

2007

Conducting assessment online: educational developers' perspectives

Peter Anthony Donnan
University of Wollongong

Follow this and additional works at: <https://ro.uow.edu.au/theses>

University of Wollongong

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following: This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part of this work may be reproduced by any process, nor may any other exclusive right be exercised, without the permission of the author. Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material.

Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

Unless otherwise indicated, the views expressed in this thesis are those of the author and do not necessarily represent the views of the University of Wollongong.

Recommended Citation

Donnan, Peter Anthony, Conducting assessment online: educational developers' perspectives, PhD thesis, Faculty of Education, University of Wollongong, 2006. <http://ro.uow.edu.au/theses/613>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

NOTE

This online version of the thesis may have different page formatting and pagination from the paper copy held in the University of Wollongong Library.

UNIVERSITY OF WOLLONGONG

COPYRIGHT WARNING

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site. You are reminded of the following:

Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

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

Acknowledgements

I would like to acknowledge the assistance of my supervisors, Dr Gwyn Brickell and Dr Christine Brown. Their advice has contributed to the development of this thesis through the various doctoral milestones – proposal, research design, data collection, colloquium presentations, data analysis and writing-up - and I thank them warmly for it.

Special thanks to the participants in this study, all very busy educational developers working in Australian universities: they were generous with their time and comments.

I would like to acknowledge Professor John Hedberg's role in initially suggesting the basic research direction that incorporated how academics structure their thinking about assessment conducted online.

Peter Keeble proofread the thesis and provided valuable editorial suggestions.

Opportunities to present research-in-progress at the Research Student Colloquiums in the Faculty of Education at the University of Wollongong helped to refine the thesis and I would like to thank Karen McRae and staff in the Office of Research. I would also like to acknowledge Dr Margaret Kiley for her encouragement, including her invitation to present research in progress at the Centre for Educational Development and Academic Methods (CEDAM), the Australian National University. Colleagues in the Centre for the Enhancement of Learning, Teaching and Scholarship (CELTS), particularly Dr Coralie McCormack, and in Technology and Educational Design Services (TEDS) at the University of Canberra provided valuable advice.

Finally, I would like to thank Marie my wife for her support through all stages of this thesis.

Contents

Certification.....	i
Acknowledgements	ii
Contents	iii
List of tables	vi
List of figures	viii
Glossary	ix
Publications related to this thesis	x
Abstract	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Preview.....	1
1.2 Field of study	1
1.3 Origin of the study	7
1.4 Overview of the study	9
1.5 Structure of the study	12
CHAPTER TWO: REVIEW OF THE LITERATURE	14
2.1 Preview	14
2.2 Categories of relevant research literature	15
2.3 General assessment literature.....	17
2.4 Online Learning	24
2.5 Conducting assessment online.....	25
2.6 Relevant Australian research studies	44
2.7 Educational developers	46
2.8 Conclusion.....	59
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY	61
3.1 Preview	61
3.2 Qualitative research.....	61
3.3 Research Design	62
3.4 Data collection	76
3.5 Structure of the interviews	80
3.6 Data analysis	90

3.7 Overview of the research design	96
CHAPTER FOUR: CASE STUDY FINDINGS	100
4.1 Preview	100
4.2 Single case study analysis	101
4.3 Case study 1	101
4.4 Case study 2	116
4.5 Case study 3	130
4.6 Case study 4	149
4.7 Case study 5	165
4.8 Case study 6	183
CHAPTER FIVE: CROSS-CASE STUDY ANALYSIS	199
5.1 Preview	199
5.2 Multiple case study analysis	200
5.3 Characteristics of educational developers (RQ1)	200
5.4 Significant influences upon thinking about assessment online (RQ2)	214
5.5 Critical assessment online issues (RQ3)	228
5.6 Representing educational developers' thinking about assessment online (RQ4)	232
5.7 Three models derived from respondents' perspectives	248
CHAPTER SIX: CONCLUSIONS AND IMPLICATIONS	259
6.1 Preview	259
6.2 The original research problem	260
6.3 The research problem: Conclusion	260
6.4 Theoretical implications of the study	262
6.5 Implications for policy and practice	264
6.6 Limitations of the study	270
6.7 Implications for future research	270
6.8 Conclusion	273
REFERENCES	274
APPENDICES	295
Appendix A: Participant Information Sheet	295
Appendix B: Consent form	297

Appendix C: First round of interview questions	299
Appendix D: Second round of interview questions	302
Appendix E: Third round of interview questions	317
Appendix F: Additional data: CS1	320
Appendix G: Additional data: CS2	323
Appendix H: Additional data: CS3	326
Appendix I: Additional data: CS4	328
Appendix J: Additional data: CS5	331
Appendix K: Additional data: CS6	333

List of tables

Table 1.1. AUTC listing of Teaching and Learning Centres in 2005	4
Table 1.2. Terminology used in the study	11
Table 2.1. Overview of the literature on assessment relevant to this study	15
Table 2.2. Assessment framework from an Australian study	18
Table 2.3. Assessment-related areas of research	23
Table 2.4. Forms of assessment conducted online derived from the literature	43
Table 2.5. Professional development web pages from three Australian universities (2006)	47
Table 2.6. Designers/developers of flexible learning materials in Australian universities	52
Table 3.1. Research design decisions	62
Table 3.2. Research design issues	63
Table 3.3. University categories represented in the case studies	79
Table 3.4. First round interview questions	81
Table 3.5. Structure of first round interviews and linkages to research questions	83
Table 3.6. Structure of second round interviews and linkages to research questions	85
Table 3.8. Interview scheduling	88
Table 3.9. Nvivo coding categories	91
Table 3.10. Review of multiple case study approaches adopted in this study	96
Table 4.1. General characteristics of CS1	102
Table 4.2. Critical issues when assessment incorporated online components (CS1)	110
Table 4.3. CS1's comments on forms of assessment conducted online	113
Table 4.4. General characteristics of CS2	116
Table 4.5. Critical issues when assessment incorporated online components (CS2)	123
Table 4.6. General characteristics of CS3	130
Table 4.7. Ratings of issues that affected advice about e-assessment (CS3)	137
Table 4.8. Ratings of issues that affected quality of e-assessment (CS3)	138
Table 4.9. Critical issues when assessment incorporated online components (CS3)	139
Table 4.10. CS3's comments on forms of assessment conducted online	146
Table 4.11. General characteristics of CS4	150
Table 4.12. Critical issues when assessment incorporated online components (CS4)	158
Table 4.13. CS4's comments on forms of assessment conducted online	163
Table 4.14. General characteristics of CS5	166

Table 4.15. CS5's comments on influences about assessment online	172
Table 4.16. Ratings of issues that affected advice about e-assessment (CS5)	173
Table 4.17. Ratings of issues that affected quality of e-assessment (CS5)	173
Table 4.18. Critical issues when assessment incorporated online components (CS5)	175
Table 4.19. CS5's comments on some assessment concepts	177
Table 4.20. CS5's comments on forms of assessment conducted online	180
Table 4.21. General characteristics of CS6	183
Table 4.22. Critical issues when assessment incorporated online components (CS6)	189
Table 4.23. CS6's comments on forms of assessment conducted online	195
Table 5.1. General characteristics of participants	200
Table 5.2. Participants' general understanding of educational development	202
Table 5.3. Characteristics associated with formal roles	205
Table 5.4. Educational developers' roles nominated by participants	206
Table 5.5. Evaluating effectiveness in the role	207
Table 5.6. Valued characteristics that a colleague/successor would bring to the role	208
Table 5.7. Categories and valued attributes of educational developers	209
Table 5.8. Technology skills and approaches	210
Table 5.9. Characteristics that impacted on institutional processes	211
Table 5.10. Composite of educational developers' characteristics	213
Table 5.11. Ratings of issues that affected advice about e-assessment	218
Table 5.12. Ratings of issues that may affect quality of e-assessment	219
Table 5.13. Critical assessment issues identified	228
Table 5.14. Educational developers' comments on traditional assessment submitted online	233
Table 5.15. Educational developers' comments on automated assessment	234
Table 5.16. Educational developers' comments on automated assessment-advanced options	235
Table 5.17. Educational developers' comments on invigilated online exams	235
Table 5.18. Educational developers' comments on online group projects	236
Table 5.19. Educational developers' comments on online interaction	237
Table 5.20. Educational developers' comments on authentic assessment	238
Table 5.21. Educational developers' comments on critical reflection and metacognition	238
Table 5.22. Educational developers' comments on advanced problem-solving	239
Table 6.1. Forms of assessment online and technology/pedagogy considerations	265

List of figures

<i>Figure 1.1.</i> Preview of Chapter One	1
<i>Figure 2.1.</i> Preview of Chapter Two	14
<i>Figure 3.1.</i> Preview of Chapter Three	61
<i>Figure 3.2.</i> Learning outcomes, knowledge and assessment	65
<i>Figure 3.3.</i> Conceptual structure of questions for the round two interviews	84
<i>Figure 3.4.</i> Distribution of research questions across the three interviews	88
<i>Figure 3.5.</i> Distribution of questions related to RQ1 across the three interviews	93
<i>Figure 3.6.</i> Distribution of questions related to RQ2 across the three interviews	94
<i>Figure 3.7.</i> Distribution of questions related to RQ3 across the three interviews	95
<i>Figure 3.8.</i> Distribution of questions related to RQ4 across the three interviews	96
<i>Figure 4.1.</i> Preview of Chapter Four	100
<i>Figure 4.2.</i> Representation of CS1's thinking about assessment conducted online	115
<i>Figure 4.3.</i> Representation of CS2's thinking about assessment conducted online	129
<i>Figure 4.4.</i> Representation of CS3's thinking about assessment conducted online	148
<i>Figure 4.5.</i> Representation of CS4's thinking about assessment conducted online	164
<i>Figure 4.6.</i> Representation of CS5's thinking about assessment conducted online	182
<i>Figure 4.7.</i> Representation of CS6's thinking about assessment conducted online	197
<i>Figure 5.1.</i> Preview of Chapter Five	199
<i>Figure 5.2.</i> Composite participant perspectives of individual and institutional influences	216
<i>Figure 5.3.</i> Additional elements from interviews to the composite of participants' perceptions	223
<i>Figure 5.4.</i> Integrating participants' views about influences with the literature	227
<i>Figure 5.5.</i> Composite of participants' thinking about online assessment	247
<i>Figure 5.6.</i> EDs' perspectives about assessment online in traditional campuses	249
<i>Figure 5.7.</i> EDs' perspectives about assessment online as a project in traditional campuses	251
<i>Figure 5.8.</i> EDs' perspectives about assessment online in off-campus delivery modes	253
<i>Figure 6.1.</i> Preview of Chapter Six	259

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.