriented subjects, quantitative subjects lend themselves to the easily assessable answer. You can also click for the lecturer's comments (example of the answer if provided) and students can compare their answers with that". [CS3]</p> <p>This was not frequently encountered in CS4's experience because the essay and exam culture within the institution were the dominant paradigm. [CS4]</p> <p>Summary of CS5's view: Ensure that teachers have done their homework because they are likely to encounter a series of nasty shocks; the online tool is not as robust as it should be. Students too need to go through the process in advance because screen transitions and links can be easily broken. [CS5]</p> <p>"A small amount was occurring". [CS6]</p>

For CS1 this form of assessment constricted learning and CS5's experience was that staff encountered technical problems when they conducted online tests in large numbers. As CS3, CS5 and CS1 indicate, in the next section, automated assessment was increasing although not so rapidly in the postgraduate courses with which CS6 was associated. The tensions that CS1 detected were the conflicts revolving around the exigencies of time and workload realities as opposed to valid, well-aligned assessment. In automating the marking and feedback, CS1 implied, it expedited the former processes but did not assess deep learning.

Important incidental perspectives from participants were the need to prepare students in advance when automated testing was conducted online, accompanied by automated feedback from the lecturer. There was also a suggestion in CS3's observations that automated testing was more suited to particular disciplines, especially those that had a quantitative dimension such as Economics and Mathematics.

**Table 5.16. Educational developers' comments on automated assessment-advanced options**

Assessment Type	Educational Developers' Comments
Automated assessment – advanced options	<p>"I do think multiple choice and short answers are very, very common". [CS1]</p> <p>"We developed these all the time – especially things like match the graphic with this or do a little flash movie for drag-and-drop or something or a bit of Java script coding; you know, pick the right word". [CS3]</p> <p>Summary: Randomly generated answers were based on formulae and calculations would be more widely used but the tools have limited abilities. [CS5]</p> <p>"This is not frequently encountered: a very small amount is occurring". [CS6]</p>

This type of assessment used multiple choice, true-false, matching, drag-and-drop, short-answer and calculation formats but it employed various examples of sophisticated multimedia sources and java coding suggested by CS3. Essentially this assessment form used the same question categories as basic automated assessment but enhanced the use of graphics, sound files, animations or diagrams to add a richness and complexity to the assessment activity. As with CS1, some educational developers did not distinguish between the two categories: it seemed clear that automated assessment was markedly increasing but advanced practice in this area constituted "a very small amount" of the spectrum.

**Table 5.17. Educational developers' comments on invigilated online exams**

Assessment Type	Educational Developers' Comments
Invigilated online exams – (mid/final semester)	<p>"What was interesting was the invigilated [aspect] to bring everyone together into the lab for example to do their assessment". [CS1]</p> <p>"We booked out three computer labs and the students all came in, sat down, did the exam and went home again. Most were marked automatically but some short answers had to be assessed by staff. Faculty were impressed and have asked for further assistance in this area". [CS3]</p> <p>It has been discussed but has not eventuated. "People end up deciding it's more work for them because the organisational processes are not there to support it so they would rather go for</p>

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a traditional exam at a distance where someone else will look after the administration for them". [CS6]

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This form of assessment, a combination of the online environment and traditional invigilation to address issues of security, identity and the general integrity of the examination process, was endorsed by CS3. Not all answers were computer-marked but there were significant workload advantages and time-savings in the conduct of the exam, as well as a quicker turn-around of results for students. Despite awareness of this assessment type by other participants, it was not recognised as a widely adopted form of assessment for some of the reasons that CS6 advanced but CS3's experience indicated that it had potential.

*Table 5.18. Educational developers' comments on online group projects*

Assessment Type	Educational Developers' Comments
Group projects	<p>"I have seen a lot of that. I seek it out". [CS1]</p> <p>"The paper based systems are really only going to work if you have only 30 students and you can really closely supervise them. When you are dealing with large numbers, the people themselves, I don't think they have really got the skill or support or whatever to do that and that's where you need the automated system because that's the missing link in group work, the equation where the students can peer-review each other". [CS2]</p> <p>"...a growth area but it's only just starting to happen". [CS4]</p> <p>"It's happening more and more. It's an upward trend". [CS6]</p>

In commenting upon this assessment type, respondents were thinking in terms of examples such as group PowerPoint presentations, collaborative engagement with CD-ROMs, group online projects, group laboratory reports completed online, networked collaborative learning and role play/online debates. These were generally group learning activities that were conducted partially or fully online and involved an online assessment component. In contrast to automated assessment, CS1's comment on this form was positive and it was occurring on a regular basis; CS4 and CS6, however, recognised this as a growth area but had not regularly encountered this form in their practice. CS2 was particularly committed to the promotion of online collaborative learning and her/his comments indicate that the affordances of the technology were an important factor; from other interview comments, CS2 was clearly aware of the rich learning that group work offered.

Table 5.19. *Educational developers' comments on online interaction*

Assessment Type	Educational Developers' Comments
Online interaction	<p>"Strongly agree ...some people are wanting to try and promote space for dialogue and assessing interaction. And I think there's a bit of interest around the latter". [CS1]</p> <p>"We had written into the course description and assessment criteria that online discussion was going to be part of the assessment, and so it was really important that we made that a worthwhile experience for students". [CS2]</p> <p>"I've come across instances where a lecturer sent out a Word template for assessing online discussions: they ask the student to nominate two postings, indicating what they thought was good about that posting and that's what they based their assessment on. They didn't want to necessarily see the posting". [CS3]</p> <p>"The online environment has changed the way people can and did think about assessment, in that a major part of the online community interaction involved discussions online". [CS4]</p> <p>"You wrote the task such that the student had to articulate a particular viewpoint then, or whatever you know, the context within that subject was, that indicated that the student was expected to draw on their extended participation in online discussions. So the activity was not the purpose, the activity was to help students engage with the issue". [CS5]</p> <p>"There's a lot of it happening but not all of it is assessed and what is assessed, not all of it is appropriately assessed. So I think we have made real headway with a lot of people explaining what is required for a discussion and yes you might have to have three posts but your posts need to demonstrate a real contribution". [CS6]</p>

Respondents perceived this as a significant type of assessment conducted online. As CS5 observed, students developed viewpoints on forum issues as they participated in online discussions, engaged with the issues and made postings. All respondents were aware of this assessment form but there was concern about the most appropriate way to assess contributions, as CS6 noted. CS3's example was the use of a template that involved self-selection and

analysis of postings. CS4's view was that online discussions significantly changed the way many lecturers thought about assessment in this area.

**Table 5.20. Educational developers' comments on authentic assessment**

Assessment Type	Educational Developers' Comments
Authentic assessment	<p>"It's more something we've talked about; I have not looked too closely at it. Simulation, sure, I've seen lots of simulation. I've not necessarily seen students carrying it out". [CS1]</p> <p>Summary: Students in such courses as Marketing are often required to approach companies and they may even have limited access to their databases. MYOB, Excel spreadsheets are commonly put into WebCT. [CS3]</p> <p>"We are planning to do some of this type of assessment next year". [CS6]</p>

The design of assessment that simulates or is closely integrated with real world experience was not widely encountered by respondents. CS3's reference to limited access by students to company databases was a rare example proffered. Many universities have been involved in the development of complex simulations of real world environments (AUTC Project on ICT-based learning designs, 2003) but the implication of CS1's observation was that mainstream educational developers may not have been directly involved in their design and development processes, although they may have possessed a general awareness of these projects.

**Table 5.21. Educational developers' comments on critical reflection and metacognition**

Assessment Type	Educational Developers' Comments
Critical reflection and meta-cognition	<p>"This is good". [CS1]</p> <p>"Sometimes we do encourage students to keep an online journal or an electronic portfolio not necessarily for sharing, just to help them to come to some self-reflective kind of understanding, but it's not as common I have to say – it's logs, diaries, yes, blogs, wikis no, fieldwork, that's common, practicum reports, that's common". [CS3]</p> <p>"I am very much of the view that if you're really keen as a teacher on reflection, you really should think about having two prongs to it: one bit that only the student sees and the bit that you, the teacher sees. You may also go for a third option which is the bit that is public to the other students and the world at large and I don't see</p>

that it is necessarily my role as the teacher to be seeing and reading everything the student is doing. I've used reflection in my own assessment many times and I have found it extremely valuable". [CS5]

"This was not frequently encountered. One or two in the Humanities may have done it but in Science and Engineering there was little tolerance for affective assessment and staff can't see the purpose of it. A lot of work is needed for that to occur". [CS6]

There was a sense in the comments of CS1 and CS5 that this form of assessment was valuable and had considerable potential but the realities are that it was not widely encountered by the respondents. Suggested barriers to adoption were the personal nature of reflection, difficulties of determining what might have been private and public, ascertaining how much should be marked and combating a culture that perceived it as too subjective.

*Table 5.22. Educational developers' comments on advanced problem-solving*

Assessment Type	Educational Developers' Comments
Advanced problem-solving	<p>"We have a lot of it happening and I find it particularly interesting". [CS1]</p> <p>CS3 referred to an example beyond the case study where advanced scripting enabled students to verify attitudinal responses where the answers were not right or wrong but fell within certain percentage ranges and this was done within a WebCT environment.</p> <p>In CS4's experience this was only encountered in pockets of the university such as in the medical faculty.</p> <p>Complex problem-based learning scenarios: "complex is an interesting one because for some teachers complex means it's got four variables in it and for other teachers complex means it's a semester-long group-based project and I have definitely seen that type of stuff. To the extent that these are online as distinct from face-to-face or conventional I don't really know; I don't see that as an issue so much because again the online is an enabler". [CS5]</p>

CS5's comments about variations in lecturers' perceptions about what constituted advanced problem-solving indicate a spectrum. CS4, for instance, associated this type of assessment with large problem-based projects in medical faculties whereas CS3 referred to attitudinal surveys

on issues conducted online that required sophisticated scripting. Complex projects were more likely to involve educational developers who were specifically working in that area so respondents in this sample were likely to be generally aware of advanced problem-based projects. CS5's comments about whether the online dimension was only an enabler in advanced problem-based learning, and whether the contrast between conventional and online teaching was an important distinction, are recurring themes in this study.

### **5.6.3 Respondents' perceptions about forms of assessment encountered online: Relation to the literature**

In deriving these assessment categories from the literature it is evident that some of the assessment forms such as advanced problem-based learning, advanced automated assessment and simulations in authentic assessment require considerable technology skills in the development process. The question of whether individual academics working with educational developers generally have the competencies to produce such assessment types is an important issue. Respondent CS5 recognised the spectrum of assessment types and that some were more challenging in development terms, commenting that "you've certainly got all the big categories there and I know we are, I am glad to say, experimenting with some of the more advanced things". Do the perspectives of educational developers about conducting assessment online oppose, confirm or advance upon significant findings in the literature that were presented in Chapter Two?

A general theme in the literature is that there is little consensus about the meaning of the term *online assessment*. There is confusion about the term *e-assessment* according to Mason (2001) but from SCROLLA's (2006) perspective the field is confined to automated assessment. This view is not unanimous of course, because researchers such as Mason and Reeves (2003b, p. 6) resist this narrower understanding of the field.

#### **5.6.3.1 Online delivery of assignments**

Participants clearly recognized the distinction between the Internet's capacity to be a conduit for the delivery of assignments and its role in enhancing the quality of learning and assessment. For traditional distance education students or students studying fully online, the six participants recognized the workload convenience, rapidity of feedback, time savings, ease of submission and cost-reductions identified in the literature but in on-campus classes educational developers did not recognise these as significant issues. It was only in the case of off-campus, distance students, as noted by CS4, that there were real advances upon previous modes of assignment



delivery, such as mail and facsimile and, except for the speedier feedback, the advantages were not specifically learning and teaching driven.

#### **5.6.3.2 Automated assessment**

Respondents recognized that assessment conducted online is much broader than simply automated assessment and they generally accepted the spectrum of assessment types presented in the second round of interviews [Appendix D]. The respondents' perceptions confirmed Gemmiti's (2003) view that automated online assessment was increasing because of student-staff ratios and advances in technology. The significant affordances offered by the technology, including fast, automated marking, storage and reuse options and quick feedback, were recognised as the most pertinent drivers in this form of assessment.

Reeves' (2002, p. 11) view that in the online environment many academic staff "appear to struggle with conceiving of assessment as anything more than a multiple choice test" was echoed by CS1's observation about "quick and dirty quiz-based assessment". In this case there was a sense that this form of assessment was not comparable in a learning sense with other possible forms of assessment that could be conducted online. The fact that respondents encountered a broad spectrum of assessment types beyond the multiple-test format indicates that academics' conceptions of assessment went beyond a multiple choice model as described by Reeves.

#### **5.6.3.3 Automated assessment – advanced options**

The consensus among respondents about advanced forms of automated assessment, which incorporated graphics, animations, audio, video and multimedia publisher plug-ins, as well as a broader range of file formats, is that this form of assessment was increasing but constituted a very small spectrum of total assessment practice. This is confirmed by findings in a recent study (Byrnes & Ellis, 2006). CS3's perceptions of innovative practice in this area confirm SCROLLA researchers' views (Harris et al., 2002, p. 904) that "in many cases much of the expertise is so new that it yet to be documented". Biggs' (1999, p. 175) view that this form of assessment is associated with recognition, the least demanding cognitive skill, could not be confirmed because educational developers generally did not have access to specific subject and evaluation data; but theoretically the design options within this category certainly allow testing of higher-order learning. It was perceived as quite possible within this category, for instance, to have four digitally recorded oral comments as the most appropriate explanation for an event in a complex case study. Participants also suggested that many academics did not develop these forms of assessment because they were constrained by workload, time considerations and lack of technology support or expertise.

#### 5.6.3.4 Invigilated online exams

Findings summarised from the literature about online invigilated exams in Chapter Two are that this is an emerging practice that will gather momentum as technology and security issues are better resolved. Morris and Zuluaga's (2003) report on successful conduct of invigilated online exams and the potential of this assessment type to address issues such as plagiarism, as well as to validate previous assessment such as group assignments, recognised potential benefits. The only respondent to endorse highly this form of assessment was CS3 and although not widely adopted it had been successfully trialled in her/his institution. CS6's observation that "the organisational processes are not there to support it" provides an explanation for slow adoption and this would have included such factors as the availability of computer laboratories and networks of invigilators. This is a form of assessment that offers future growth: presently many students complete such exams using pencils and biros yet prepare their assignments on computers; furthermore, there is the potential to adopt a range of assessment types including many that have been described in this section.

#### 5.6.3.5 Group assessment online

References in the literature to group work in online environments (Oliver, 2001; Hathorn & Ingram, 2002; Wenger, 1998; Collis et al., 2001; McConnell, 1999, 2001; Flynn & Klein, 2001) highlight the rich learning possibilities of this form of learning and assessment and also detail some critical issues that made its implementation within an assessment framework problematic if they remained unresolved. Oliver's (2001) findings are that individual students did the bulk of the work on behalf of the group; Creanor (2002) reports on the abandonment of online group assessment because of lack of participation; Bertram (2003) comments that the value of collaborative learning was diminished by 'group think', the prevailing view of the majority. Phipps and Merisotis (1999, p. 31) find, after an extensive review of the literature, that, "many of the results seem to indicate that technology is not nearly as important as other factors, such as learning tasks, learner characteristics, student motivation and the instructor".

Respondents' comments about group work in online environments indicate that it was not widespread but that it was a growth area. While respondents CS1, CS4 and CS6 commented on it, CS2 was more forthcoming about strong promotion of group learning and the enrichment that it offered in a learning sense:

*I advocate things like problem-based learning, interesting learning activities, then normally those are the kinds of things that don't have right or wrong answers. These are the things where people will very often get together in groups and negotiate, and construct and problem-solve and develop, and all that kind of thing, and I like to see that as a bigger learning experience which doesn't mean of course that you don't have to do your individual stuff and learn your*

*formulas and learn your procedural things but this takes it to an application level as quickly as possible so that it provides a much more enriched context for the things that students learn.*

In response to RQ3, critical issues associated with conducting assessment online, CS2 detailed other problematic areas of group work conducted online. While CS2's comments recognised the importance of the other factors identified by Phipps and Merisotis (1999, p. 31) there was a clear sense that the technology was a critical component, the automated system being "the missing link in group work, the equation where the students can peer-review each other". The reference to technology here was not to the automated marking systems for multiple choice but to systems such as SPARK (2005) that enabled students to rate their own and other students' contributions to group learning projects anonymously.

### **5.6.3.6 Online interaction**

Engaging students in online interactions and formally assessing their postings have been extensively reported on in the literature in such fields as e-moderation, online communities and computer-mediated communication. The following points were made in Chapter Two after reviewing salient literature about assessing online interactions:

- online discussions are a growing component of online teaching and assessment, offering significant learning benefits;
- the literature explores many assessment issues that remain unresolved;
- the important questions are whether and how online discussions can be assessed in a valid, reliable and transparent manner;
- the electronic text of every posting is generally archived and open to a range of analysis and critical review; and
- it is not a high-tech option because the bulletin boards, email systems, chats, wikkis and blogs are reasonably familiar and easy to use, especially for students.

In relation to the second and third dot points above respondents offered insights that advanced upon the literature. There are significant issues that remain unresolved in assessing online interactions and these have been discussed in response to Research Question 3 earlier in this chapter. CS6's observation that "not all of it is assessed and what is assessed, not all of it is appropriately assessed" is a valid summary. CS3 referred to a meta-cognitive assessment approach that does not require the marker to access all postings. This addresses the workload and time issues but there are others suggested such as students self-selecting their best postings, showing how they interacted with and built upon other postings. For example, Mason (1999) and McDonald et al. (2002) required students to incorporate references to postings in their

assignment, as they would a journal article or text reference. Participants were particularly aware of assessing online interactions and it was recognised as valuable in engaging communication and critical thinking skills.

#### **5.6.3.7 Authentic assessment**

The most important conclusion to emerge about authentic assessment in Chapter Two, following review of the relevant literature, is that what makes authentic assessment distinctive in terms of the online environment are the affordances of the technology in representing the complexity of problems, in more directly facilitating entry into the world of work, and in exploring simulations which invite deeper learning and more active engagement in professional working environments.

Despite a range of national case studies developed through the support of the Australian University Teaching Committee (AUTC, 2005), the respondents in this study did not refer to direct involvement in the design and development of authentic assessment. Although they possessed a general awareness of these projects in some cases, this assessment type was not commonly encountered. Authentic assessment as reported in the literature (Herrington, Oliver & Reeves, 2003; Nelson, 1998; Williams, 2004; Oliver and Hannafin, 2001; Bull et al., 2002; Suilleabhain, 2004) is not in evidence in the perspectives of educational developers in this study. Such assessment, requiring perhaps access to industry databases, access to simulations, interviews with industry personnel or practicum experiences that are assessed, is more likely to be in the domain of the individual academic(s) responsible for teaching, learning and assessment and the mainstream educational developers in this study were not closely involved in such projects.

#### **5.6.3.8 Critical reflection and metacognition**

Critical reflection and metacognition are related in the literature to self-assessment, the critically reflective practitioner and lifelong learning (Nightingale et al., 1996; Schon, 1983, 1987). There is a more recent stream of research (Northcote & Kendle, 2000; McLoughlin and Hollingworth, 2001; Herrington and Oliver, 2002; Kenton, Andre & Yarger, 2004; Beetham, 2005) which focusses on metacognition, e-learning and assessment. The use of electronic portfolios, online journals, logs, diaries, blogs, wikis, practicum reports and embedded reflective activities is also being reported on in this area. Electronic portfolios in particular are being promoted.

Amongst respondents in this study CS3 in particular makes reference to an:

*...online journal or an electronic portfolio not necessarily for sharing, just to help them to come to some self-reflective kind of understanding, but it's not as*

*common I have to say – it's logs, diaries, yes, blogs, wikkis no, fieldwork that's common, practicum reports that's common.*

Barriers to adoption, however, were noted, especially the difficulties of determining what might be private and public, as well as ascertaining how much should be marked. There is clear research (Byrnes & Ellis, 2006; Lockwood, 1992; Macdonald & Twining, 2002) that completion of reflective activities has been perceived as an optional extra by students unless specifically linked to formal assessment; self-assessment activities were further relegated when formal assignments were due for submission. Macdonald and Twining's (2002, p. 613) solution is that entries into the learning portfolio were private but students were invited to draw on their portfolio entries for assignments, and there was a requirement to use material from the portfolio in the final assignment. This marking approach addresses the problem of workload and captures the obvious value of critical reflection and metacognitive thinking. The specific reflective prompts and scaffolding used by McLoughlin and Luca (1999), inviting students to reflect upon their solutions to case studies, are another example. This is an area of assessment that could be conducted online, promising much more in the research than respondents were able to corroborate through their experience.

#### **5.6.3.9 Advanced problem-based learning conducted online**

The conclusion of the literature segment on advanced problem-based learning in Chapter Two was that this constitutes a small but significant spectrum in the overall range of assessment practices in Australian universities. Savery and Duffy (2001) report on its implementation in more than sixty medical schools in the United States and this is echoed in CS4's comment that it was only encountered in pockets of the university such as in the medical faculty. CS5's query about how many variables constituted advanced problem-based learning, associated with the view that technology was only an enabler, has relevance for award winning problem-based designs at a national level (AUTC Project on ICT-based learning designs, 2003). Such sites are not generally developed through the model of an individual educational developer working with an academic, unless the teaching academics possess advanced technology skills.

The learning design underpinning the AUTC problem-based learning exemplars involves recognisable phases such as problem representation, reference to extensive resources, strategy-generation, individual/group inputs, access to complex, multimedia resources and to diagnostic tests, novice and expert solutions. These could have been made available to students in many different forms, even in paper format with supporting print visuals, but as the AUTC evaluators (Lobry de Bruyn, 2002) observe about the problem-based design in the natural resource management site, "It is a good source of ideas for developers of other LDs; and there is certainly a need for more models of **online** (sic) problem-based learning like this one".

Advanced problem-based learning in hybrid form, involving face-to-face classroom settings, complemented by online dimensions, is reported upon in the literature (Zimmitat & Mifflin, 2003; AUTC, 2003) and CS5's view about the enabling features of the technology is a significant consideration. The important question becomes: what aspects of the problem-based learning sequence does the technology enable to be better conducted online than in a classroom or on paper? Advanced problem-based learning was an area where the online environment and the assessment of learning offered rich possibilities but while educational developers in the sample group appreciated its potential, it was recognised as a specialised area commonly involving a course development team. So it, too, was an area that promises more in the research literature than was corroborated by participants.

#### **5.6.4 Representing educational developers' thinking about assessment**

From participants' responses to this question in Chapter Four, the range of perspectives was quite diverse. In Figure 5.5 their key responses are represented in the one framework.

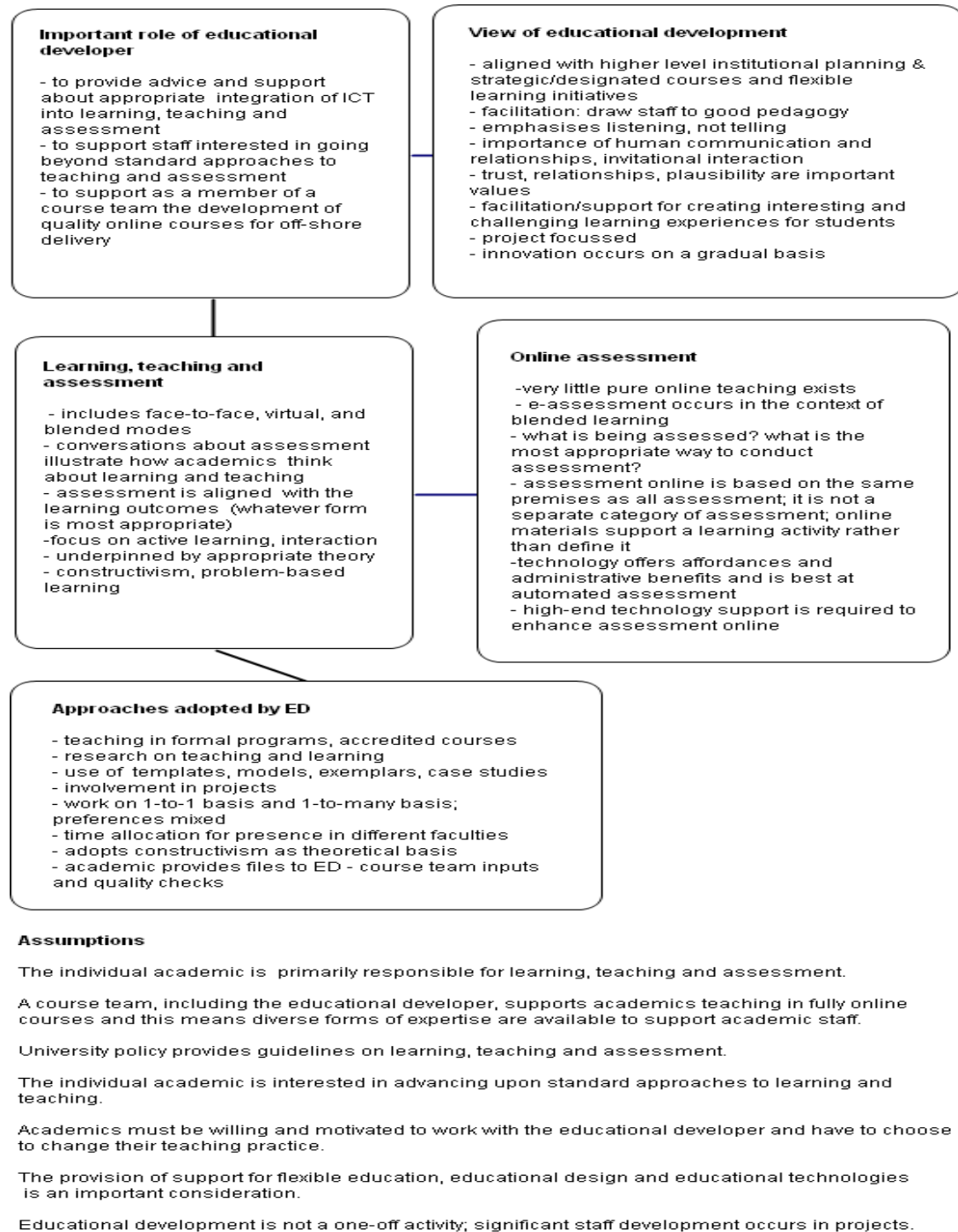


Figure 5.5. Composite of participants' thinking about online assessment

What is apparent in Figure 5.5 is the diverse range of perceptions about the role of educational developers in relation to assessment, how assessment practices are embedded in institutional and educational developers' own organisational contexts and how the comments are either aligned with other views or suggested different structures. In Chapter Four each participant's thinking about assessment was represented individually but in Figure 5.5 one can identify

commonalities and differences within the composite figure and it is now possible to extract a number of models from the compilation of perspectives. In the following section three primary models are identified. Each one is represented in a figure followed by a rationale and commentary.

## **5.7 Three models derived from respondents' perspectives**

### **5.7.1 Model 1: Assessment online in traditional campuses**

The model presented in Figure 5.6 was derived from the composite perceptions of educational developers and is informed by a strong acceptance of individual academic autonomy and the preparedness of academic staff to work with developers on an invitational basis to integrate ICT into teaching and assessment.



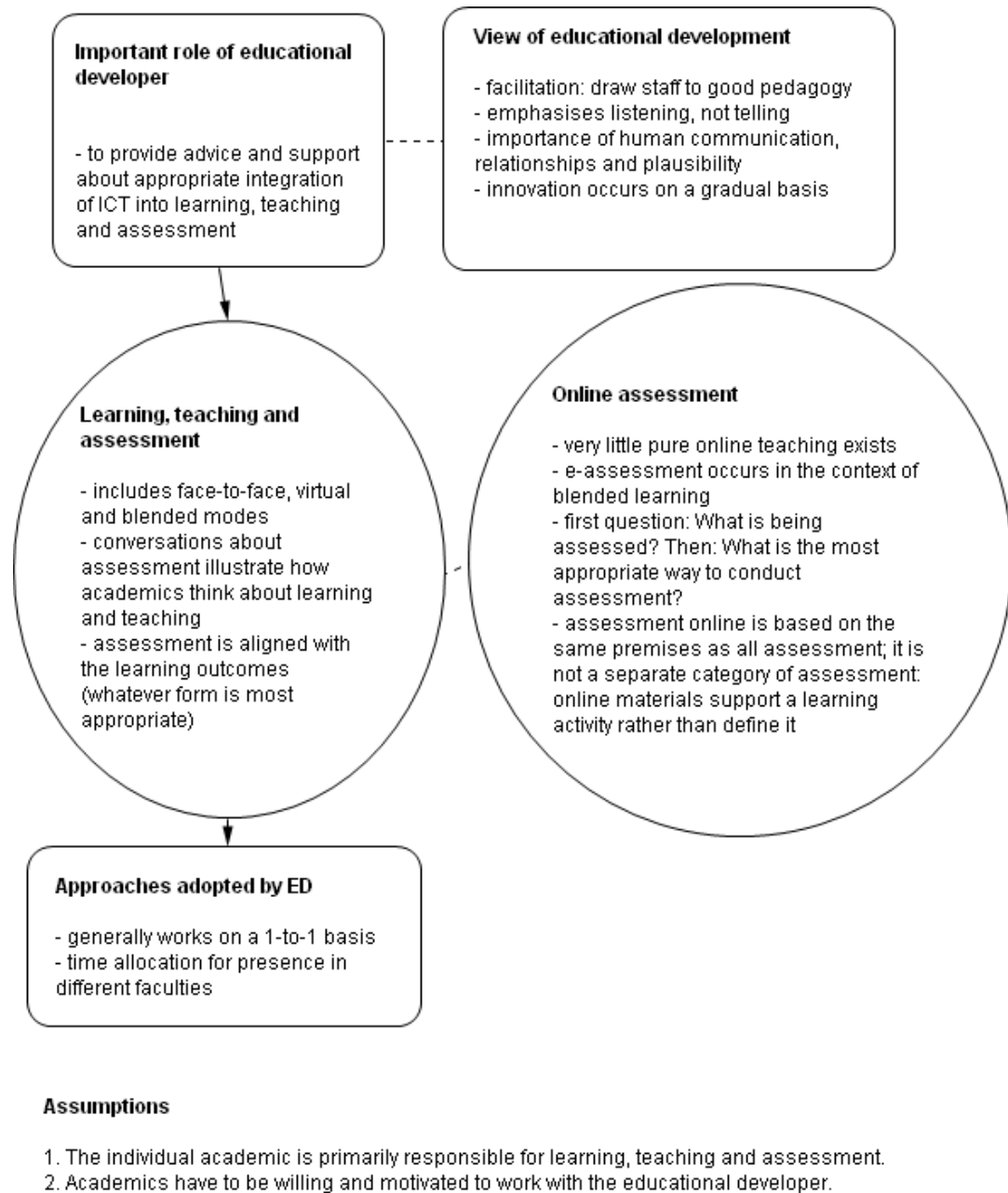


Figure 5.6. EDs' perspectives about assessment online in traditional campuses

As indicated in Figure 5.6, courses were generally taught in a blended mode and this model was linked to on-campus teaching that had incorporated some elements of online teaching to complement or supplement elements of face-to-face teaching. In this model there was no predisposition to conduct assessment online. The primary focus was to identify the most appropriate assessment in terms of alignment with the learning outcomes but if online assessment was proposed, the question of how to most efficiently design the assessment item, using the affordances of the Internet, was then considered. While educational developers provided advice about assessment, in this model the implementation of that advice was carried

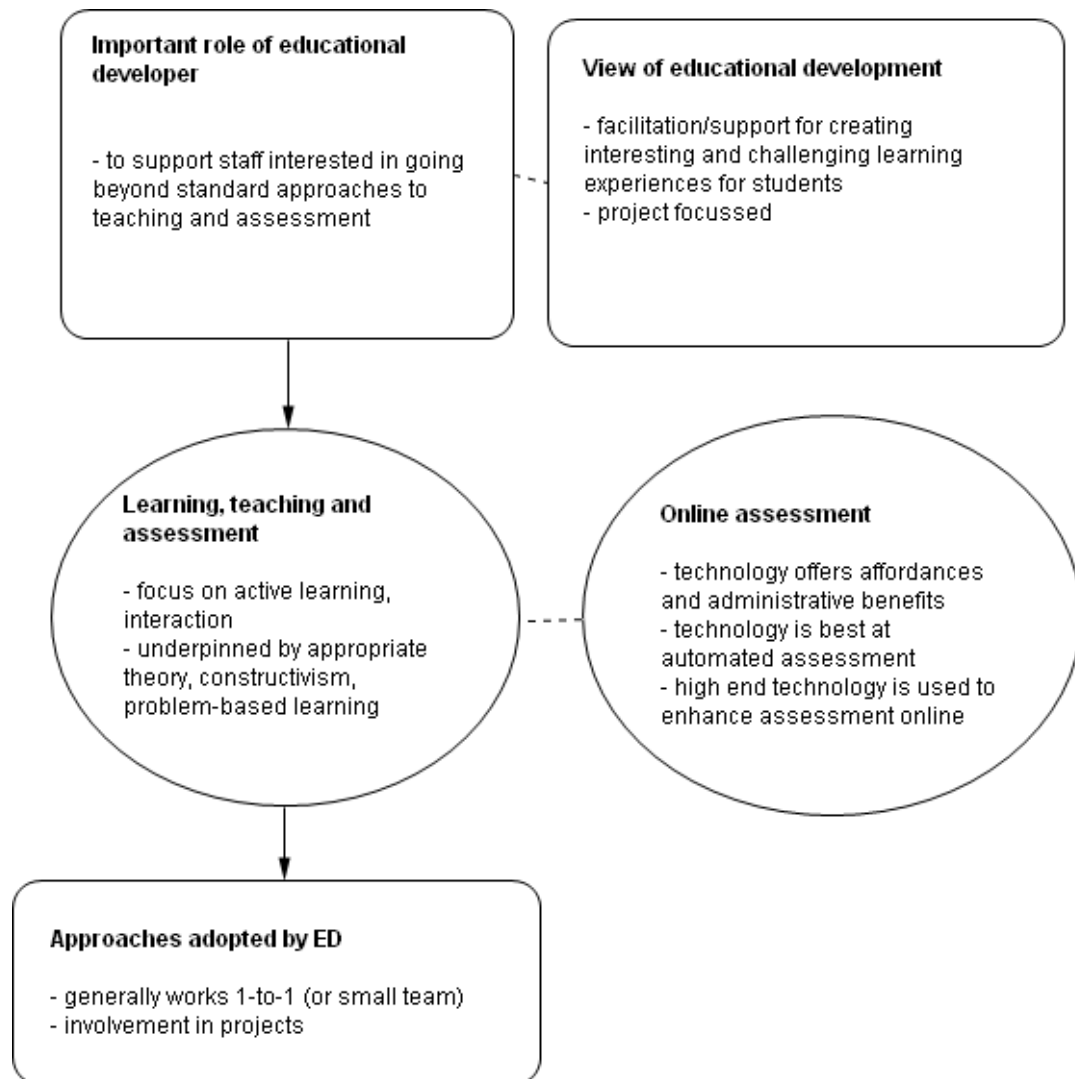
out by the academic and this generally included the design of the assessment for the subject, determination of the forms of assessment to be used, calculation of the weightings and indeed the full spectrum of assessment activities associated with assessment in any subject. Where online elements were involved, such as uploading files, designing quizzes, e-moderating or assessing online postings, this too was done by the academic and in many cases educational developers were not aware of whether their advice had been acted upon or not, although ongoing interactions with that academic informally indicated satisfaction levels.

Advice may have been received in workshops, courses, one-to-one interviews, from IT, helpdesk or LMS/WebCT/Blackboard advisors or websites where exemplars were accessible and this may have occurred over years, so that it was difficult to clearly identify the lines of support and advice that led to specific implementation. The impact of educational developers' advice upon academics then could not be extracted because it merged with a spectrum of inputs from many individuals, units and sectors within the university.

The individual academic was primarily responsible for learning, teaching and assessment and had no obligation to act upon any particular advice. In this model it was difficult to ascertain whether advice had been acted upon or not. CS5 also estimated "over half of the staff of the university do not and have not participated in any staff development".

### **5.7.2 Model 2: Assessment online in traditional campuses: Supported model**

The model presented in Figure 5.7 was derived from the composite perceptions of educational developers. In contrast to Figure 5.6, this second model was closely associated with academics who were motivated to advance upon standard approaches to teaching and assessment and actively sought out the educational developer or were approached by the educational developer.



#### Assumptions

1. A course team, including the educational developer, supports academics teaching in fully online courses and this means diverse forms of expertise are available to support academic staff.
2. The provision of support for flexible education, educational development and educational technologies is an important consideration.

Figure 5.7. EDs' perspectives about assessment online as a project in traditional campuses

Figure 5.7 incorporates two significant elements not apparent in Figure 5.6:

- The educational developer was able to call upon the expertise of other specialists within a course team to support innovative design and development and this may have included graphic design, web design, specialist IT and programming expertise. In educational development terms, there was a focus on developing interesting learning activities that engaged students in deeper learning.

- The combination of all of these dimensions introduced a project focus that meant the development phase could be scheduled and resourcing/staffing requirements identified.

The resourcing and staffing for the project provided scope to introduce high-end technology options and to utilize fully the affordances of the technology. Significantly, from the academic(s)' perspective, there were also time and workload savings because the individual teacher was supported in areas that required technology inputs and expertise.

### **5.7.3 Model 3: Assessment online: Strategic off-campus/off-shore model**

The model presented in Figure 5.8 was derived from the composite perceptions of educational developers. This third model was adopted in a blended learning context but was generally associated with off-campus delivery and fully online courses.

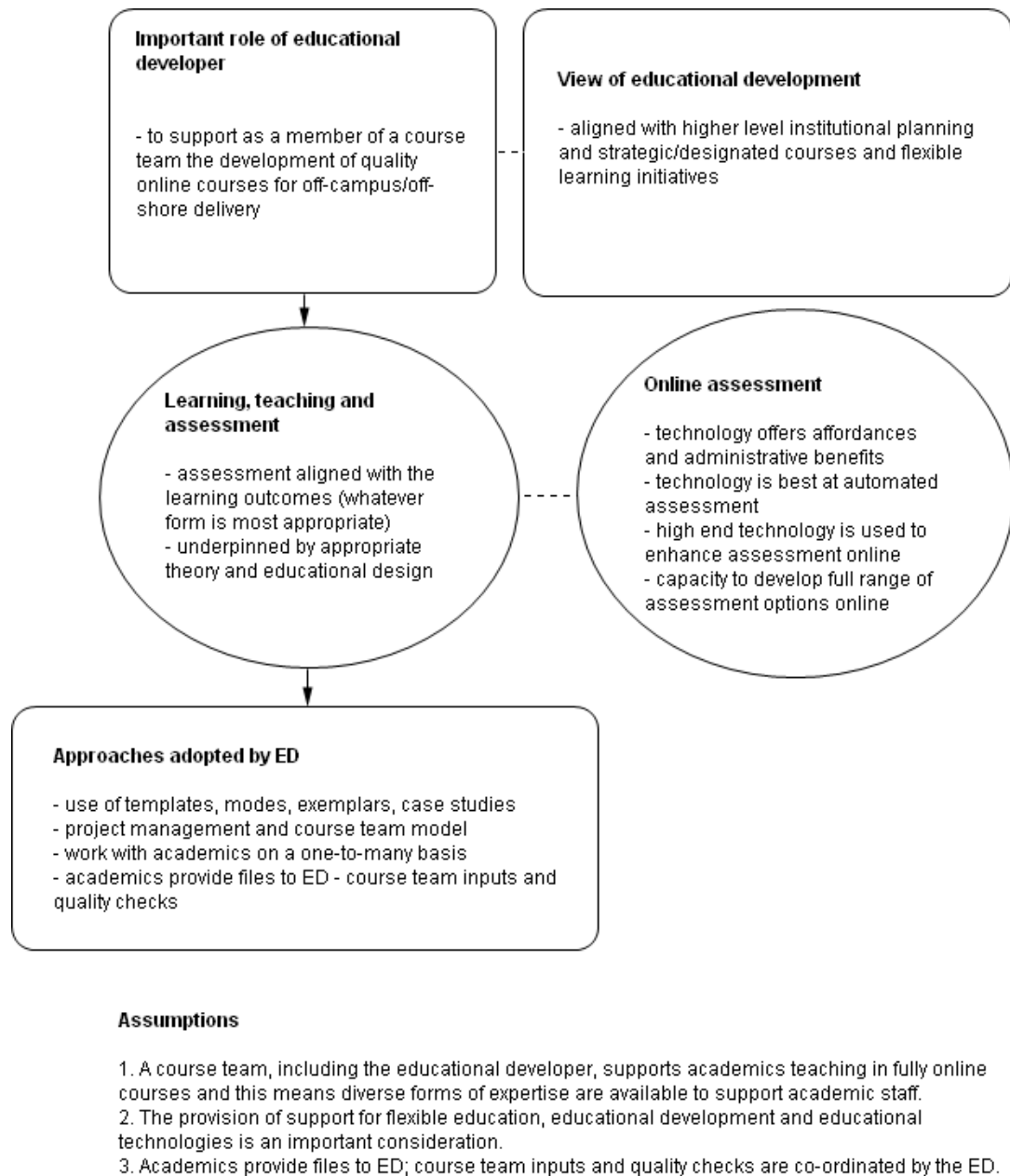


Figure 5.8. EDs' perspectives about assessment online in off-campus delivery modes

International courses delivered online in South East Asia, China and the Pacific regions were also in this category. It did not exclude intensive residentials where the lecturer(s) travelled to different countries but online delivery was a critical component of such courses. Higher enrolment numbers in such courses generally produced economies of scale in terms of development costs and courses were associated with disciplines such as law, business, management and economics. Flexible delivery units were associated with staff development and in the production of learning resources in Model 3, courses were strategically identified, supported and marketed.

Almost all of the assessment was conducted, submitted and returned online so course design, constructive alignment of assessment with the learning outcomes and maximising the educational affordances of the technology were critical. Quality perspectives that included piloting of larger courses and student feedback were components of ongoing course revision. More so than in Model 2, the course team and formal development processes were associated with this model. Assessment advice from educational developers had to address cultural issues and sensitivities, learning styles, levels of proficiency in the use of English and curriculum design for international courses. Since all assessment was conducted online this model was likely to incorporate a greater diversity of assessment forms and high-end technology options were available through the course development team if appropriate. In terms of systematic course-development approaches this model also applied to all subjects within the course sequence and was not just associated with an individual academic or a single subject. It was integrated with a systematic approach to quality processes and benchmarked against instructional design criteria and processes.

#### **5.7.4 The three models: Relation to the literature**

##### **5.7.4.1 Model one (M1)**

What is apparent in the literature around the intersection of educational development, assessment and e-learning is the lack of widespread acceptance of position descriptors (Fraser, 2001; Bird, 2004), the importance of understanding the contexts in which developers are working (Ryan et al., 2004) and the possibilities of mapping the orientations of educational development against the organisational culture (Land, 2001; McNay, 1995). In terms of learning, teaching and assessment Prosser and Barrie (2003) conclude that any institutional process of academic development is underpinned either by explicit or implicit models, values and theories of student learning. Other critical components are the unique contextual features of different institutions, their organisational structures and leadership components that have been outlined in Figure 5.4.

The on-campus model of educational development and assessment was associated principally with traditional undergraduate, face-to-face teaching where some elements of e-learning and assessment online were being introduced; individual academic autonomy and working with educational developers on an invitational basis were core values. The model was aligned with a tradition of academic development informed by scholarship and critical reflective practice. As Blackmore et. al., (2003) observe, this tradition is linked with the emergence of academic staff development units in the UK in the 1960s. Important areas of professional interest for academic staff developers identified by Trigwell (2003) include student learning, reflective practice and

conceptions of teaching; Gosling (2001) adds other roles such as their work in improving teaching and assessment, as well as the professional development of academic staff.

Kandlbinder (2003) notes that academic staff development has been aligned with the individualist culture of academia and that many academic staff developers have perceived on-line learning as supplementary to their mainstream activities.

The importance of communication and relationships in the model were associated with transformative change based on core values that were negotiated, not imposed, and in Smyth's (2003, p. 15) view, this authentic consultation needs to be linked with comfortable timeframes for discussion and reflection on teaching practice. Yet, as has been noted in this study, and by CS5 in particular, staff who worked with educational developers during the semester were not able to change assessment practice until the following semester because the Subject Outlines had been finalised; furthermore, in CS5's experience, many academics did not interact with educational developers at all, so there were problematic dimensions in practice.

Some respondents in this study, including CS1, CS2 and CS5, were formally involved in teaching accredited courses such as a Graduate Certificate of Higher Education and within these courses there were subjects on assessment and e-learning where texts by authors such as Biggs and Ramsden were studied. The theorising of these authors about assessment and concepts such as constructive alignment, were obviously discussed and possibly adopted by teaching staff in courses for which they were responsible.

If one accepts Prosser and Barrie's (2003) view that any institutional process of academic development is underpinned either by explicit or implicit models, values and theories of student learning, then in M1 some of the implicit values require clarification. In this model, if assessment occurred online, it was within a blended learning environment, based on approaches that applied to all forms of assessment with no predisposition to use the online environment. Where choices were made to conduct forms of assessment online, educational development advice may have focussed on questions of appropriate and efficient ways to do this; after resolving questions of 'why' there was a transition to 'how best to'.

In M1 some of the implicit values and major drivers of assessment were from outside the system. Such examples were an institutional assessment culture that required two major assignments and an exam in the case that has been described by CS4, a differential form of funding to faculties based on student feedback in course questionnaires about learning, teaching and assessment at the university (University of Sydney, 2006a) where Prosser and Barrie (2003) were teaching; or indeed through teaching and assessment processes associated with AUQA auditing (2006). Such factors were incorporated in Figure 5.4.

#### **5.7.4.2 Model two (M2)**

Bird's (2004) study detects a proliferation in the diversity of job titles under which developers and designers are employed to support various forms of e-learning in Australian universities. The Beetham et al., (2001, p. 3.) UK study also recognises the influx of new specialists supporting e-learning in higher education and specifically notes that "educational developers must also ensure they acquire new skills in learning technology". Whereas M1 was attuned to the traditional decentralised culture of universities that Boezerooy (2003) describes, M2 introduced more strategic elements to support e-learning without adopting a whole-of-institution approach.

Academics rarely possess the full spectrum of skills in using online technologies so with the influx of developers and designers within universities revealed in the Bird (2004) and Beetham et al., (2001) studies, it is predictable that motivated individual academics, given the recurring themes of workload and time pressures, would take advantage of the new forms of support to introduce innovation in online assessment. A selection of professional development web pages from three Australian universities presented in Table 3.2 shows that this support was available in various configurations and structures. From an academic's perspective it was immaterial whether this support was available from staff in a centralised unit, or at faculty/school levels; their primary concerns are ease of access, quality of advice and just-in-time-support. If the educational developer has access to a course team, as was the case with CS2 and CS3, for instance, this introduces more diverse perspectives and expertise.

In M2 educational developers are informed by appropriate theory which addresses the key educational development and "change agent" skills that Beetham et al. (2001, p. 3) refer to but they also coordinate technology specialists who focus on design and development. In this model there is an appropriate balance of the *why*, the *how to* and *how best to* in conducting assessment online, although within the same universities academics may have sought to work directly with technology support independently of an educational developer. In this model, free choice, motivation on the part of the teaching academic to introduce innovation in online assessment, the principle of academic autonomy and the linkages of the educational developer with the course team are underpinning values.

#### **5.7.4.3 Model three (M3)**

This model is associated with the strategic delivery of off-campus or off-shore courses and is extensively supported in the literature (Fraser, 2001; King, 2001; Mason, 1998; Reid, 1999; Taylor, 2001). In its fully developed form it is almost a whole-of-institution approach and has been researched, indeed supported, by decades of studies in journals such as *Open Learning*



and *Distance Education*. M3 could be associated with dual-mode universities in Australia such as Charles Sturt University, Deakin University and the University of Southern Queensland or internationally with such institutions as the Open University (UK).

Educational development in M3 is closely allied with instructional design (Kember & Mezger, 1990; Allen, 1996; George & Wood, 2003; McGriff, 2000; Reeves, 2001; Wakefield et al., 2001) but this position descriptor is problematic for some traditions of academic and educational development. In an earlier era of distance education, Kelly (1987) described the hybrid role of instructional designers in Australian universities, noting that many academics were stifled by demands for planning, scheduling, course preparation and designing activities for invisible students. In the section on *Educational development: Inclusive of other position titles?* in the literature review in Chapter Two, instructional design was linked to behaviourism, design of learning activities for off-campus students, a mandatory requirement in some universities that academic staff work with an instructional designer attached to their school, project management, curriculum design and even technical and editorial roles. However, there are also studies (Gros, 1997; de Lisle, 1997; Moallem, 1998; King, 2001; Collis and Moonen, 2001; Sims et al., 2001; Karagiourgi and Symenou, 2005) indicating that constructivism, the convergence of distance and traditional on-campus teaching and the growth of e-learning are significantly changing traditional instructional design practice.

Although M3 exists as a sub-system in traditional universities, or as part of hybrid, blended or integrated learning or perhaps as an advanced form of open, distance or flexible learning, the essential point is that it is a highly structured system with mission-critical dimensions in its mature form. Peters (1994) describes distance education as a form of industrialised learning and teaching but its course team processes, project management underpinnings, systems support and extensive personnel brought considerable staffing and resources to supporting staff and designing assessment.

Within M3 nearly all forms of assessment are submitted online and there are systems approaches for all stages of development, aligned with strategic courses, leadership priorities and institutional planning. M3 systematically mainstreams M2 processes across the institution and in many cases establishes a different culture of development. Course teams, clear scheduling for development and design of learning resources, often a semester ahead of delivery, provide a different institutional environment. The forms of assessment that could be developed within M3 are along the full spectrum, although student numbers and planning have to justify staffing and resourcing allocations for such projects. Essentially M3 involves a systems approach to educational development and curriculum design. Courses associated with

Macdonald and Mason (Macdonald, 2004; Mason, 1999) may be developed several semesters in advance and the evaluation and refinement continue on an ongoing basis; staffing and resourcing at each stage are significant. In M3 high-end technology is used to enhance assessment online and this can be traced over generations of distance education technologies (Taylor, 2001). Many advanced studies of assessment conducted online are found within this tradition.

#### **5.7.5 Summary of findings for RQ4**

The critical elements in educational developers' thinking about assessment include their organisational roles, the views of educational development, the approaches they adopt, their thinking about learning, teaching and assessment, and how this impacts upon assessment conducted online. Educational developers' thinking about assessment has been represented in three models: Assessment online in traditional campuses (Figure 5.6), Assessment online with a project focus in traditional campuses (Figure 5.7) and Assessment online for off-campus or off-shore delivery (Figure 5.8).

## Chapter Six: Conclusions and implications

### 6.1 Preview

Chapter Six returns to the research problem outlined in Chapter One and summarises how this study has addressed the problem. A discussion of the theoretical implications of the study and how it has contributed to established research in the field is then presented. Implications for policy and practice are explored, with a brief section on limitations of the study. Finally, some suggestions for further research in the field are proposed.

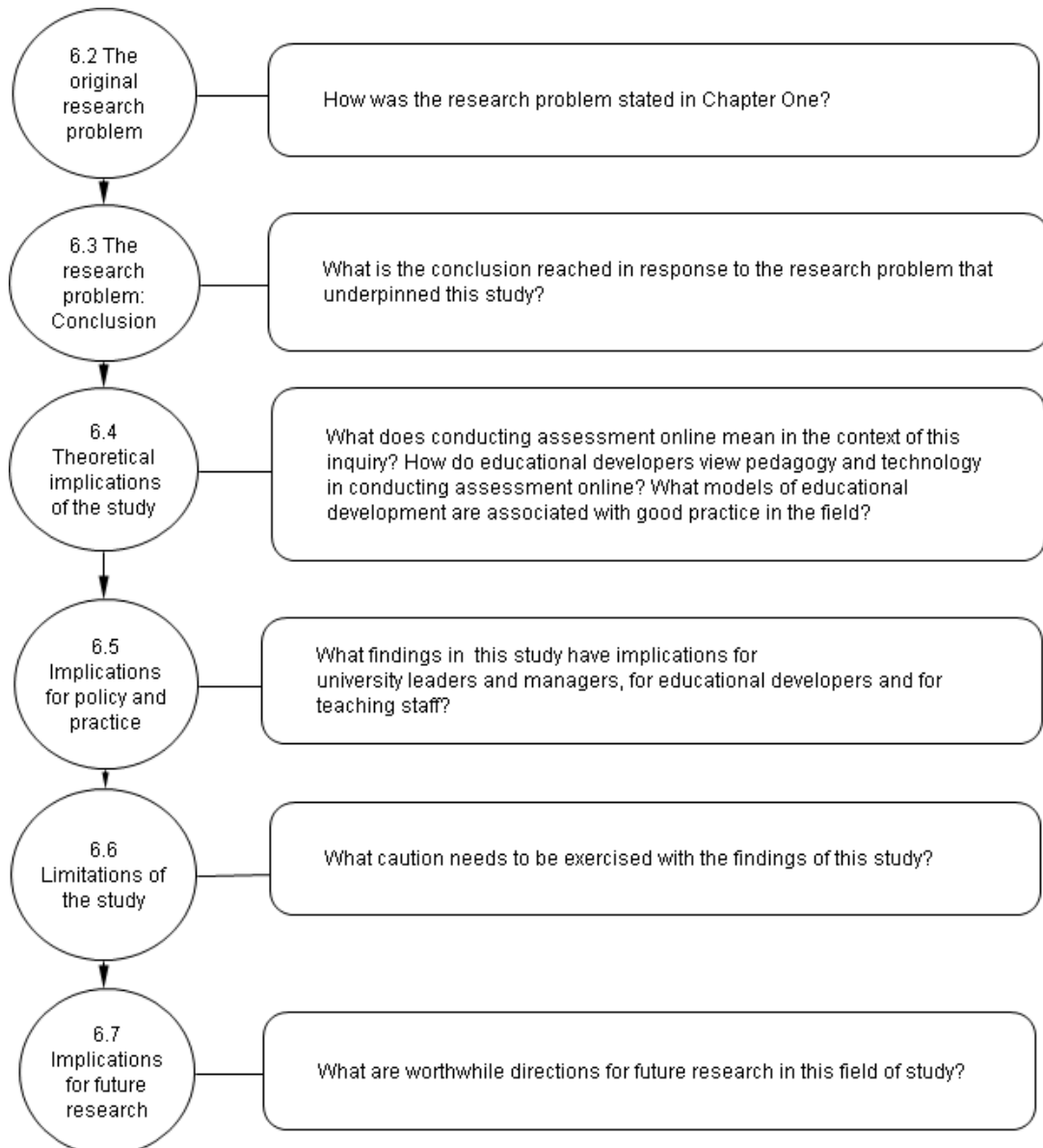


Figure 6.1. Preview of Chapter Six

## 6.2 The original research problem

In Chapter One the research problem at the core of this study was stated thus:

*The research problem which this study investigates is: what are the critical elements in the perspectives of educational developers about assessment when it is conducted partially or fully online?*

Findings in response to the four research questions designed to assist in exploring this research problem were presented in Chapter Five. Findings on the research problem statement are presented in the following section.

## 6.3 The research problem: Conclusion

Assessment was recognised by all respondents as a critical point of intersection for learning and teaching. With the introduction of online components, assessment advice by educational developers remained strongly grounded in general theory about assessment.

Despite frequent use of terms in the literature such as ‘e-assessment’ or ‘online assessment’, participants in this study did not concede that assessment conducted online constituted a new or distinct category of assessment. The concepts that underpinned good assessment practice in face-to-face teaching such as constructive alignment, the provision of formative feedback, variety in assessment and substantial curriculum design incorporating clear learning outcomes also provided the same rationale for assessment that was conducted partially or fully online. That is, educational developers’ perspectives about assessment conducted online are pedagogically rather than technologically based. Despite an obvious acquaintance with educational technology, the starting point for educational developers in this sample has been consistently the learning design rather than the technology.

Participants’ individual thinking however is influenced by concepts such as the ‘affordances’ or ‘the enabling features’ of the technology although they did not generally use these terms when advising staff about assessment. Technology affordances included:

- the immediacy of feedback provided by electronic pathways;
- administrative benefits and time-savings associated with automated marking and systems for managing marks and grades;
- the capacity to create rich case studies through a range of multimedia files;
- options to provide formative feedback and model answers to students at appropriate points in the learning sequence;

- capabilities to enhance different forms of interaction through online discussions and chat; and
- support for different approaches to learning such as constructivism.

There is a disposition to use the enabling features of educational technology in supporting the design of assessment. Since participants' characteristics include technological competence or access to technology services, their learning designs maximised the affordances of the technology such as the communication options in threaded online discussions or the automated assessment capabilities of learning management systems.

Concepts such as affordances, interactivity and asynchronous learning, associated with the new learning technologies, are not part of the respondents' primary discourse about assessment. Once the pedagogical decision about assessment has been determined however, and the form decided upon, other decision-making processes are implemented. If assessment is to be conducted partially or fully online, the question of how to do this most efficiently becomes the focus. In this sense thinking about the enabling features of the technology, about interactivity, synchronous and asynchronous learning, is used to enrich the design of assessment and to address issues of workload, assessment administration and time-savings that are uppermost in the minds of many teaching staff.

What has been described constitutes individual professional assessment practice by educational developers but this practice is mediated by institutional contexts. There are promoting and constraining elements within the organisational structure and examples include:

- how educational development is conceptualised e.g., whether developers work individually or as members of course teams with access to the expertise of a range of specialists and whether the role of the educational developer is to support all staff, or only those engaged in flexible delivery, or whether the role revolves more strategically around support for off-campus/off-shore delivery;
- lecturers' conceptions of teaching and assessment, as well as the extent to which they interact with developers and act upon advice. The latter issue is generally a problematic area in this study because of insufficient data or processes to verify academics' adoption of advice;
- the quality of program development and strategic leadership, as well as priorities, resourcing and support around teaching and assessment; and
- other features unique to particular university settings, including institutional policies, strategic leadership and implementation approaches.

These elements address the research problem but within different educational developers' perspectives in the sample group, some unresolved issues remain. There are contrasting approaches between CS1 and CS5, formally classified as academic staff developers, who adopt a humanistic, relationship-based form of educational development with a more explicit focus on an invitational ethos. The remaining four participants, CS2, CS3, CS4 and CS6, are more project-focussed, course-team based and work within an organisational context to enhance flexible delivery, e-learning and assessment generally. Their approaches to educational development are characterised by different orientations and priorities around practice: the first is associated with academic staff development and focusses primarily on the academic, whereas the second approach places a higher emphasis on the learning resources and assessment strategies that evolve from working with the academic.

## **6.4 Theoretical implications of the study**

This study advances upon earlier research findings by focussing on the intersection around assessment, educational development and conducting assessment online. More specifically it has progressed Mason's (2001, p. 34) observation of a lack of understanding about how to design appropriate assessment in e-learning and Reeves' (2002) perspective that assessment is a weak component in digital education.

The most significant finding from a theoretical perspective is in relation to the terms *e-assessment* or *online assessment*. Despite the widespread usage of these terms in the literature, participants do not recognise e-assessment as a separate category of assessment. Assessment conducted online is conceptualised in the same way as assessment in face-to-face settings, or assessment conducted in print, or any other mode of delivery.

The concept of e-assessment as equivalent to automated marking using technology (SCROLLA, 2006) is most definitely rejected by respondents. While participants accept that this form introduces elements of efficiency in marking, it is not regarded as significantly different from assessment that has been conducted on paper, sometimes in tandem with other machine marking methods, for many decades. Efficiency in marking and immediacy of feedback are recognised as the most significant affordances, especially for formative assessment.

Educational developers in this study possess clear theoretical understandings about how to design appropriate assessment in online environments: they are aware of a broad spectrum of assessment forms that can be conducted online using the technology affordances but again these are underpinned by theoretical models such as collaborative learning, advanced problem-based learning, reflective and metacognitive learning that can be assessed in any learning

environment. Essentially, their views about assessment online can be aligned with more general approaches to learning such as problem-based learning, constructivism and other theories of learning.

The findings of the study have theoretical implications for educational development around assessment, technology-mediated learning and assessment conducted online. The models of educational development to support academic staff using the new learning technologies for assessment in this study are located centrally. Some respondents, particularly CS4, proposed an integrated development model involving the co-location of educational development and educational technology; and the practice of CS5 was based on educational developers working in particular faculties or discipline clusters. Of considerable significance in this study is how educational development is based on one-to-one working relationships between the individual developer and an academic, a model that aligns with traditional principles of academic autonomy and the individual academic. This is counterbalanced by unit organisational approaches based on one-to-many, where the educational developer works as part of a course team or where the educational developer works at the course level with many academics, as CS1 described. Devolved models are not encountered in the sample group, although CS5 allocated days in particular faculties while assigned to a central unit.

With the convergence of distance education and traditional on-campus teaching, there is evidence that distance education approaches, formally associated with the characteristics of at least four of the participants, were influential in flexible learning centres. Respondents CS2, CS3, CS4 and CS6 have had previous experience in distance education and are now working in such centres. Distance education course development processes, including instructional design, are coalescing into course development processes for online delivery that incorporate the design of assessment. There is also a clear theme in the cases of CS2, CS3, CS4 and CS6 that the intellectual traditions informing the design of assessment conducted online are imbued with constructivism and a more intuitive curriculum practice, rather than rigid forms of behaviourism that are associated with earlier instructional design models and pre-determined, packaged learning. The impact of constructivism upon traditional instructional design practice is commented upon in the literature review (Karagiourgi & Symeou, 2005) and has important implications for the design of assessment in online environments amongst four of the participants.

Finally, the implications for inter-related disciplines become apparent because the perspectives of educational developers about conducting assessment online can not be extricated from the

organisational cultures and contexts in which they work. This was represented in Figure 5.4 and

Although this inquiry is primarily driven by a learning/teaching impetus, respondents describe a complex spectrum of factors that impact upon the assessment advice that they provide to academic staff and these can not be confined simply to pedagogical issues. The backdrop of theoretical perspectives from management, university organisational culture, leadership in higher education and contemporary government agendas are significant influences although these fields remain more peripheral to the study. The design of assessment conducted online is not just privately developed, following discussions between the educational developers and the academic; it has to be understood in much broader systems contexts. Figure 6.2 encapsulates educational developers' perspectives on the dynamics of conducting assessment online. Given contemporary developments in higher education, educational development practice is broad, evolving and multi-faceted and so it is difficult to represent participants' thinking about assessment online in simple terms.

## **6.5 Implications for policy and practice**

The three models developed in this study, assessment online practice in traditional campuses, assessment online with a project focus in traditional campuses and the strategic, off-campus/off-shore framework, have significant implications for three groups of staff within universities: university leaders and managers, educational developers and teaching staff.

### **6.5.1 University leaders and managers**

In Australian higher education there is an increased focus on the quality of learning, teaching and assessment through agencies such as AUQA (2006), the DEST Learning Teaching Performance Fund (2006) and the Carrick Institute for Learning and Teaching in Higher Education (2006). An examination of the Carrick site (17 September, 2006) revealed a series of projects on assessment with the emphasis on scholarly disciplines in areas such as the Biological Sciences, Law, Accounting and Media and Communication. This study suggests specific strategies for university leaders and managers interested in enhancing the quality of assessment practice within their institutions.

At a fundamental level, respondent CS5 indicates the importance of the link between assessment and the graduate attributes universities seek to promote in their students. CS5's perspective is that until this has been adopted at the individual level, change has not occurred.



### Recommendation 1 – Graduate attributes

University leaders and managers in the area of learning and teaching should focus systematically on linking assessment and generic attributes in all courses and these linkages should be made explicit in all subject outlines and in courses conducted partially or fully online.

In the assessment framework for the second round of interviews, there are a series of assessment forms derived from the literature that could be conducted online. Many of these assessment activities are encountered and promoted by educational developers. What becomes apparent in the framework, however, is that particular forms of assessment, such as advanced problem-based learning and advanced forms of automated marking, can not be developed easily from the model of an educational developer working individually with a single academic. Educational developers and academics generally lack the full range of pedagogical and technological competencies to conduct assessment in these complex categories.

The critical issue is the combination of institutional processes, procedures, educational development and infrastructure to support academics to develop innovative and advanced assessment online practice. A system of internal competitive teaching grants is a feature of many universities and there are also external grants through such agencies as DEST (2006), the Australia Research Council (ARC, 2006) and the Carrick Institute (2006). These are not mainstreamed within universities, however, and are only awarded to a small number of innovative staff that submit applications in a national competitive process. The question for many leaders and managers is how educational development is conceptualised and delivered within universities to optimise outcomes in the way universities best support staff and assessment practice in all modes of delivery.

Where leaders and managers can have a decisive strategic impact is to ensure that the linkages between the pedagogical and technological centres within universities are synergised to promote a full range of assessment online practices. Without this higher level support and intervention, there is evidence (Byrnes & Ellis, 2006) that only a small range of assessment forms flourish in the online environment. Table 6.1 outlines some of the pedagogical and technological considerations.

**Table 6.1. Forms of assessment online and technology/pedagogy considerations**

<b>Assessment Type</b>	<b>Examples</b>	<b>Technology Considerations</b>	<b>Pedagogy Considerations</b>
<i>Traditional assessment</i>	Essays Reviews	Assignment drop boxes within Learning	Values such as critical thinking are assessed and

<i>submitted online</i>	Reports Case Studies	Management Systems (LMS) are used as a delivery system.	marking is independent of the delivery system.
<i>Automated assessment</i>	Multiple choice Short answer Matching Calculation	Questions often developed within LMS templates and electronic marking are automated.	Addresses general and specific feedback concerns and can be used for self-assessment, diagnosis, as well as formative feedback
<i>Automated assessment – advanced options</i>	Multiple choice Short answer Matching/label matching Calculations/randomly generated answers Drag & drop	Questions may be developed using specialist programs such as Respondus or Questionmark, Hot Potatoes; options of graphics, animations, audio, video, and multimedia publisher plug-ins; more sophisticated range of file formats JPEG, WAV.	Immediate feedback, self-assessment and formative assessment; can address higher order critical thinking; and can be used for formal grades in summative assessment.
<i>Invigilated online exams – (mid/final semester)</i>	Range of formats Multiple choice/ short answer, automated Longer essay type	Importance of performance under robust conditions.	Addresses concerns of plagiarism, reliability validity and security.  Appropriate for professional accreditation standards.
<i>Group projects</i>	PowerPoint presentations CD-ROMs Group online projects Laboratory reports Networked collaborative learning	The IT competencies of students and staff are relevant. Email systems such as Wimba allow voice attachments. Use of group pages.	Stories, professional experience and generic skills can be included; activities based on learning objects can also be incorporated within assessment.
<i>Online discussions</i>	Forums	Lower-tech option but	Promotes collaboration,

	Online debates/role plays	students need to be able to reply, quote and maintain discussion threads.	interaction, critical engagement with issues but requires e-moderation competencies to manage and keep on track.
	Invited online guests		
	Allocation of roles (lead, summarise, weave, provoke)		
<i>Authentic assessment</i>	Simulations	Options such as audio or video streaming, CD-ROMs, DVDs and wireless technology.	Theory/work integration. Consultancy skills
	Critical incident analysis		
	Case studies		
	Access to external databases		
<i>Critical reflection and meta-cognition</i>	Electronic portfolios	Requires a file system, dedicated server or database repository for portfolios if they are to be maintained over several years rather than for a semester.	Design of reflections to situate learning. Options for self-assessment and use of rubrics for assessment.
	Online journals		
	Embedded reflective activities		
<i>Advanced problem-solving</i>	Problem-based learning scenarios	Advanced web site construction; can incorporate specially created tools and links to external sites.	Novice/expert schema  Learning outcomes based upon observation, explanation and prediction. Multiple resources and perspectives are a feature.
	Learning contracts		

Pro-Vice Chancellors (Academic), directors of educational development units and educational developers need to be aware of the importance of integrating pedagogy and technology to promote the full range of assessment online practices that appear in Table 6.1. There are also other higher-level, strategic initiatives that the following recommendation encapsulates.

### **Recommendation 2 – Institutional design and delivery of educational development**

To more effectively support e-learning and assessment online, institutional synergies between educational development and educational technology units within universities need to be specifically developed and options include:

- i) Promotion of approaches based on a course-team model that consists of the teaching academic(s), educational developers, learning technologists, multimedia specialists such as programmers, web developers, graphic designers and other specialists;
  - ii) If a whole-of-institution approach is dissonant with the organisational culture of the university, an alternative strategy is to adopt the on-campus, supported model (Figure 5.8) that supports innovative approaches to assessment conducted online;
  - iii) Closer linkages of educational development units and technology units within universities should be explored including co-location, integration, combinations of central and devolved one-stop shop models; and
  - iv) Where advanced forms of assessment involving sophisticated use of technology are conducted online, lead-times for development should be a year in advance with sufficient resources allocated for evaluation, piloting and quality assurance.
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Respondents recognised that in the conduct of assessment online there are significant issues revolving around electronic plagiarism, questions of identity and security for exams conducted online and how these were applied. There are also concerns about the criteria for assessing online discussions. Plagiarism has been traditionally addressed in university assessment policies but in terms of using plagiarism detection software such as Turnitin (2006) there are a range of issues and so it has been included here. Comments from respondents and an examination of more than thirty assessment policies on Australian university websites (June 25, 2005) reveal that, although there has been a burgeoning of online courses, this is not accompanied by sections in university assessment policies that address the conduct of assessment online. In instances of possible plagiarism, the incentives for staff or sessional tutors to gather confirmatory evidence from databases or other resources while they are marking assignments varies in institutional contexts.

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### **Recommendation 3 – University assessment policy and the conduct of assessment online**

- i) University assessment policies should include sections that specifically address the conduct of assessment online. Sub-sections should address issues such as procedures for validating identity of users, whether and under what conditions online invigilated exams will be permitted and what arrangements are made in the case of server/technical failures.
  - ii) In instances where teaching staff have concerns about plagiarism, there should be an electronic system that enables them to submit assignments to confirm or reject these initial concerns. Software should be available that enables staff to check assignments for matching text against all assignments in that unit, against assignments in similar units in previous semesters and against similar assignments in external databases. Preferably plagiarism
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detection services based on matching text, should be offered as a general independent service, with no time or financial imposts to the academic initiating the inquiry.

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### **6.5.2 Educational developers**

Educational development units are critiqued by Lee (2005) as generally being service units, structurally separated from the broader university. Hansen, Salter, Simpson and Davies (1999) also indicate that it has traditionally been difficult to integrate their work into the university and some units in the UK have been disbanded because they had lost a service culture. Beetham et al. (2001) note the increasing employment of multi-skilled, peripatetic new specialists in the UK higher education sector. Such roles as materials developer, project manager and general learning technologist are increasing and an important conclusion in their study is that educational developers need to develop some skills in learning technology to be effective in supporting learning and teaching that is mediated by educational technology.

With similar patterns occurring in Australia (Bird, 2003, 2004) there is also a likelihood that educational developers will be unfavourably compared with the new learning technologists and so there is a strong impetus to be demonstrably adding to teaching and assessment when new technologies are being adopted. Educational developers are uniquely placed to show that good practice in the conduct of assessment online is not simply a matter of hardware and technology; it requires substantial theories about learning and teaching. They may also be aware of instances where traditional pedagogies are ill-suited in the new assessment online environment.

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### **Recommendation 4 – Contributions of educational developers to assessment online practice**

Educational developers need to be able to:

- i) recommend the design of assessment activities that optimise learning and the affordances of networked computer technology;
  - ii) advise academics about the design of appropriate assessment online practices in different disciplines and cross-cultural contexts;
  - iii) promote the design of appropriate assessment activities that enhance valid and reliable assessment;
  - iv) suggest designs for authentic assessment online;
  - v) convey the potential of the online environment to deliver formative feedback;
  - vi) relate assessment to deeper learning and go beyond automated assessment models;
  - vii) draw upon appropriate theory such as constructivism or problem-based learning in the
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design of online assessment activities; and

viii) develop professionally through activities such as conference attendance and involvement in research projects so they are aware of innovative assessment practices.

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### **6.5.3 Teaching staff**

A significant participant observation in this study was that at least half of the university teaching staff do not liaise or have any interaction with educational developers. Lecturers may not have been formally exposed to innovative assessment practice; furthermore, as reported in the literature, they may simply reproduce discipline-models and practices to which they have been exposed, often as students (Northcote, 2003).

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### **Recommendation 5 – Teaching staff**

Studies should be conducted to determine the extent to which teaching staff interact with educational developers and the extent to which their advice is adopted, including the conduct of assessment online. After this evaluation has been completed, further initiatives may include:

- i) developing workshops and support programs for teaching and sessional staff that address the conduct of assessment online;
  - ii) recognising and rewarding innovative assessment practices;
  - iii) developing targeted collaborative teaching grants which enhance the quality of assessment, including assessment conducted online; and
  - iv) encouraging teaching staff to collaborate and benchmark at a national level with discipline peers in relation to assessment conducted online.
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## **6.6 Limitations of the study**

This inquiry has consisted of a series of multiple case studies within a qualitative research paradigm and its limitations have already been outlined in Chapter Three. It needs to be emphasised that findings and recommendations from this study are not necessarily generalisable to other settings because of the contextual and institutional factors in which the case studies were so intricately embedded. Other forms of research within a positivist paradigm may confirm the findings and establish to what extent they are replicated in a larger selection of educational developers.

## **6.7 Implications for future research**

Samuelowicz's study (1999) concludes that there is a rather modest literature on how assessment is conceptualised and it has become evident (Harris et al., 2002, p. 904) in this inquiry that "in many cases much of the expertise is so new that it is yet to be documented".

Several research issues emerge from this study that will be valuable exploration points for future studies.

There are some differences in the characteristics of educational developers in terms of their classification, the intellectual traditions upon which they base their practice, their status and the roles they undertake. There are varying degrees of involvement in teaching and research, as well as in their becoming directly involved in technology applications. The extent to which Educational Development Units develop a service culture is also an issue. The challenge is to strike an appropriate balance between a service culture and the conduct of research, evaluation and teaching.

There are participant comments in this study that one's classification as an academic staff member, a member of general/support staff or working on a contractual basis are significant on occasions in working with academics, so it is an issue worth investigating.

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**Further research – Institutional policy and the roles of educational developers**

In terms of successful educational development practice in assessment online, the significance of the distinction (if any) between being an academic member of staff and a member of the general, support or contract staff needs to be investigated. Other research questions include:

- i) To what extent is being a teaching practitioner important in working alongside and advising academics about assessment? Is one's advice more likely to influence academic assessment practice online if one is involved in teaching and research?
- ii) What is the appropriate balance in educational development units in developing a service culture, engaging in research and publication and involvement in teaching accredited courses?

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Educational developers' thinking about assessment in this inquiry has been represented within an individual/institutional framework that is highly contextualised. Two issues remain problematic and further research may help to resolve them.

The first is related to assessment outcomes and CS5's observation that many academic staff, indeed as much as half within her/his university, did not interact with educational developers. This raises questions about the breadth and depth of the impact of educational developers upon learning, teaching and assessment. It also raises questions about models of working with academics.

The second issue is located in the bottom half of the model (Figure 5.4) within the institutional influences and is described as *7 .Issues, concerns* that introduced DEST and government quality agendas such as AUQA (2006) and the Carrick Institute (2005). As an example, the Learning and Teaching Performance Fund (DEST, 2006) rewards higher education providers

that demonstrate excellence in learning and teaching but established university processes and systems need to be in place to secure funding. The research area of interest is on the types of university processes, structures and models that achieve the most successful outcomes in this area and attract funding. Of specific interest is how universities, and educational development units in particular, support academics to become nationally competitive in terms of receiving grants and awards for learning, teaching and assessment.

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**Further research – Institutional policy and the impact of educational developers upon assessment practice online**

- i) There is a need to conduct comparative evaluations of assessment practice online of teaching staff who work with educational developers and those who do not. These evaluations should incorporate qualitative and quantitative research to identify the significant contributing factors to assessment online practice that promote deep learning.
- ii) The extent to which educational development units are changing to qualify for DEST and Carrick grant funding in areas such as assessment online needs to be investigated. How these changes impact on previous roles also needs to be addressed.

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Significant assessment issues identified by participants in this study are being researched, particularly electronic plagiarism, generic attributes, criterion-referenced assessment and international issues. The area of assessing online discussions was found to be problematic in the study but research on learning communities, e-moderation and computer-mediated communication is continuing. Unresolved issues are gradually being addressed.

In terms of the three models developed in the study, presented in Figures 5.6, 5.7 and 5.8, there is no doubt that the first model, associated with more traditional educational development, is also aligned with academic autonomy, on-campus teaching and modes of delivery that involve very little fully online teaching. This is the case in most Australian universities but exceptions would be institutions where distance education and off-campus delivery is mission-critical. Models two and three involve increasing and more strategic linkages between pedagogy and technology and in future research this is a significant area of interest. The evolution of best practice in universities to support teaching staff in integrating pedagogy and technology in assessment online is an ongoing theme for further research.

Model three is primarily associated with universities where flexible learning strategic courses are delivered either off-campus or off-shore. This mode of course delivery is mainly associated with distance learning institutions but convergence of off-campus and on-campus delivery has been occurring within flexible learning centres for some time and it remains an interesting area for researchers. Should model three be adopted more widely, a paradigm shift will be required



in curriculum development where the collaborative input of all those involved in teaching the course becomes more significant.

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#### **Further research – Institutional practice and assessment online models**

- i) Is there evidence that collaborative course development processes based on course team inputs and strategic integration of pedagogy and technology (as represented in Figure 5.7 and Figure 5.8) contribute to a broader range of assessment practice online?
  - ii) Will constructive alignment of assessment in subjects that have online components be enhanced if each of the three models is implemented?
  - iii) What are the characteristics in institutional settings that will be most likely to ensure that the full spectrum of assessment forms are implemented online?
  - iv) What types of educational development advice within each of the models is most likely to advance good practice in the area of assessment conducted online?
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### **6.8 Conclusion**

This inquiry has explored critical issues around the intersection of assessment, educational development, technology-mediated learning and assessment conducted online. The perspectives of educational developers in all of the case studies that constitute the basis of this inquiry have been delineated and are quite diverse. The models and frameworks that have been developed from educational developers' perspectives have the potential to considerably enhance the conduct of assessment practices online. Significantly, assessment is at the heart of the learning process for most staff and students. A major theme to emerge from the study, however, is that no matter how scholarly and capable educational developers are in the area of conducting assessment online, their professional practice, relationships and advice to academics can be enhanced or constrained by many settings within their broader institutional environment.

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## Appendices

### Appendix A: Participant Information Sheet



University of Wollongong

*Australia*

#### HUMAN RESEARCH ETHICS COMMITTEE

#### Participant Information Sheet

<b>Research Title</b>	<b>How educational developers structure their thinking about assessment for online delivery</b>
<b>Researcher</b>	Peter Donnan
<b>Background</b>	This study is being conducted as part of a Doctor of Philosophy degree supervised by Dr Gwyn Brickell (Faculty of Education) and Dr Christine Brown (CEDIR) at the University of Wollongong.

As a doctoral student, I want to find out:

- The scope of current online assessment practices
- How educational developers conceptualise online assessment
- What factors influence their thinking about online assessment
- How educational developers apply their thinking about online assessment

To do this I am requesting your participation in my research.

<b>The Study</b>	During the course of this study I will be asking you to participate in the following:
------------------	---

- Three semi-structured interviews of between one and two hours, conducted in three consecutive semesters.
- Recording and subsequent discussion of some journal

reflections on subject/project involvement at the second and third semi-structured interviews.

**What you should know**

- I am approaching educational developers who are involved in subjects or courses which are delivered partially or fully online.
- The study will be anonymous and confidential. In both the analysis and reporting of the data neither you nor your institution will be individually identified.
- To ensure accuracy and fairness you will have the opportunity to comment on and amend. interpretations of transcripts of interviews in which you have participated.
- As noted on the 'Consent Form' you are free to withhold consent or withdraw consent to participate at any time.
- Any concerns about the research process can be addressed to the Secretary of the Human Research Ethics Committee, University of Wollongong, (02) .

If, at any time, you have questions about the research, please contact me.

Peter Donnan

CELTS

University of Canberra

ACT 2601

Phone:

Email: [Peter.Donnan@canberra.edu.au](mailto:Peter.Donnan@canberra.edu.au)



## Appendix B: Consent form



University of Wollongong

*Australia*

### HUMAN RESEARCH ETHICS COMMITTEE

#### Consent Form

#### **How educational developers structure their thinking about assessment for online delivery**

**Researcher: Peter Donnan**

I have been given information about **How educational developers structure their thinking about assessment for online delivery** and discussed the research project with Peter Donnan. I understand the researcher is conducting this study as part of a Doctor of Philosophy degree supervised by Dr Gwyn Brickell (Faculty of Education) and Dr. Christine Brown (CEDIR) at the University of Wollongong.

I understand that if I consent to participate in this project I will be asked to participate in:

Three semi-structured interviews of between one and two hours, conducted in three consecutive semesters.

Recording and subsequent discussion of some journal reflections on subject/project involvement at the second and third semi-structured interviews.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time.

If I have any enquiries about the research, I can contact Peter Donnan, (or Dr Gwyn Brickell or Dr Christine Brown or if I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Secretary of the University of Wollongong Human Research Ethics Committee on .

By signing below I am indicating my consent to participate in the research entitled , How educational developers structure their thinking about assessment for online delivery conducted by Peter Donnan as it has been described to me in the information sheet. I understand that the data collected from my participation will be used for a thesis and I consent for it to be used in that manner.

Name: .....

Signed: .....  
...../...../.....

Date:

## Appendix C: First round of interview questions



University of Wollongong

*Australia*

### HUMAN RESEARCH ETHICS COMMITTEE

#### Interview Questions

<b>Research Title</b>	How educational developers structure their thinking about assessment for online delivery
<b>Researcher</b>	Peter Donnan
<b>Background</b>	<p>This is a qualitative, longitudinal study with a participant group of six instructional designers working in Australian universities and it will involve each of them in three semi-structured interviews of between one and two hours, conducted over three consecutive semesters. It seeks findings about:</p> <ul style="list-style-type: none"> <li>• The scope of current online assessment practices.</li> <li>• How instructional designers conceptualise online assessment.</li> <li>• What factors influence their thinking about online assessment.</li> <li>• How instructional designers apply their thinking about online assessment.</li> </ul>
<b>The Questions</b>	This is a semi-structured interview which will include the following questions:

**Professional Background**

1. What is your current job title?
2. How long have you been in your current position?
3. How long have you worked at this institution/and in others in the area of instructional/educational design/development – ie. total years as an instructional designer?
4. What formal qualifications/background helped to secure your present position?
5. What is an approximate percentage of your involvement in on-campus/off-campus/fully online subject/course development?

**Educational development context**

6. What is your understanding of educational development?
7. What have been the most important influences on your educational design practice?
8. What processes, strategies, approaches guide your educational development practice within your institutional context?
9. What factors a) promote b) inhibit your role as an educational developer?
10. How do you determine your effectiveness as an educational developer?

**Online learning, teaching and assessment**

11. What educational development approaches do you adopt in online learning and teaching?

12. What do you see as effective assessment in online environments?
13. What forms and types of assessment do you promote in online learning environments?
14. Are there online subjects/courses which encapsulate a significant contribution you have made to quality online assessment practice?
15. How do you most influence the design of good online assessment practice in your role as an educational developer?

**Change and development in EDs/IDs thinking about assessment for online delivery**

16. What are the critical factors which lead to change and development in your thinking about online assessment?
17. What have been critical incidents/subjects in this semester that represent advances that you have made in relation to online assessment?
18. What influences –  
reading/workshops/models/policies/people/conferences/ staff development etc – have most influenced your assessment strategies during this semester?
19. How do you see your thinking about online assessment evolving in the next semester

Peter Donnan

CELTS

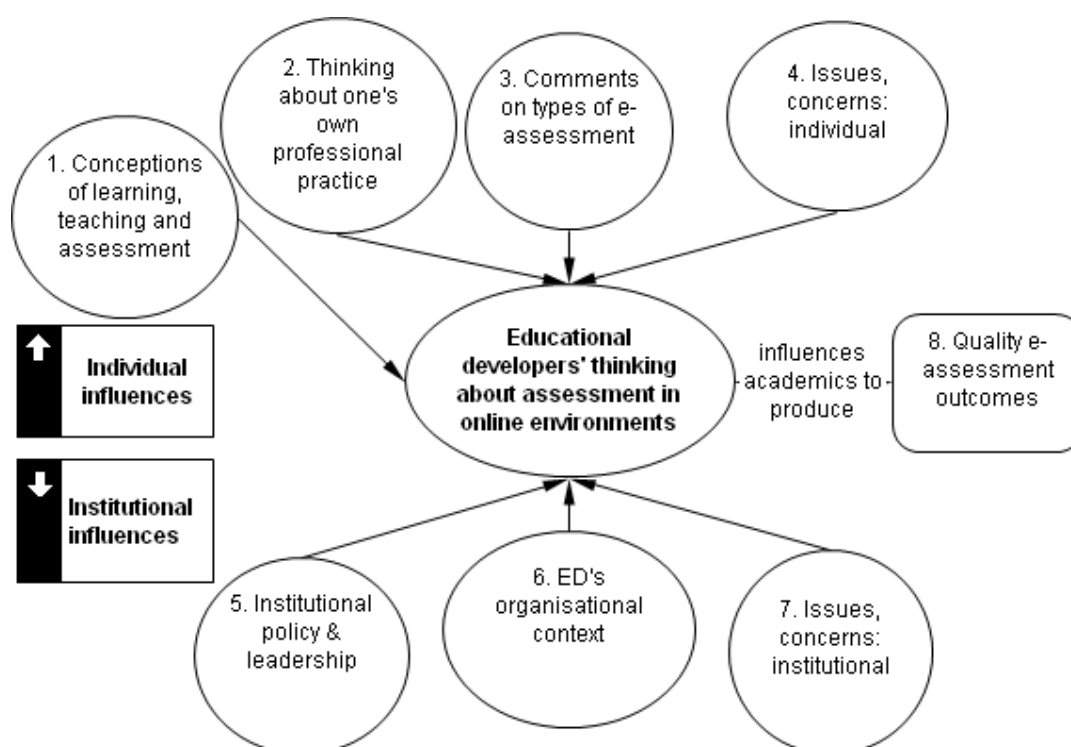
University of Canberra

ACT 2601

Phone:

Email: [Peter.Donnan@canberra.edu.au](mailto:Peter.Donnan@canberra.edu.au)

## Appendix D: Second round of interview questions



[Note: all respondents were shown this figure towards the end of the second interview. They were invited to comment on it, suggest alterations or make additions. Their suggestions are highlighted in Figure 1 in appendices F to K.]

### INDIVIDUAL INFLUENCES

#### 1. CONCEPTIONS OF LEARNING, TEACHING AND ASSESSMENT

##### 1) Relationship of learning, teaching and assessment

Learning, teaching and assessment are integrated									Assessment drives learning and can be separated
•	•	•	•	•	•	•	•	•	•

Comments

## 2) E-assessment: a separate category

The fact that assessment occurs online does not make it different								Assessment in an online environment has distinctive qualities	
●	●	●	●	●	●	●	●	●	●
Comments									

## 3) Assessment : if online, is equivalent to automated assessment

Is best understood as automated assessment								Incorporates other types of assessment	
•	•	•	•	•	•	•	•	•	•

Comments
----------

## 2. THINKING ABOUT ONE'S PROFESSIONAL EDUCATIONAL DEVELOPMENT PRACTICE

### 1) Primary mode of working

I work primarily with individual academics									I work primarily in a course team or with groups of academics
•	•	•	•	•	•	•	•	•	•
Comments									

### 2) Primary focus: on academics' thinking or the external learning resources

My primary focus is more directed at influencing the way academics think about									My primary focus is more directed at influencing the quality of the learning resources.
--	--	--	--	--	--	--	--	--	---



learning, teaching and assessment.									
•	•	•	•	•	•	•	•	•	•
Comments									

### 3) Motivation for academics to liaise

I work on an invitational basis supporting the integration of ICT into learning and teaching and academics work with me because they choose to.								I am an educational change agent with expertise in online learning and institutional quality-related policies require academics to work with me.	
•	•	•	•	•	•	•	•	•	•
Comments									

--

#### 4) Understanding of roles

Important roles associated with my position include:	SA A N/A D SD	Comment
Staff development	SA A N/A D SD	
Transforming learning materials	SA A N/A D SD	
Providing advice about online learning & teaching	SA A N/A D SD	
Advising on assessment	SA A N/A D SD	
Designing learning activities	SA A N/A D SD	
Project management	SA A N/A D SD	
Editorial & structural work	SA A N/A D SD	
Ensuring copyright compliance	SA A N/A D SD	
Placing content online	SA A N/A D SD	
Other roles identified		
	SA A N/A D	

	SD	
	SA A N/A D SD	
	SA A N/A D SD	

### 3. COMMENTS ABOUT TYPES OF ASSESSMENT THAT MAY BE USED ONLINE

<b>Traditional assessment submitted online</b>	Essays	SA A N/A D SD	Comment
	Reviews		
	Reports	Frequently	
	Literature review	encountered in my experience	
	Case Studies		
<b>Automated assessment</b>	Multiple choice	SA A N/A D SD	
	Short answer		
	Matching	Frequently	
	Hot spots	encountered in my experience	
	Calculation		
	Text input (answer not always on screen)		
	Multiple choice	SA A N/A D SD	
	Short answer	Frequently	

<b>Automated assessment – advanced options</b>	Matching/label matching  Calculations/randomly generated answers  Drag & drop  Automated item generation  Construct concept maps	encountered in my experience	
	<b>Invigilated online exams – (mid/final semester)</b>	Range of formats  Multiple choice/ short answer, automated  Longer essay type etc	SA A N/A D SD  Frequently encountered in my experience
	<b>Group projects</b>	PowerPoint presentations  CD-ROMs  Group online projects  Laboratory reports  Networked collaborative learning  Role play/online debate  Use of group pages	SA A N/A D SD  Frequently encountered in my experience

<b>Online interaction</b>	Forum/bulletin board discussion	SA A N/A D SD	
	Email, chat, Networked learning	Frequently encountered in my experience	
<b>Authentic assessment</b>	Simulations	SA A N/A D SD	
	Critical incident analysis Case studies; Story narrative Access to external databases Oral assessment Develop a database	Frequently encountered in my experience	
<b>Critical reflection and meta-cognition</b>	Electronic portfolios	SA A N/A D SD	
	Online journals, logs, diaries, blogs, wikis Fieldwork, practicum reports Embedded reflective activities	Frequently encountered in my experience	
<b>Advanced problem-</b>	Problem-based learning scenarios	SA A N/A D SD	
	Learning contracts	Frequently	

**solving**

Database spreadsheets	encountered in my	
Graphic organisers	experience	
Semantic analysis		

**4. ISSUES, CONCERNS: INDIVIDUAL**

The questions in this segment were devised for each individual participant and followed up issues from the previous interview.

**INSTITUTIONAL INFLUENCES****5. INSTITUTIONAL POLICY & LEADERSHIP****1) E-Learning vision**

There is a clearly articulated e-learning vision and policy relevant to assessment practices.								Future directions and policy for assessment in online environments within the university are not clearly obvious.
•	•	•	•	•	•	•	•	•

Comments.

## 2) Leadership and support

There is strong leadership at high levels and support for e-learning within the university that impacts on assessment.								Strong leadership and support for e-learning and assessment at high levels are not evident.	
•	•	•	•	•	•	•	•	•	•
Comments									

## 6. ED's ORGANISATIONAL CONTEXT

### 1) Infrastructure and technology support

There is supporting infrastructure and technology support for assessment innovations that I recommend.									If assessment innovations I recommend are to implemented it is up to the academic and me to provide technology support.
•	•	•	•	•	•	•	•	•	•
Comments									

### 2) Workload and time available

My workload and time allocation are sufficient for the number of academics/ subjects I		My workload and time allocation are insufficient for the number of academics/ subjects I
--	--	--



support.								support.	
•	•	•	•	•	•	•	•	•	•
Comments									

### 3) Learning management system

The features of the LMS support my assessment recommendation.								The features of the LMS impede some of my assessment recommendation.	
•	•	•	•	•	•	•	•	•	•
Comments									

### 4) How my role is conceptualised and organised within the unit

The way my role is conceptualised by the unit means academics appreciate what I can offer in terms of quality of advice about t/l and assessment.								The way my role is conceptualised by the unit means academics perceive me as an arm of management and may be wary of the quality of advice about t/l and assessment.	
•	•	•	•	•	•	•	•	•	•
Comments									

## 7. ISSUES, CONCERNS: INSTITUTIONAL

### 1) Major issues

Important issues that affect advice for subjects that have an online assessment component include:	SA A N/A D SD	Comment

Plagiarism	SA A N/A D SD	
Academic workload/time	SA A N/A D SD	
Technology support	SA A N/A D SD	
Numbers enrolled	SA A N/A D SD	
Academics' interests		
University policy	SA A N/A D SD	
Time available for development	SA A N/A D SD	
<b>Others</b>	SA A N/A D SD	

## 8) QUALITY E-ASSESSMENT OUTCOMES

<b>Important issues that affect the final quality of assessment in subjects</b>	<b>SA A N/A D SD</b>	<b>Comment</b>
Relationship with academic	SA A N/A D SD	
Time available for	SA A N/A D SD	

development		
Resources and finance	SA A N/A D SD	
Aligning assessment with learning outcomes. t/l activities	SA A N/A D SD	
Level of IT support	SA A N/A D SD	
Government quality initiatives such as AUQA, L&T Performance Fund	SA A N/A D SD	
University policies	SA A N/A D SD	
University leadership	SA A N/A D SD	
Others	SA A N/A D SD	
	SA A N/A D SD	
	SA A N/A D SD	

## 9. GENERAL

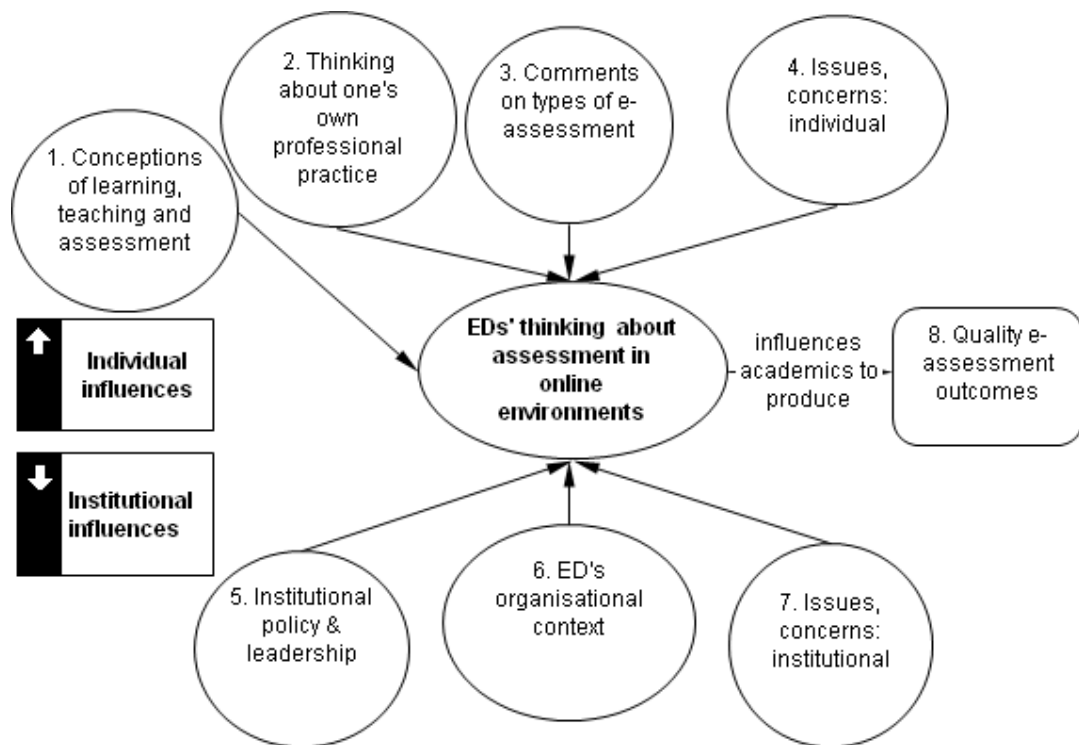
**Finally:**

**Any changes to model on page 1: changes, additions, deletions, insertions?**

**Is there any single source – publicly available - such as a document, paper, website etc that either you or other(s) have written – that encapsulates some of your best thinking on assessment when some or all of it takes place in an online environment?**

## Appendix E: Third round of interview questions

### ROUND 3 INTERVIEWS



[**Note:** Participants received a print copy of Appendix E, including the figure above. The figure had been viewed by participants in the second round of interviews and at that stage they were invited to comment on it and suggest alterations and additions. After the second round, each respondent received the transcript of their interview comments and this included the figure above, as well as any additions they had made to it. For the third interview, the figure was used only to foreshadow the general structure of the interview which consisted in a broad sense of the individual influences and the institutional influences that impacted upon educational developers' perspectives about conducting assessment online. Question Identifiers used for analysis were subsequently added for cross-checking.]

### 1. INDIVIDUAL INFLUENCES THAT IMPACT ON YOUR THINKING ABOUT ASSESSMENT AS IT BEGINS TO OCCUR IN ONLINE ENVIRONMENTS

**Conceptions of learning, teaching and assessment** [Question Identifier: 3.1.1]

Affordances, asynchronous/synchronous, interactivity, learning management systems, alignment, conceptions of learning and teaching, deep and surface learning, formative and summative. Comment on the most useful **concepts/language** which help you to talk about assessment in e-learning environments?

**Individual – one's own professional practice** [Question Identifier: 3.1.2]

Individual – **distinctive characteristics of staff** who work as educational designers/academic developers, etc (substitute their position title given in first interview

how would you best prepare someone to do your job?

position description.

**Forms of e-assessment being adopted** [Question Identifier: 3.1.3]

Traditional assessment submitted online, automated assessment, automated assessment (advance options), invigilated online exams, group projects, online interaction, authentic assessment, critical reflection/metacognition, advanced problem solving

Any change in the patterns of uptake since last time? (refer to figure/table)

**Issues, concerns re assessment** [Question Identifier: 3.1.4]

Any developments, experiences, with assessment going online that you have encountered in your individual practice have impacted on your thinking.

**2. INSTITUTIONAL INFLUENCES THAT IMPACT ON YOUR THINKING ABOUT ASSESSMENT AS IT BEGINS TO OCCUR IN ONLINE ENVIRONMENTS**

**Institutional policy and leadership** [Question Identifier:3.2.1]

(Follow-up specific issues arising from previous interviews)

(Individual questions for each participant/institutional context)

**ED's organizational context** [3.2.2]**Institutional issues** [Question Identifier:3.2.3]**GENERAL OVERVIEW**

Any other influences that have changed your thinking about assessment as it incorporates e-learning since I last spoke with you?

## Appendix F: Additional data: CS1

*Table 1. Characteristics CS1 associated with formal roles*

Important roles associated with my position include:	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>
Staff development	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>
Transforming learning materials	SA	A	N/A	<b>D</b>	SD
Teaching in formal award courses	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>
Presenting workshops on learning and teaching topics	SA	A	N/A	D	SD
	No rating; comment: "Less and less so"				
Providing advice about online learning and teaching	SA	<b>A</b>	N/A	D	SD
Advising on assessment	SA	<b>A</b>	N/A	D	SD
Designing learning activities	SA	<b>A</b>	N/A	D	SD
Project management	SA	<b>A</b>	N/A	D	SD
Editorial and structural support	SA	A	N/A	<b>D</b>	SD
Ensuring copyright compliance	SA	A	N/A	<b>D</b>	SD
Placing content online	SA	A	N/A	D	<b>SD</b>
<i>Other roles not identified above:</i>					
Videoconferencing/audioconferencing	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>

*Table 2. CS1's ratings of issues that affected advice about e-assessment*

Important issues that affect advice for subjects that have an online assessment component include:	SA	A	N/A	D	SD
Plagiarism	SA	<b>A</b>	N/A	D	SD
Academic workload/time	<b>SA</b>	A	N/A	D	SD
Technology support	SA	<b>A</b>	N/A	D	SD
Numbers enrolled	<b>SA</b>	A	N/A	D	SD
Academic'(s) values	SA	A	N/A	<b>D</b>	SD



---

University policy	<b>SA</b>	A	N/A	D	SD
Time available for development	SA	<b>A</b>	N/A	D	SD
<i>Others:</i>					
Distance education(blended)	<b>SA</b>	A	N/A	D	SD
Discipline	<b>SA</b>	A	N/A	D	SD

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*Table 3. CS1's ratings of issues that affected quality of e-assessment*

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Important issues that affect the final quality of assessment in subjects that have an online component	SA	A	N/A	D	SD
--	----	---	-----	---	----

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Relationship with academic(s)	SA	A	N/A	<b>D</b>	SD
Time available for development	<b>SA</b>	A	N/A	D	SD
Resources and finance	<b>SA</b>	A	N/A	D	SD
Aligning assessment with learning outcomes, t/l activities	<b>SA</b>	A	N/A	D	SD
Levels of IT support	SA	<b>A</b>	N/A	D	SD
Government quality initiatives such as AUQA, L&T Performance Fund	<b>SA</b>	A	N/A	D	SD
University policies	SA	<b>A</b>	N/A	D	SD
University leadership	<b>SA</b>	A	N/A	D	SD

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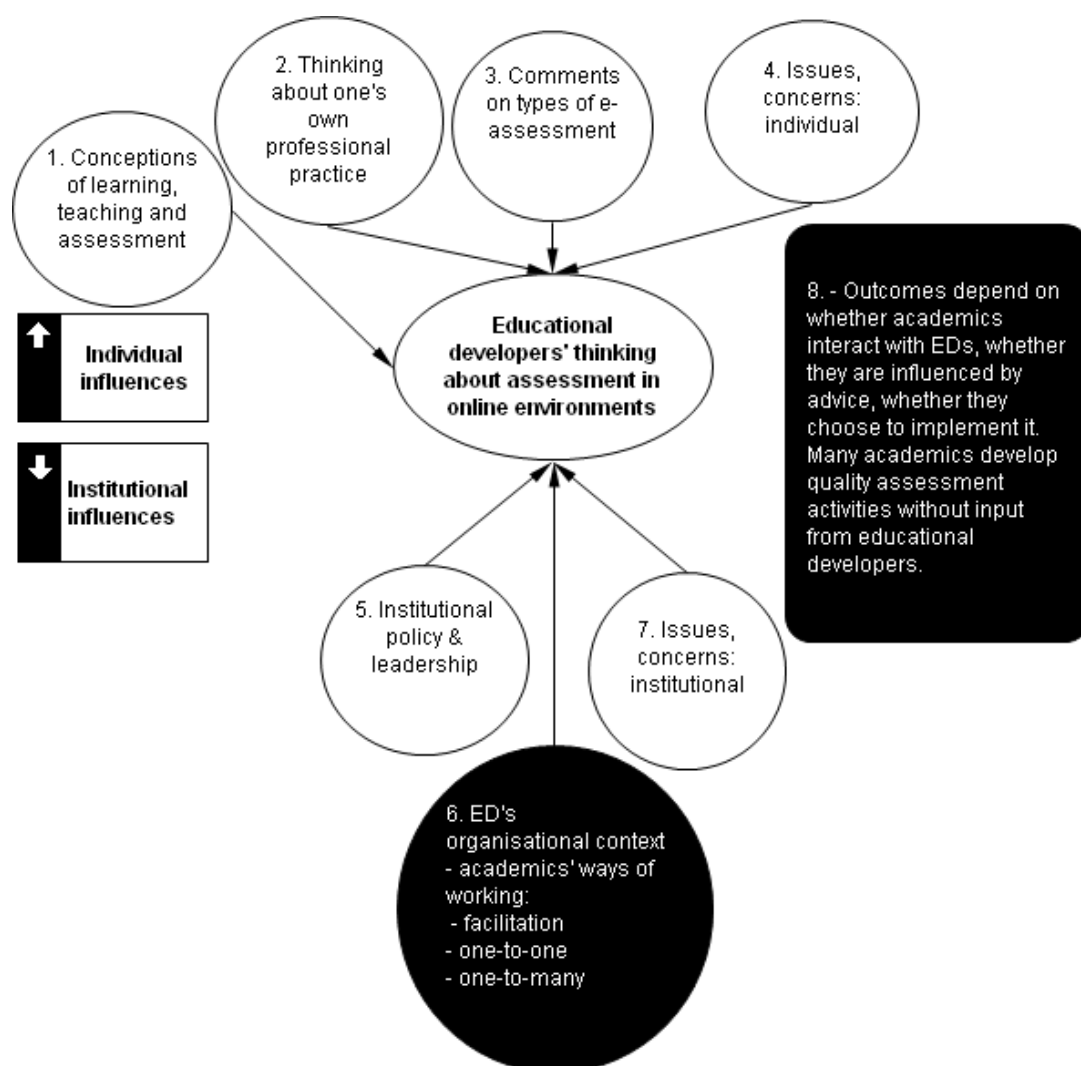


Figure 1. Individual and institutional influences that impacted on CS1's thinking about e-assessment.

## Appendix G: Additional data: CS2

*Table 1. Characteristics CS2 associated with formal roles*

Important roles associated with my position include:	SA	A	N/A	D	SD
Staff development	<b>SA</b>	A	N/A	D	SD
Transforming learning materials	SA	A	N/A	<b>D</b>	SD
Teaching in formal award courses	SA	<b>A</b>	N/A	D	SD
Presenting workshops on learning and teaching topics	<b>SA</b>	A	N/A	D	SD
Providing advice about online learning and teaching	<b>SA</b>	A	N/A	D	SD
Advising on assessment	SA	<b>A</b>	N/A	D	SD
Designing learning activities	<b>SA</b>	A	N/A	D	SD
Project management	SA	<b>A</b>	N/A	D	SD
Editorial and structural support	SA	A	N/A	<b>D</b>	SD
Ensuring copyright compliance	SA	A	N/A	<b>D</b>	SD
Placing content online	SA	<b>A</b>	N/A	D	SD
<i>Other roles not identified above</i>					
Consultancy	<b>SA</b>	A	N/A	D	SD
Project support	<b>SA</b>	A	N/A	D	SD
Research and publication	<b>SA</b>	A	N/A	D	SD
Seminar co-ordination	<b>SA</b>	A	N/A	D	SD

*Table 2. Ratings of issues that affected CS2's advice about e-assessment*

Important issues that affect advice for subjects that have an online assessment component include:	SA	A	N/A	D	SD
Plagiarism	SA	<b>A</b>	N/A	D	SD

---

Academic workload/time	SA	<b>A</b>	N/A	D	SD
Technology support	SA	A	<b>N/A</b>	D	SD
Numbers enrolled	SA	<b>A</b>	N/A	D	SD
Academic'(s)' interests	SA	<b>A</b>	N/A	D	SD
University policy	SA	A	<b>N/A</b>	D	SD
Time available for development	SA	<b>A</b>	N/A	D	SD
Others:					
Tutor support	<b>SA</b>	A	N/A	D	SD

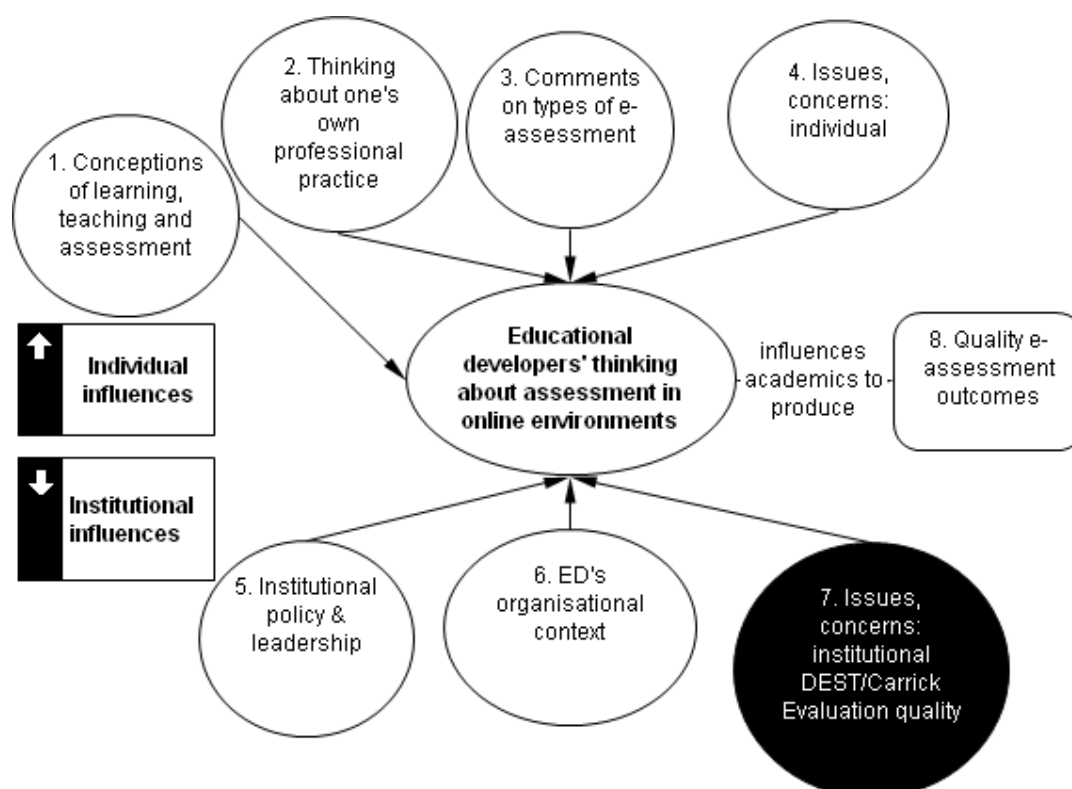
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*Table 3. CS2's ratings of issues that affected quality of e-assessment*

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Important issues that affect the final quality of assessment in subjects that have an online component include:	SA	A	N/A	D	SD
Relationship with academic(s)	SA	<b>A</b>	N/A	D	SD
Time available for development	SA	<b>A</b>	N/A	D	SD
Resources and finance	SA	A	<b>N/A</b>	D	SD
Aligning assessment with learning outcomes, t/l activities	<b>SA</b>	A	N/A	D	SD
Levels of IT support	SA	<b>A</b>	N/A	D	SD
Government quality initiatives such as AUQA, L&T Performance Fund	SA	<b>A</b>	N/A	D	SD
University policies	SA	<b>A</b>	N/A	D	SD
University leadership	SA	<b>A</b>	N/A	D	SD

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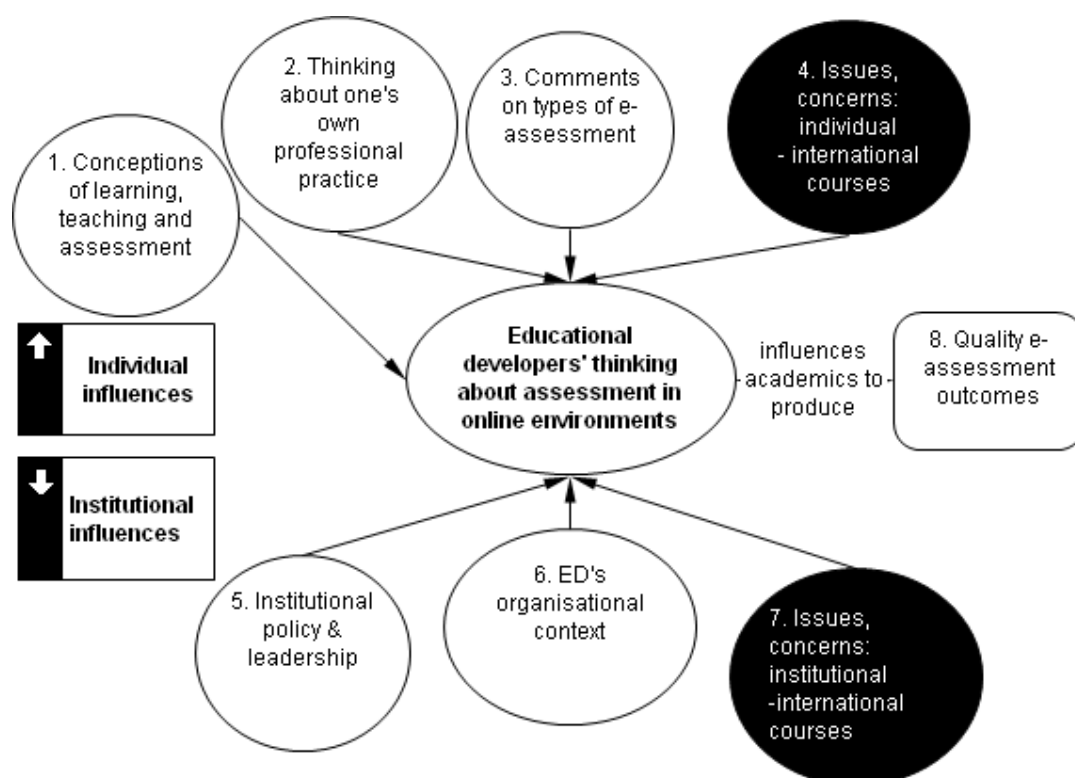


*Figure 1.* Individual and institutional influences that impacted on CS2's thinking about e-assessment.

## Appendix H: Additional data: CS3

*Table 1. Characteristics CS3 associated with formal roles*

Important roles associated with my position include:	SA	A	N/A	D	SD
(Academic) Staff development	<b>SA</b>	A	N/A	D	SD
Transforming learning materials	<b>SA</b>	A	N/A	D	SD
Teaching in formal award courses	SA	A	<b>N/A</b>	D	SD
Presenting workshops on learning and teaching topics	SA	A	<b>N/A</b>	D	SD
Providing advice about online learning and teaching	SA	<b>A</b>	N/A	D	SD
Advising on assessment	<b>SA</b>	A	N/A	D	SD
Designing learning activities	<b>SA</b>	A	N/A	D	SD
Project management	<b>SA</b>	A	N/A	D	SD
Editorial and structural support	SA	<b>A</b>	N/A	D	SD
Ensuring copyright compliance	<b>SA</b>	A	N/A	D	SD
Placing content online	SA	A	N/A	<b>D</b>	SD
Other roles not identified above					
Change agent	<b>SA</b>	A	N/A	D	SD



*Figure 1.* Individual and institutional influences that impacted on CS3's thinking about e-assessment

## Appendix I: Additional data: CS4

*Table 1. Characteristics CS4 associated with formal roles*

Important roles associated with my position include:	SA	A	N/A	D	SD
(Academic) Staff development	<b>SA</b>	A	N/A	D	SD
Transforming learning materials	SA	<b>A</b>	N/A	D	SD
Teaching in formal award courses	SA	A	<b>N/A</b>	D	SD
Presenting workshops on learning and teaching topics	<b>SA</b>	A	N/A	D	SD
Providing advice about online learning and teaching	<b>SA</b>	A	N/A	D	SD
Advising on assessment	<b>SA</b>	A	N/A	D	SD
Designing learning activities	SA	<b>A</b>	N/A	D	SD
Project management	SA	<b>A</b>	N/A	D	SD
Editorial and structural support	SA	<b>A</b>	N/A	D	SD
Ensuring copyright compliance	SA	A	<b>N/A</b>	D	SD
Placing content online	SA	A	<b>N/A</b>	D	SD
<i>Other roles not identified above</i>					
Curriculum development	<b>SA</b>	A	N/A	D	SD
Media selection	<b>SA</b>	A	N/A	D	SD
Evaluation	<b>SA</b>	A	N/A	D	SD
Research	<b>SA</b>	A	N/A	D	SD

*Table 2. Ratings of issues that affected CS4's advice about e-assessment*

Important issues that affect advice for subjects that have an online assessment component include:	SA	A	N/A	D	SD
--	----	---	-----	---	----



Plagiarism	<b>SA</b>	A	N/A	D	SD
Academic workload/time	<b>SA</b>	A	N/A	D	SD
Technology support	SA	<b>A</b>	N/A	D	SD
Numbers enrolled	<b>SA</b>	A	N/A	D	SD
Academic'(s)' interests	SA	A	<b>N/A</b>	D	SD
University policy	<b>SA</b>	A	N/A	D	SD
Time available for development	<b>SA</b>	A	N/A	D	SD
<i>Others</i>					
Misconceptions about what is possible in the online world for assessment	<b>SA</b>	A	N/A	D	SD
Benefits of formative assessment	<b>SA</b>	A	N/A	D	SD

---

**Table 3. CS4's ratings of issues that affected the quality of e-assessment**

Important issues that affect the final quality of assessment in subjects that have an online component include:	SA	A	N/A	D	SD
<hr/>					
Relationship with academic(s)	<b>SA</b>	A	N/A	D	SD
Time available for development	<b>SA</b>	A	N/A	D	SD
Resources and finance	SA	<b>A</b>	N/A	D	SD
Aligning assessment with learning outcomes, t/l activities	<b>SA</b>	A	N/A	D	SD
Levels of IT support	SA	<b>A</b>	N/A	D	SD
Government quality initiatives such as AUQA, L&T Performance Fund	SA	<b>A</b>	N/A	D	SD
University policies	<b>SA</b>	A	N/A	D	SD
University leadership	<b>SA</b>	A	N/A	D	SD
<i>Others</i>					
Peer review	<b>SA</b>	A	N/A	D	SD

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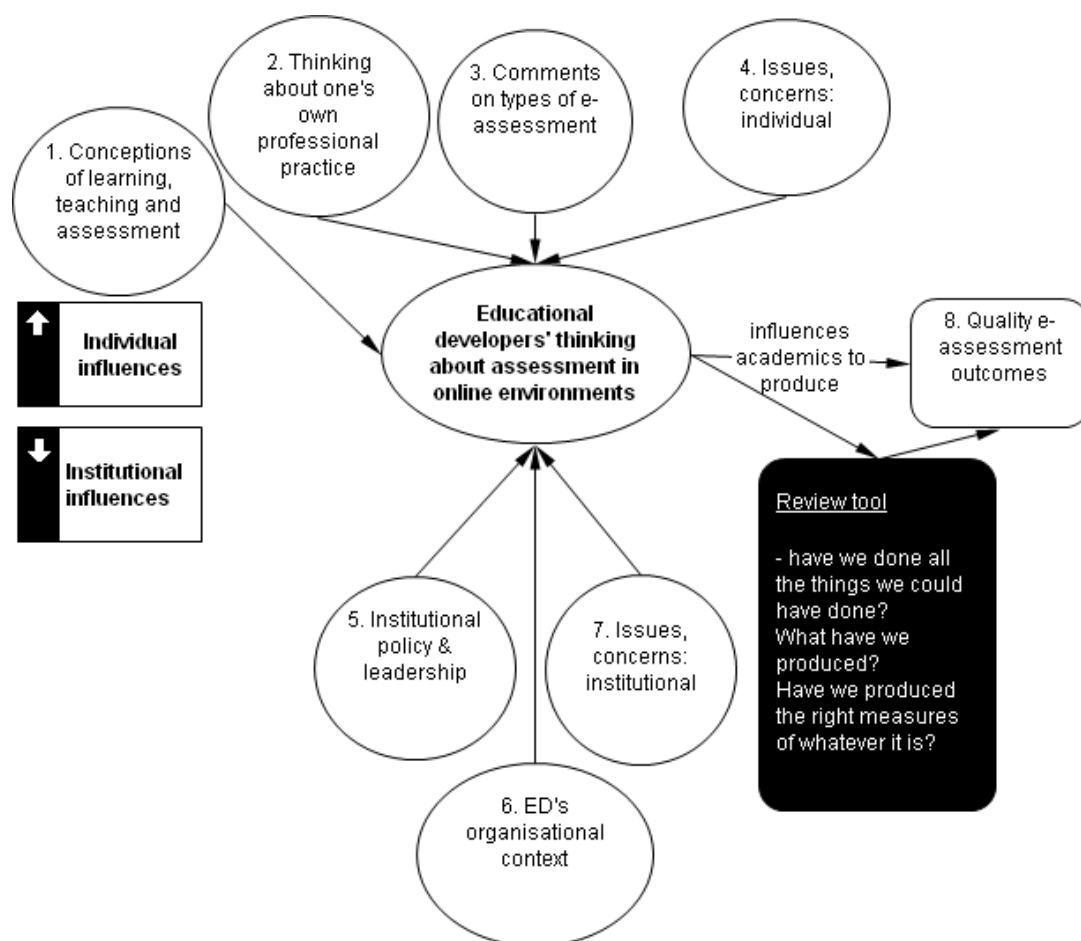


Figure 1. Individual and institutional influences that impacted on CS4's thinking about e-assessment.

## Appendix J: Additional data: CS5

*Table 1. Characteristics CS5 associated with formal roles*

Important roles associated with my position include:	SA	A	N/A	D	SD
(Academic) Staff development	<b>SA</b>	A	N/A	D	SD
Transforming learning materials	SA	A	N/A	<b>D</b>	SD
Teaching in formal award courses	SA	A	N/A	D	SD
(No rating allocated)					
Presenting workshops on learning and teaching topics	SA	<b>A</b>	N/A	D	SD
Providing advice about online learning and teaching	<b>SA</b>	A	N/A	D	SD
Advising on assessment	<b>SA</b>	A	N/A	D	SD
Designing learning activities	<b>SA</b>	A	N/A	D	SD
Project management	SA	A	<b>N/A</b>	D	SD
Editorial and structural support	SA	A	N/A	<b>D</b>	SD
Ensuring copyright compliance	SA	A	N/A	<b>D</b>	SD
Placing content online	SA	A	N/A	<b>D</b>	SD
<i>Other roles not identified above</i>					
Advising department heads	<b>SA</b>	A	N/A	D	SD
Providing policy advice on teaching and learning	<b>SA</b>	A	N/A	D	SD

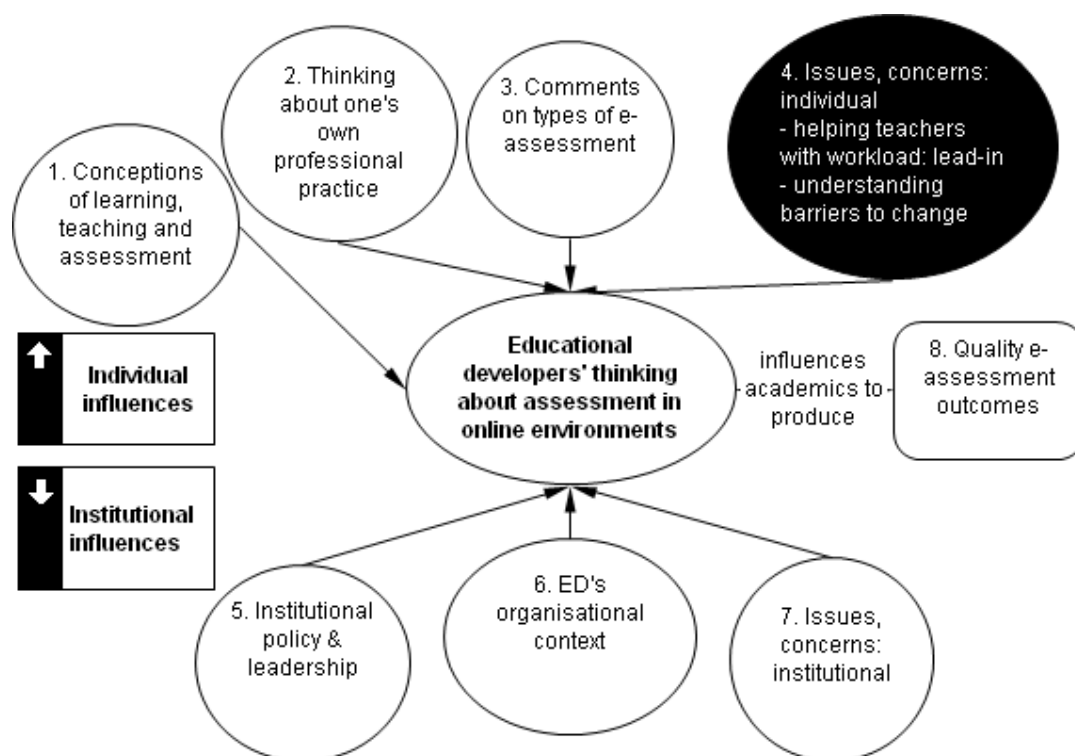


Figure 1. Individual and institutional influences that impacted on CS5's thinking about e-assessment

## Appendix K: Additional data: CS6

*Table 1. Characteristics CS6 associated with formal roles*

Important roles associated with my position include:	SA	A	N/A	D	SD
(Academic) Staff development	<b>SA</b>	A	N/A	D	SD
Transforming learning materials	SA	<b>A</b>	N/A	D	SD
Teaching in formal award courses	SA	A	<b>N/A</b>	D	SD
Providing advice about online learning and teaching	<b>SA</b>	A	N/A	D	SD
Advising on assessment	SA	<b>A</b>	N/A	D	SD
Designing learning activities	SA	<b>A</b>	N/A	D	SD
Project management	<b>SA</b>	A	N/A	D	SD
Editorial and structural support	SA	<b>A</b>	N/A	D	SD
Ensuring copyright compliance	SA	<b>A</b>	N/A	D	SD
Placing content online	SA	A	N/A	<b>D</b>	SD
<i>Other roles not identified above</i>					
Educational technology futures-planning	<b>SA</b>	A	N/A	D	SD
Explore assumptions	<b>SA</b>	A	N/A	D	SD
Conduct evaluations	<b>SA</b>	A	N/A	D	SD
Ascertain student perspective	<b>SA</b>	A	N/A	D	SD

*Table 2. CS6's ratings of issues that affected advice about e-assessment*

Important issues that affect advice for subjects that have an online assessment component include:	SA	A	N/A	D	SD
Plagiarism	<b>SA</b>	A	N/A	D	SD
Academic workload/time	<b>SA</b>	A	N/A	D	SD

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Technology support	<b>SA</b>	A	N/A	D	SD
Numbers enrolled	SA	<b>A</b>	N/A	D	SD
Academic'(s)' interests	<b>SA</b>	A	N/A	D	SD
University policy	<b>SA</b>	A	N/A	D	SD
Time available for development	<b>SA</b>	A	N/A	D	SD

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*Table 3. CS6's ratings of issues that affected quality of e-assessment*

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<b>Important issues that affect the final quality of assessment in subjects that have an online component include:</b>	<b>SA</b>	<b>A</b>	<b>N/A</b>	<b>D</b>	<b>SD</b>
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Relationship with academic(s)	SA	<b>A</b>	N/A	D	SD
Time available for development	<b>SA</b>	A	N/A	D	SD
Resources and finance	SA	A	N/A	<b>D</b>	SD
Aligning assessment with learning outcomes, t/l activities	<b>SA</b>	A	N/A	D	SD
Levels of IT support	SA	<b>A</b>	N/A	D	SD
Government quality initiatives such as AUQA, L&T Performance Fund	SA	A	N/A	<b>D</b>	SD
University policies	SA	<b>A</b>	N/A	D	SD
University leadership	SA	A	N/A	D	SD
<i>Others</i>					
Evaluation	<b>SA</b>	A	N/A	D	SD
ED advice	<b>SA</b>	A	N/A	D	SD

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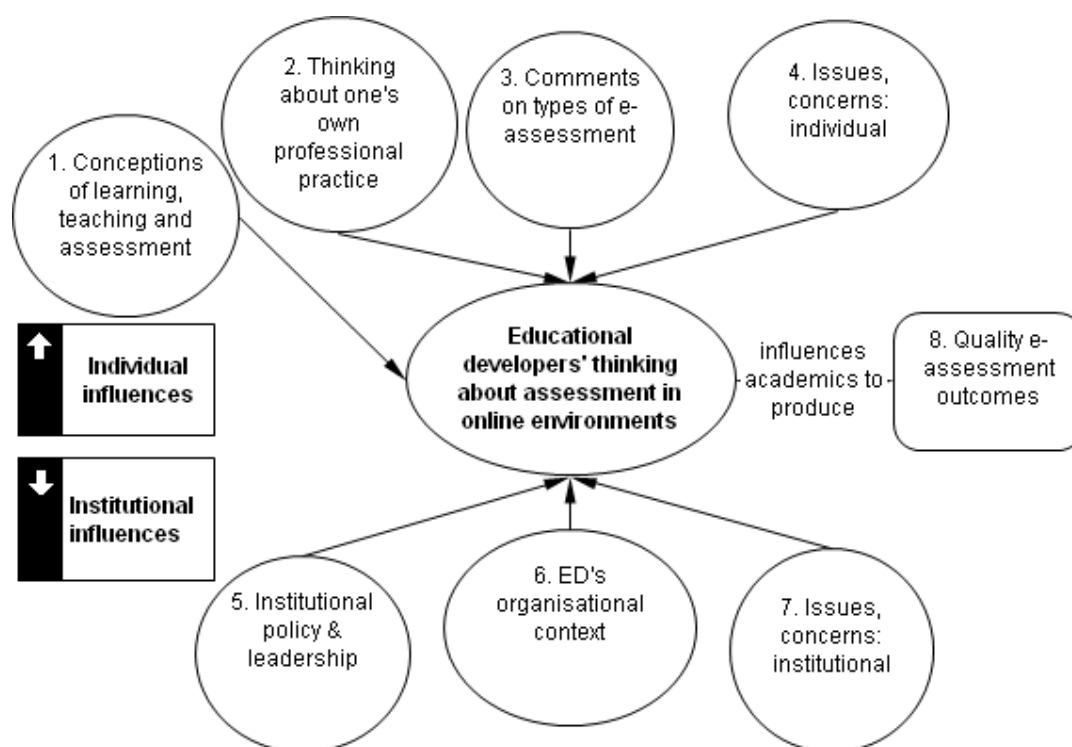


Figure 1. Individual and institutional influences that impacted on CS6's thinking about e-assessment.

[Note: no specific changes were suggested to the original framework by CS6.]