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QPR 2004
Quality in Postgraduate Research

QUALITY IN POSTGRADUATE RESEARCH: RE-IMAGINING RESEARCH EDUCATION

Edited by Margaret Kiley and Gerry Mullins

THE UNIVERSITY OF ADELAIDE AUSTRALIA
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QUALITY IN POSTGRADUATE RESEARCH:
RE-IMAGINING RESEARCH EDUCATION

Proceedings of the 2004 International Quality in Postgraduate Research Conference

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TABLE OF CONTENTS

EDITORIAL

Gerry Mullins and
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The overview piece on the QPR web site http://www.canberra.edu.au/celts/QPR/_overview.html tells the story of the QPR conferences from their inception in 1994. It is the story of an unfolding understanding of what 'quality' might mean in research education as well as a timeline of policy development in the Australian context and increasingly, on a broader international stage.

The 2004 conference was sub-titled 'Re-imagining research education' in the belief that the time is now ripe for reflection and debate on how best to take advantage of the opportunities offered in many countries by new national policy frameworks that impact on supervisory practice and on student experiences and performance. The invitation to the conference invited participants to frame their contributions in terms of creative responses. 'The changes to the funding of research education challenge us to re-imagine what we do and how we do it', said Professor Neville Marsh, the conference convenor.

The conference featured two keynote speakers and one plenary address. all with highly relevant ideas on the conference theme. These conference proceedings have been designed to reflect the three main themes addressed by these presenters.

Dr Janet Metcalf is Director of the UK GRAD Programme, which assists universities to integrate transferable skills development into research degree programmes. Her keynote address, 'Re-imagining outcomes for research education: a national, cross-disciplinary focus on students' provided the conference with a picture of the UK situation. Several excellent symposia, as well as papers and posters. provide a comprehensive coverage of what is happening in Australia to ensure that graduates have the range of skills required by employers.

Professor Doug McEachern was recently Executive Director of the ARC in the areas of Social, Behavioural and Economic Sciences and is currently Pro-Vice-Chancellor for Research and Innovation at the University of Western Australia. His keynote address was 'Postgraduate research re-imagined: A balance between the pursuit of excellence and the real world needs of students'. Again, Professor McEachern's paper is followed in the proceedings by a rich mix of symposia and presentations exploring the future of research education.

Conference papers and forums also covered issues such as the role of women in postgraduate study, how a student copes with not completing a PhD, research literacy and, particularly, the development of publishing skills, assessment in research education, and research culture. Although the conference did attract delegates and papers from New Zealand, the UK, Thailand, South Africa, China, Spain, and Sweden, there was very little on internationalisation of research education or on the experiences of international students. We now know a great deal about the UK scene but hear little about the rest of Europe or of North America and receive only a glimpse of developments in Asia.

One of the most popular sessions at the conference was the final plenary session, at which the Deans and Directors of Graduate Studies (DDoGS) launched two important documents for discussion: 'Framework for best practice in doctoral education in Australia' and "Draft national guidelines for the examination of Australian research higher degree theses'. It is clear that the DDoGS will be increasingly proactive in the development of policy and good practice in Australia.

This is a welcome move in a context where there is significant activity in the development of policy at both government and institutional levels.

Where to next? An inspection of the archive section of the QPR web site (http://www.canberra.edu.au/celts/QPR/Bytitle.html) indicates that the conferences have explored some themes at great length but that other issues are largely ignored. Perhaps future conferences might continue the process of re-imagination along the following lines:

> All universities now have comprehensive strategies and policies in place – communication to students and supervisors and implementation of policies are now the issue
>
> The role and performance of individual supervisors is well understood – we need to focus on the inclusion of postgraduates in a vibrant intellectual and research culture
>
> Students say 'resources, resources, resources!' So why do we hear so little about minimum resource allocation to students?
>
> Induction processes and structured programs have now been in place in many universities for several years. Have they made a difference to completion times and rates and/or student satisfaction with their postgraduate experience?
>
> The 2004 conference showed that many universities also have in place programs to develop the employment-related skills that graduates need to have. Perhaps we now need to focus on the less tangible qualities that students need to develop – confidence, independence, perseverance, and enthusiasm for research.

A final word of thanks to the presenters, organisers and delegates who, for the last ten years, have made the Quality In Postgraduate Research conferences a stimulating and enjoyable event.

September 2004

KEYNOTE:
RE-IMAGINING OUTCOMES FOR RESEARCH EDUCATION:
A NATIONAL CROSS-DISCIPLINARY FOCUS ON STUDENTS

Janet Metcalfe
UK GRAD Programme
United Kingdom

Introduction

Recently in the UK, much attention has been focused on research degree programmes (RDP) and their outputs. Traditionally, and literally, the output from a research degree is the thesis: a scholarly piece of original work. However, in the UK, research degrees are not necessarily seen as a vocational qualification, and the output of a 'trained researcher' is increasingly seen as an equally important output—with the thesis the evidence of the training.

This change in emphasis is a result of both the changing employment environment and the growth in doctoral numbers in the UK. In 2001 the UK had 110,000 doctoral students registered at 166 higher education institutions (HEIs): 118 of these institutions were universities, the remainder Colleges or Research Institutes. This represents an increase of 23% over the past five years, caused mostly by a steady increase in international students (36,000 of the total). There is considerable disparity of distribution across HEIs, with just five universities attracting 25% of all doctoral students and 97 HEIs representing the lower quartile.

Despite the trend of the doctorate becoming a non-vocational qualification (over 50% of doctoral graduates do not have a research or teaching position as their first destination), surveys of the aspirations of the doctoral students indicate that almost all want to stay in research. About 40% will initially stay in academic research; however, only 10% will still be in research in seven years time.

Recent Developments in Research Education in the UK

Over the past few years, the UK has experienced a number of developments related to postgraduate research degrees, as is shown in Figure 1.

The UK Research Councils, which fund about a third of UK PhDs, were concerned from the late 1980s with completion rates and so introduced targets for HEIs. However, it wasn't until the introduction of the first Code of Practice for RDPs in 1999[1] and the Harris 'Fundamental review of research'[2] in 2000 that RDPs came on to the national agenda.

The Code of Practice identifies a set of precepts that address the quality of the research, the research infrastructure and environment, supervisory arrangements, skills training, strategies for monitoring and assessing progress and feedback mechanisms.

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1 *Quality Assurance Agency for Higher Education Code of practice for the assurance of academic quality and standards in higher education. Section 1: Postgraduate research programmes - January 1999* <http://www.qaa.ac.uk/public/COP/cop/contents.htm>

2 *HEFCE 00/37 'Fundamental review of research'*

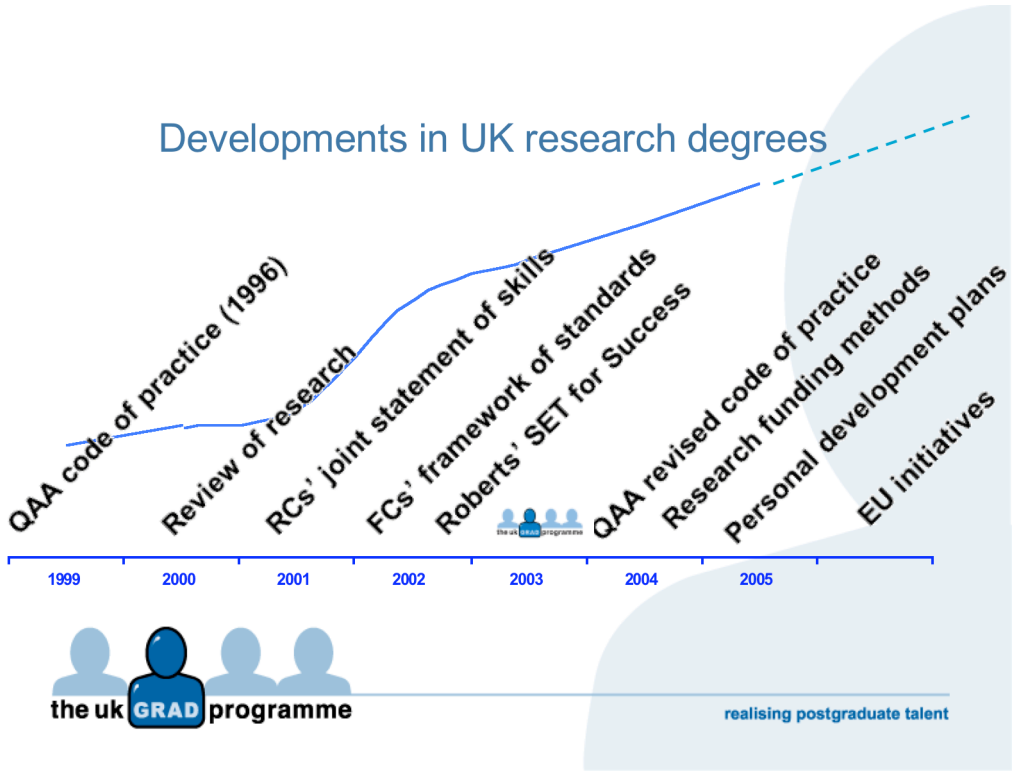


Figure 1: Developments in UK research degrees

The Harris review recommended that:

- research training be a separate, but linked component of the Research Assessment Exercise (RAE)
- funding for research training be calculated and identified separately from research funding
- minimum requirements for research training funding be specified
- the RAE to be extended to establish whether departments had complied with minimum standards.

The Harris recommendations led to the UK Funding Councils commissioning a study to develop a set of threshold standards and an underlying framework of good practice for postgraduate research degree programmes, published in 2002[3].

The threshold standards proposed were built on good practice already existing in the sector. They are intended to represent an essential minimum for the provision of high quality RDPs across all disciplines, types of RDP, and modes of study. To encourage ongoing improvement in provision beyond the minimum level represented by these standards, an underlying framework of good practice was also proposed. This framework, which is built upon the precepts in the existing QAA Code of Practice, is not intended to be prescriptive, but rather for institutions to adopt according to local conditions. The purpose of the framework is threefold:

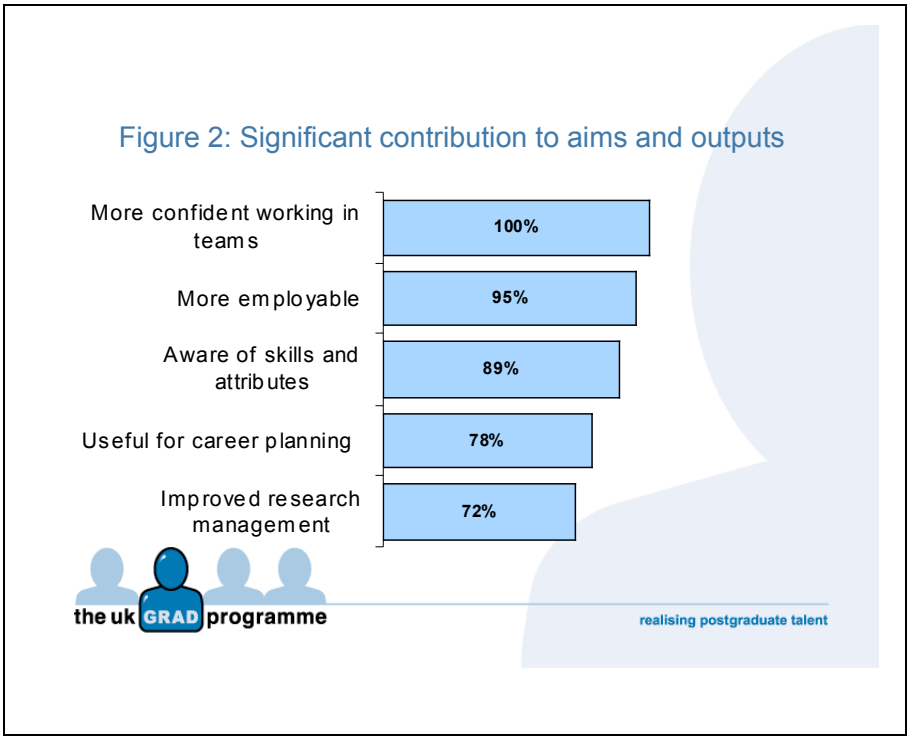
(1) the establishment of a training environment of appropriate breadth, depth and quality

(2) the development of consistent practice that is visible and subject to independent review

(3) informed, responsible and empowered student ownership of the postgraduate experience.

[3] *Improving standards in postgraduate research degree programmes* http://www.hefce.ac.uk/pubs/rdreports/2002/rd11_02/

This report was followed by extensive informal and formal consultation processes[4] and is in the process of being incorporated into a revised Code of Practice[5] for research degree programmes, to be published in September 2004.



Another important development for RDPs evolved from a good practice workshop held by the Research Councils' Graduate Schools Programme, the forerunner of the UK GRAD Programme. Representatives from a range of HEIs and PhD funders set out to identify whether there was a set of generic competencies for doctoral graduates, irrespective of their discipline. This led to the publication in 2001 of the Research Councils and AHRB joint statement of skills requirements for research students. The skills that doctoral students are expected to have or develop during their degree studies include:

- research skills and techniques
- research environment
- research management
- personal effectiveness
- communication skills
- networking and team working
- career management.

The joint statement has been widely accepted by the HE sector and is integrated into the framework of standards and subsequent initiatives on RDPs.

[4] *Funding Councils formal consultation* www.hefce.ac.uk/pubs/hefce/2003/03_23.htm
[5] *QAA revised code of practice consultation* http://www.qaa.ac.uk/public/COP/cop/draft/CircularCL0408.htm

An equally important initiative in the development of RDPs is the Sir Gareth Roberts' Report, *SET for success*[6]. This report looked at the supply of scientists and technologists throughout the education sector and made specific recommendations about research degrees.

It supported the Harris and subsequent Framework recommendations that funding for RDPs should be based on minimum research training requirements and, additionally, that attention should be given to developing creativity and career development plans for researchers in academia. Roberts also recommended an increase in PhD stipends, an increase in average length of scholarship, and an increase in starting salaries and progression rates.

The report found that PhDs are not prepared adequately for a career in academia or in business, and that there is insufficient training in transferable skills and commercial awareness. To counter this, Roberts recommended that every doctoral student should have two weeks of generic skills training each year, and that this should also be a requirement for postdoctoral researchers. The UK government is funding this requirement for Research Council funded researchers.

Interestingly, in terms of the attractiveness of a career in research, the issues are similar for both academic and non-academic employers. Academic careers are attractive neither in starting salary nor progression, particularly now that more UK graduates are carrying high levels of debt. Even in research careers outside academia, employers are struggling to compete with attractive salaries for non-research jobs, particularly the financial services.

Roberts also recommended that there should be better dialogue between universities and other employers to determine the long-term skills requirements for researchers and to promote more collaboration in research and teaching.

The final UK initiative that we need to consider is the 2004 Review of Research Funding Methods[7], which is considering:

- removal of research student numbers from the QR volume measure
- removal of first year students from teaching stream
- aggregation of research funds with the supervision fee
- allocation of a stable per capita resource unit based on cost.

This review could have a significant impact on funding streams for RDPs. It is likely that a fixed pot of funding will be redistributed, but it is difficult to predict who will be the winners and losers. By removing students from the teaching stream, institutions and departments that currently receive funding for only first year research students could lose this funding. Alternatively, if a flat rate per capita is proposed, highly rated departments could see their overall funding fall.

Finally, a few other initiatives in the UK and the rest of Europe will impact on UK RDPs.

A group of organisations involved in HE are working together to help HE institutions and academics develop Progress File[8] policies and practices. It is proposed that Student Personal Development Portfolios be implemented between 2005 to 2010 for all students enrolled in all higher education

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6 *Sir Gareth Roberts' Report, Set for Success:* The supply of people with science, technology, engineering and mathematics skills www.hm-treasury.gov.uk/roberts/

7 *Review of research methods consultation* http://www.hefce.ac.uk/Research/funding/rfconsult/

8 *Progress files for Higher Education* http://www.qaa.ac.uk/crntwork/progfileHE/contents.htm

degrees, including research degrees. While each institution will determine its own approach, this will be within a national framework.

We should also note recent developments within the European Community. Of particular interest is:

- the Bologna Agreement[9], which is aimed at the harmonisation of all degree qualifications across Europe, including research degrees
- the development of a 'European Researchers' Charter[10], which encourages mobility, equal opportunity, and the sharing of good practice in research career management
- the declared aim of the European Community to reach by 2010 the target of 3% of GDP invested in Research and Development[11]. To reach this target it has been calculated that there will be a need for 700,000 additional researchers.

UK GRAD Programme

The UK GRAD Programme has been running in various forms since 1968 (mostly recently as the RCGSP) and is funded by the national Research Councils. The vision of the UK GRAD Programme is: 'For all postgraduate researchers to be fully equipped and encouraged to complete their studies and make a successful transition to their future careers'.

The objectives of the UK GRAD Programme are to:

- raise the profile of the importance of personal and professional development in researcher training for all stakeholders.
- encourage the integration of, and opportunities for, personal and professional skills development in research degree programmes
- encourage and share good practice within higher education institutions
- continue as a national resource, to innovate, develop and provide exemplars ways for embedding personal and professional development and career management skills

National activities include conferences and regional workshops, surveys and reviews, development of materials and resources, and support for a web site and gateway.

Many of these activities are implemented at the regional level through a network of 'Hubs', where the emphasis is on sharing good practice, establishing local networks, and providing regional events that bring together parties interested in developing RDPS.

Further information about the Programme is available at the web site: http://www.grad.ac.uk/

The UK GRAD Programme also has a national and regional program of courses aimed at supporting the personal development and career management skills of researchers. Figure 2 shows how these courses have proved exceptionally effective at raising of researcher awareness of personal and professional competencies.

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[9] *The Bologna Process: progress towards the European Higher Education Area* http://europa.eu.int/comm/education/policies/educ/bologna/bologna_en.html

[10] *Researchers in the European Research Area: one profession, multiple careers* http://www.europa.eu.int/comm/research/fp6/mariecurie-actions/news/headline18_en.html

[11] *Towards 3% of GDP* http://europa.eu.int/comm/research/era/3pct/index_en.html

Participants' comments about the GRAD activities are particularly illustrative:

> On a GRAD school I learnt that I have the ability to do whatever I want and to achieve anything I want from my life: as long as I can focus and believe in myself.
>
> …absolutely essential to evaluating my skills and opportunities.

In order to achieve its objectives, the UK GRAD Programme works directly not only with researchers, but also with each of the communities with a stake in RDPs as suggested by the following comments:

> Influencing national stakeholders: …a fantastic conference, I look forward to the national impact
>
> Supporting HEIs: …the support offered will be of great value as we further improve the range of skills development provision we offer to young researchers
>
> Realising the value of PhDs to employers: ...postgraduate researchers bring maturity and highly transferable skills seldom found in graduates
>
> Enabling universities: ...sharing good practice makes sure we are doing it the best way we can, …a meeting of minds about how things will develop in UK postgraduate education
>
> Engaging supervisors: …researchers are more competent: it saves me work.

In summary, there is significant activity happening in UK research degree programmes. We have:

- a cross discipline definition of researcher competencies
- a common framework for all research degrees
- coherence from our national bodies
- the beginning of a cultural shift in attitude towards the development of researchers' personal and professional skills.

However, for all this good news, these initiatives do put tremendous strain on already hard-pressed institutions. One of our concerns has been expressed by Lord Sainsbury of Turville, Minister for Science in his foreword to the final report of the Research Careers Initiative[12] in which he focussed on supporting contract research staff:

> Isolated from the wider national and institutional developments, the day-to-day experience of many individual research staff has, too often, not changed substantially for the better.

The UK GRAD Programme hopefully offers a support mechanism that enables institutions and academics to be more informed about these developments in RDPs and how they are being implemented across the sector. Hence they will be more able and willing to use and adapt them for their own situations and environments so the benefits touch the lives of all doctoral researchers.

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[12] *Research Careers Initiative for contract researchers* http://www.universitiesuk.ac.uk/activities/rci.asp

SYMPOSIUM:
PROGRAMS FOR POSTGRADUATE RESEARCH STUDENTS AND THEIR GENERIC CAPABILITIES: APPLYING OUTCOMES FROM A NATIONAL STUDY TO THE RE-IMAGINING OF THIS ELEMENT IN RESEARCH EDUCATION

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Aim

The majority of Australian universities are devoting considerable energy to the development of programs designed to enhance the employability of all their postgraduate research students. This was a significant finding in the 2003 Department of Education, Science and Training funded study 'Postgraduate Research Students and Generic Capabilities' http://www.dest.gov.au/highered/respubs/postgrad_research/post.research.pdf

This symposium at the 2004 Quality in Postgraduate Research Conference in Adelaide provided a base on which to:

(1) review the profile of current university practices in the generic capabilities/research students domain produced in the national survey (conducted as part of the 2003 study);

(2) consider the issues and concerns that universities raised in their survey responses; and

(3) engage in a re-imagination of these practices, issues and concerns so as to formulate a practicable future agenda for programs and offerings in the domain.

1. Profile of current practices

The symposium featured a review of the profile of current practices in the domain of generic capabilities and postgraduate research students. In the 2003 study, 34 Australian universities responded to an extensive survey of the programs on generic capabilities (GC) on offer to their postgraduate research students. The survey also elicited comments on the issues that accompany the introduction and continuance of these programs. In the main, responses were supplied by the Deans or Directors of Research/Graduate Training or their equivalents in each university.

Twenty-four of the universities reported that they were making GC programs available to their postgraduate research student cohorts in 2003. Three universities had introduced programs ten years previously (1993).

There was little expansion in the number of universities offering programs until 1999, the year in which the White Paper *(Knowledge and Innovation: A policy statement on research and innovation)* was published with its specific recommendations on generic capabilities for postgraduate research students. The numbers of universities offering programs of this type then expanded: from five in 1999 to the 2003 count of 24.

The survey identified the different approaches that universities take to providing GC opportunities for their postgraduate research students. One university offered a dozen different programs specifically for its postgraduate research students. This university had offered its first GC program in 1993. In contrast, ten universities were offering only a single GC program. For nine of these

universities, it was the first time they had offered a program of this type to their postgraduate research students.

The major reason given for introducing GC programs was that of 'university strategic directions'. As the study noted, this term is of course shorthand for a complex of policies that address student, community, industry, and government expectations. Programs on communication and on project management were the two topics most commonly selected. Other popular choices of topic focused on collaboration and team work, commercialization and technological development, entrepreneurship, career planning, and self development.

There were differences between universities on the length of programs and how the time was allocated. That is, some chose to offer half day events while others went for lengthier programs, either compressed into a number of sequenced days or spaced out across a longer period. It did appear that universities were trialing different ways of packaging their programs; this could well be an attempt to ensure the best fit between what was being offered and postgraduate research students' other commitments. The research organizational cluster (including graduate schools) most commonly took overall responsibility for GC offerings, with the majority of these taking the form of face-to-face presentations.

The original proposal for the study arose from an initiative of the five member universities in the Australian Technology Network (ATN). In 1999, the Vice-Chancellors in the ATN group (Curtin University of Technology, the Queensland University, RMIT University, University of South Australia, and the University of Technology Sydney) supported a proposal for collaboration on the provision of online GC programs to all their postgraduate research students. This resulted in the ATN Learning Employment Aptitudes Program (LEAP) which commenced offering its online modules to ATN postgraduate research students in 2002.

When universities were asked in the survey what collaborations were in place, only two other universities other than the ATN group were venturing into this territory. When it came to partnerships with outside bodies, it appeared that employers' presence in GC programs was restricted to that of presenters and evaluators. As yet no partnerships had been formalized with this major stakeholder group.

Another surprise was the limited number of universities employing online capabilities for their GC offerings, with only eight reporting any such use. However in other sections of the survey questionnaire, respondents did refer to plans for increasing the use of online capabilities in future GC offerings.

At the time of the survey, participation in programs was not compulsory for postgraduate research students, although one university was considering such a move in an upcoming restructure of their research training. The majority of universities offered postgraduate research students some form of certification for participation. None was offering formal credit towards the final award for participation in GC programs.

Universities themselves were the sole source of funding for the GC programs. The research area—for example graduate school, research training fund, research and development was the major source of funding in those responses that provided such information.

At the symposium

Some respondents to the study's survey had provided detailed information on the range of programs their university was offering; the study included some of these in snapshot form. As part of the symposium, speakers holding responsibility for programs at their universities (The University of Melbourne and The Australian National University) discussed their snapshots and updated them. The former ATN LEAP Project Director presented details of the program and the issues that surround the establishment of a collaborative on-line program.

2. Issues and concerns raised by universities

The next section of the symposium concentrated on the issues and concerns that universities raised in their survey responses and the resonance these had with those present at the session. In this section, the intention was to focus group attention on the issues and concerns identified in the universities-wide study and to link these to the participants' personal knowledge and experience. Once this base was established, the symposium could advance into its concluding phase: applying outcomes from a national study to the re-imaginings of the GC element in research education.

The study had established that Australian universities indeed were offering postgraduate research students a broad range of programs on generic capabilities, with these programs being made available to all postgraduate research students in a university. Survey responses had pinpointed a number of issues accompanying the introduction of such programs that demanded resolution:

- balancing generic capabilities activity with other demands of the candidature period;
- clarifying the relationship between research skills and workplace related generic capabilities
- supervisors' role in the development of their students' generic capabilities
- devising programs for the whole population in a university and those for specific groups;
- providing GC programs which empower research students to choose content which matches their professional experience levels and potential career paths.

Two other study findings related to the original purpose of the study: the level of collaboration between universities and the use of online initiatives. The issues here related to how collaboration could be fostered in the area of GC and postgraduate research students and the complexities that go with applying online techniques across such an environment.

At the symposium

Tackling this set of issues can take weeks, months, and even years of close analysis, negotiation, and discussion, as the case study of the ATN LEAP included in the study demonstrates. The symposium offered only two hours. Against this, the QPR Conference provided a unique opportunity to tap into the collective wisdom of a broad cross section of key stakeholders: e.g. research managers, postgraduate research students, Pro-Vice-Chancellors (Research), Deans/Directors of Research Training, and Supervisors. The employer group was not able to be represented at the symposium. However, useful preparatory input was received from both the Business Council of Australia (Maria Tarrant, Director of Policy) and the Australian Industries Group (Peter Burn, National Senior Advisor, Economics and Industry Policy).

The following strategy was adopted to deal with as much territory as possible in the time available. The recommendations and issues identified in the study were examined and a series of questions were devised. The questions were designed to elicit participants' recommendations for operationalising key findings from the study. Leaders familiar with the recommendations appearing in the original study were assigned to each group, with the understanding that the spotlight was on participants' recommendations and ideas for addressing the question.

Four special interest groups were identified as covering the specific concerns of different populations: the university (as in the overall policy area for GC and research education); the faculty (as in working with supervisors, postgraduate research students, and GC programs at that level); supervisors (particularly the issues associated with including GC in that role) and postgraduate research students (with issues associated with including GC in the period of research candidature). Each group received three questions. One of these questions was repeated to the faculty, supervisor, and postgraduate research students and related to the issue of how to balance the competing demands of the need to develop both research skills *and* generic capabilities and achieve timely completion.

Recommendations and responses were recorded on posters which then were displayed for the full group to inspect. Representatives with different perspectives then commented on the poster content. The next section consists of questions and recommendations and responses from the special interest groups.

3. Re-imagination of these practices, issues and concerns

As outcomes from the symposium the deliberations of the interest groups produced the following recommendations and comments. (The original recommendations from the 2003 study, on which the questions were formulated, are shown in italics.)

University interest group

Recommendation from the 2003 study: Investigate the possibility of introducing a system-wide framework for the accreditation of GC programs for postgraduate research students.

Question:. What steps would need to be taken to set up a system-wide framework for accrediting GC programs for postgraduate research students across the sector*?*

Response and recommendations: A national framework was recommended. Participants suggested that the National Council of Deans and Directors of Graduate Studies develop and promulgate guidelines; and that universities be encouraged to collaborate on the implementation of this framework rather than relying on a centralised delivery model as in the UK.

Various approaches to accreditation were discussed, including the development of award courses (for example, a Graduate Certificate) which might be available simultaneously with PhD enrolment. Concern was expressed about the funding implications of such arrangements.

Recommendation from the 2003 study: Encouraging universities to use existing networks and look outside universities for other partners by funding pilot projects on collaborative GC programs.

Question: Would funding pilot projects on collaborative GC programs lead to universities using their existing networks and looking outside universities for other partners? What form might such projects take?

Response and recommendations: It was agreed that DEST should invest in collaborative projects in the area of GC programs and approaches, possibly through the Collaboration and Structural Reform Fund foreshadowed in the Nelson Reform Package. Other participants suggested that the funding for such activities might be available through professional bodies (e.g. the Institute of Engineers).

Recommendation from the 2003 study: Universities be encouraged to consider possible benefits from the introduction of online approaches to GC programs for postgraduate research students and the options available to do this.

Question 3. What are some of the possible benefits to universities and their postgraduate research students of using online approaches to GC programs? How might universities best tackle the resourcing demands of such approaches?

Response and recommendations: Discussion in this area focussed on external and part time distance postgraduate research students who are at present not generally provided with flexibility in time and place access to GC skill development programs. It was also suggested that undergraduate teaching software be adapted for GC use, thus producing cost savings.

Faculty interest group

Recommendation from the 2003 study: Examine the relationship of the generic capabilities to research skills development programs that universities are offering.

Question: What is the relationship and overlap between research skills development and the generic capabilities (like leadership and communication, project management, and team work) in the programs offered to postgraduate research students*?*

Response and recommendations: The view was supported that there needed to be an integration of GC and research training. The danger of keeping them separate is that postgraduate research students are likely to see GC as irrelevant and a distraction from their research priorities. The key then is for the higher degree to act as the first point of application for generic capabilities.

Recommendation from the 2003 study: Mapping exercise to be undertaken at each university of GC programs, identifying those provided to postgraduate research students at discipline, faculty, CRC or other level. Extend the exercise to include the collection of examples of good practice.

Question: How should a faculty go about mapping the GC programs it is offering its postgraduate research students at discipline, faculty, CRC, or other levels?

Response and recommendations: It was acknowledged that the faculty or discipline plays a major role in offering and mapping GC to postgraduate research students. Modules addressing specific GC need to be developed by the disciplines and then customised for these students across the faculty and university. It was felt that the faculty needed to repeat modules addressing GC so that key topics and capabilities are able to be re-visited during the period of candidature.

For any system of recording and mapping capabilities, the challenge will be to document participation and progress in a reliable and transparent way. In most universities, systems will need to be set up to record student participation in GC and to track their acquisition. The development of personal portfolios which officially record participation and skill acquisition is not common across

the sector at this time. However, just as this is important, so too are the reflexive consultation processes with industry which ensure the GC remain up to date and well focussed.

Supervisor interest group

Recommendation from the 2003 study: Offering programs to prepare postgraduate research students for academic career paths.

Question: What sort of programs should be offered to postgraduate research students to prepare them for careers as academics?

Response and recommendations: A systematic approach to the provision of GC programs was recommended. Postgraduate research students with an interest in academic careers could be offered opportunities for teaching experience during the period of research candidature. This would be supported by ongoing coaching from academics. Structured courses on academic life (including teaching) could also be made available. Participation in structured courses would lead to a formal credential acknowledging the preparation that the postgraduate research student had undertaken.

Recommendation from 2003 study: Individual universities to collaborate on a sector-wide approach to the professional development needs of supervisors to be addressed if they are to participate more fully in the delivery of generic capabilities activities for postgraduate research students. The study should include consideration of supervisors' perceptions of generic capabilities for their students and the possible contributions that they, as supervisors, can make.

Question: What professional development needs of supervisors need to be addressed if they are to participate more fully in the delivery of generic capabilities activities for postgraduate research students?

Response and recommendations: These needs could be tackled at two levels. Within the institution, professional development needs to be provided for supervisors to hone their own generic capabilities skills. This is particularly relevant to those disciplines where generic capabilities such as project management and team work are not the norm. The best mode of delivery would be within interactive small groups of colleagues.

At sector level, the brief of the newly formed National Institute for Learning and Teaching should be extended to embrace supervisor development (beyond its current concern with undergraduate teaching and learning).

Postgraduate Research Student interest group

Recommendation from the 2003 study: Developing structures required to provide GC programs appropriate to postgraduate research students with different levels of work experience.

Question: Postgraduate research students have widely differing levels of work experience – how can GC programs for this group address these differences?

Response and recommendations: Participants agreed that this question must be put to the students themselves in the form of a survey. It is likely that outcomes would include the availability of a wide choice of GC programs addressing the differing levels of work experience. It was also seen as essential that industry specialists be involved in the development and delivery of GC programs.

Recommendation from the 2003 study: The Council of Australian Postgraduate Research students (CAPA) to survey postgraduate research students on their perceptions of generic capabilities as part of their research candidature.

Question: What form might a survey take of postgraduate research students on their perceptions of GC capabilities as part of their research candidature?

Response and recommendations: Valuable information would be gleaned from surveys of students before, during and post candidature. Questions should include delivery preferences and whether students want accreditation from GC programs.

The same question was directed to three of the interest groups faculty, supervisors and postgraduate research students, focusing on this recommendation:

Recommendation from the 2003 study: Devise and recommend strategies to institutions and their departments and programs for balancing the competing demands between the need for research skills development, generic capabilities development, and timely completion of the research project and make recommendations on these matters to DEST.

Question: What can be done by [group specified] to balance the competing demands between the need for research skills development, generic capabilities development, and timely completion of the research project?

Response and recommendations from the faculty interest group: The key to balancing the integration of generic capabilities and discipline-related skills was not to see them as competing. It is vital that postgraduate research students are alerted to the fact that GCs can be developed throughout their candidature. Such an integrated stance requires the active involvement of all who devise and deliver faculty research plans. Supervisors and discipline-based experts will play a key role. It was also agreed that a certification scheme would strengthen the legitimacy of GC in each candidate's plan for completion.

Response and recommendations from the supervisor interest group: The supervisor special interest group saw the need for institutions and supervisors to work together in achieving this balance. The institution needed to formalize supervision duties by including them in individuals' teaching loads. Supervisors, in turn, needed to lobby managers for recognition of the multiple demands now being made of them. For instance, supervisors were now seen to have a part as career mentors for their postgraduate research students, with responsibility for guiding them to choose programs or courses likely to improve their effectiveness and efficiency. Another issue was the special needs of international students. The expanding and changing roles of supervisors and the accompanying shifts in work practice each required examinations.

Response and recommendations from the postgraduate research students interest group: This interest group argued that access to GC programs early in the candidature would assist, as would the repetition of GC programs throughout the year so that the postgraduate research students could attend at times most relevant to them. As part of the Annual Review Process these students should assess their GC including applications of these during the reporting year. Planning for the following year in terms of GC skills development should also be included. Finally, the question was raised: Is the current timeframe for "timely completions" adequate to incorporate GC programs?

Conclusion

During the symposium, the need was flagged for the formation of an ongoing special interest group on generic capabilities and postgraduate research students. Over the course of the conference, over thirty delegates nominated themselves as having an interest in such a group. The next step is to approach the national Council of Deans and Directors of Graduate Studies to sponsor this interest group and to take the deliberations and concerns of this symposium and other conference outcomes further.

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SYMPOSIUM:
IDENTIFYING AND IMPLEMENTING GRADUATE QUALITIES

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with
Deirdre Barron, Allan Cripps, Margaret Kiley, Jane Lowther,
Coralie McCormack, William Maher, Catherine Manathunga,
Robert Marshall, Kerry Pratt and Anne Prince

Aim of the Symposium

Since the 1980s, there has been debate among university academics about the most effective way of developing and documenting research degree students' achievement of graduate qualities/attributes/skills/competencies. This debate has been linked to a wider one concerning the suitability of the research degree experience as a preparation for a research career either within academe or within the professions, government or business.

This Symposium will be informed by four presentations describing initiatives taken within Australian universities to further a process towards identification and implementation of Graduate Qualities. Each initiative includes a pilot program, but there are differences between their approaches and expected outcomes.

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SYMPOSIUM SESSION:
THE IMPLEMENTATION OF RESEARCH DEGREE GRADUATE QUALITIES: A UNIVERISTY-WIDE APPROACH

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In recent times, research education has proved to be a minefield for universities. From small beginnings (remembering that Australia's first PhD dates back only to 1946) there has been, since the 1980s, a steady movement towards mass research degree enrolments.

While laudable, this development has brought with it inevitable pressures – the nagging need for timely completions, refinements in the role of supervisor, increasing debate over the measurement of research candidate satisfaction, differing opinions on the requirement for publication during enrolment and, for the increasing output of thesis-writers, anxiety over employment potential after the thesis (Gallagher, 2000).

The Australian Government's national policy on research education requires the development of research candidates' generic graduate attributes (Borthwick and Wissler, 2003). This policy position raises the question of what particular qualities distinguish the holder of a PhD by research from other degree holders?

The question is not new; it has been asked in international research, particularly because of the pressures being placed on universities to justify research degrees as a preparation for the workforce, not only in the academic area but also in government, the professions and industry (Cryer, 1998).

In 2003 the University of South Australia charted a path through this minefield, by constructing a set of Research Degree Graduate Qualities together with related processes that plan for the development and achievement of such qualities. The set of Qualities was intended to distinguish research degree candidates from first degree graduates and coursework postgraduates.

This was not a scholarly foray into theoretical abstraction. The practical intention was to define more precisely what the research degree candidate achieves in writing a thesis. What qualities are called into play in the actual research environment? What competencies are required to achieve the result of a finely honed thesis that extends the boundaries of knowledge even incrementally?

Like any other university, the University of South Australia has a wide range of research degree candidates involved in writing theses that are sustained by a burgeoning number of quantitative and qualitative research methodologies. Any list of Research Degree Graduate Qualities would have to be elaborated so as to take into account the specific discipline, the professional area and the actual type of research that was being undertaken. The profile of qualities achieved in any particular candidature would be unique and academic areas within the University might want to define their own interpretation of the generic qualities, but there would be commonalities.

The identification of Research Degree Graduate Qualities was achieved after a first phase, consultation of work undertaken internationally to identify the main characteristics of research degrees (for example, Osborn, 1977: 188-189). This international work was linked to the more general agenda of identifying and assuring quality in universities in terms of learning outcomes.

Subsequently, the University undertook a conceptualisation of research degree education identifying the research degree candidate as one who is caught up in 'pedagogic continuity' (Delamont et al.,, 1997:324-5), a process of socialisation in which the candidate learns the parameters of a problematised field of research and is socialised into the practice of relevant research skills. To this pedagogic continuity there are a number of contributors within a research degree environment, including supervisors, established researchers and peers. Within this pedagogic continuity, the candidate is enabled to perform cutting edge research on a specific body of knowledge in two modes – autonomous and collaborative – in an exercise that necessarily interfaces with society and which establishes the candidate in a pattern of lifelong research.

Accordingly, four general quality areas were identified: a Body of Knowledge quality, an Autonomous quality, a Collaborative quality and a Societal-interactive quality. These broad categories have been further analysed into seven more specific qualities or competencies:

A Postgraduate research degree graduate of the University of South Australia:

1. has an understanding of current research-based knowledge in the field, its methodologies for creating new knowledge, and can create, critique, and appraise new and significant knowledge
2. is prepared for lifelong learning in pursuit of ongoing personal development and excellence in research within and beyond a discipline or professional area
3. is an effective problem solver, capable of applying logical, critical and creative thinking to a range of research problems
4. can work both autonomously and collaboratively as a researcher within a particular discipline or professional area and within wider but related areas
5. is committed to ethical action and social responsibility as a researcher in a discipline or professional area and as a leading citizen
6. communicates effectively as a researcher in a discipline or professional area and as a leading member of the community
7. demonstrates international perspectives in research in a discipline or professional area and as a leading citizen.

In defining these Research Degree Graduate Qualities and committing itself to their implementation within the research degree environment, the University of South Australia affirms to the academic and professional sectors that its research degree postgraduates have already engaged in original research in order to solve significant problems, that in doing so they have learned how to work autonomously and collaboratively, that they have set up lifelong learning patterns and networks, that they have been effectively able to communicate their research findings, that they have performed research in an ethical manner, and that they have introduced international perspectives into their research.

Further, the University has established appropriate scaffolding and can point to a nesting of checks and balances, from an initial Statement of Agreement between supervisors and candidates, to successive Reviews of Progress and to a Final Review of Progress, all involved in a process of quality control to ensure that this process of interaction between the research degree candidate and the generic Qualities is actually happening.

The Statement of Agreement not only regulates a healthy and mutually acceptable candidate/supervisor relationship but also formulates a customised Research Degree Program for the individual research candidate. The basis for this Program is the generic Research Degree Graduate Qualities which are elaborated, within the Statement of Agreement, in terms of the particular needs of the candidate.

The Statement of Agreement is aligned closely with the candidate's formal Research Proposal, the blueprint for the eventual thesis. The planning phase of the Statement of Agreement is appraised together with the Research Proposal. The Statement of Agreement also feeds into the first Review of Progress, becoming its defining element. The Review of Progress, in turn, contains a planning phase which is taken up in the next Review and so on.

After they have submitted a thesis, a Final Review of Progress gives research degree postgraduates the opportunity to reflect on what has been achieved. Each postgraduate is enabled to provide a summary of achievements in each Quality, a summary that arises from and is interpreted by their particular and unique research degree experience. Together, the research thesis and this Final Review of Progress provide better information about the totality of individual achievement. For self-knowledge, for the information of potential employers, and for the university's custody of quality measures this sequencing is of prime importance.

In this way, the University provides for supervisors and research degree candidates an agreed structure within which to work, and a means for defining and maintaining quality in an area where quality is being demanded as never before. From the point of view of the research degree candidates, the principal requirement, as previously, is to write a competent research thesis. The other requirements are geared towards doing this more transparently, efficiently, and effectively.

The research degree candidates are being asked to be more explicitly aware of the transferable competencies they are acquiring by the very process in which they are involved: learning to undertake prolonged and complex research, in both autonomous and collaborative modes, using lateral and creative thought to solve problems by sifting through large-scale information resources and challenging established paradigms to propose novel solutions, thereby establishing lifelong possibilities of renewed research activity—the Association of Graduate Recruiters (1995:46) note that the highest stage of transferable skills is concerned with lifelong learning—while acting ethically within their broad discipline and professional field and achieving effective communication, and interacting with and within national and international academic networks.

In short, the Research Degree Graduate Qualities identified within The University of South Australia are intended to identify generic outcomes that result from the research education experience. They are not add-ons; they are derived from the existing experience, usually through cyclical processes not normally articulated. Of some importance for all stakeholders is the fact that they also identify competencies that are transferable to the workplace, either academic or professional.

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SYMPOSIUM SESSION:

DEVELOPING RESEARCH STUDENTS' GRADUATE ATTRIBUTES

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The impetus to broaden the scope of research education is not new. Since the 1970s, concern has been expressed about the suitability of research education as preparation for a research career outside academe. Initially, this issue emerged within the science and engineering disciplines (Sekhon, 1989). By the late 1990s, it had spread to include all research graduates, as academic positions shrank because of federal funding cutbacks and a greater number of graduates sought work in government, industry and the professions. It is one of the few issues where there is a remarkable consensus amongst most of the key stakeholders in research education – employer groups, academics, governments, research students, and graduates. Developing research students' broad graduate attributes has become one of the fundamental planks of Australian and United Kingdom governments' research training policies. This research paper explores the development and piloting of a Research Student Portfolio designed to enhance and document research students' achievement of several graduate attributes. It was originally developed by an academic staff developer working in close collaboration with research students and academic and research-only staff in a small interdisciplinary research centre at the University of Queensland.

Since the 1990s, debates have raged about the most effective way of developing and documenting research students' achievement of key graduate attributes (Holdaway, 1996; Cryer, 1998; Pearson & Brew, 2002). Many universities in Australia and the UK have begun offering specific programs that deal with a variety of research higher degree students' generic skills (Borthwick & Wissler, 2003; Cryer, 1998). There are three basic types of programs offered in this area:

1. one-off workshop sessions and seminars (most common form of development)
2. intensive face-to-face professional development programs (eg. University of Melbourne etc) and
3. online professional development programs (eg. ATN LEAP, Borthwick & Wissler, 2003).

Other professional development programs take a more reflective approach to students' development of generic skills. Pat Cryer (1998, p. 207) in the UK, for example, has been particularly active in providing programs at a number of universities that are designed to enhance students' 'transferable skills, marketability and lifelong learning'. These face-to-face programs are designed to 'help students to recognise, individualise and internalise the fullness and richness of and the potential for their skills and to make credible cases to support their claims for having acquired certain skills' (Cryer, 1998, p. 214). More recent Australian programs have sought to develop an individual learning plan that students and supervisors[1] negotiate at the beginning of candidature (Kiley et. al, 2004).

Developing the Research Student Portfolio

Drawing on all of these approaches, a Research Student Portfolio seeking to develop students' graduate attributes was designed and implemented in a small, interdisciplinary research centre, the

1 In 2002, the University of Queensland adopted the term 'advisor' to replace 'supervisor' in order to capture the mentoring and guiding role advisors play. As a result, all following references will be made to advisors rather than supervisors.

Advanced Wastewater Management Centre (AWMC), at the University of Queensland. The AWMC consists of researchers and research students seeking to develop effective, sustainable solutions to the management of wastewater using the combined, interdisciplinary skills of microbiologists and chemical engineers. The centre currently also has a PhD student from the social sciences studying the integration of management, political, and community aspects of sustainable urban water management.

Data identifying the desired graduate attributes of AWMC research graduates was gathered at separate staff and student focus groups, from which a subcommittee with academic staff, postdoctoral fellows, and research student representatives was formed to work with the academic staff developer to finalise the interdisciplinary research skills program. As Borthwick and Wissler (2003) have argued, it was important to include students' perspectives throughout the development of the portfolio process. At this level, students often have a concrete set of skills and career goals they want to achieve. For other students, involvement in this project has raised their awareness of the need to engage in strategic career planning. It was also believed that postdoctoral and other research-only staff, who are often at the early stages of their academic careers or who may have had multiple pathways in and out of industry and academe, would have significant recommendations that would enrich the development of the portfolio.

Research Student Portfolio

The Research Student Portfolio consists:

- a list of research students' graduate attributes;
- key performance indicators (KPIs) associated with each graduate attribute, which provide the student and advisor with tangible and practical means of addressing each attribute;
- a reflective review tool which allows students and advisors to reflect on students' achievement of key performance indicators for each graduate attribute and develop an action plan for further development; and
- a portfolio based on evidence of achievement of the key performance indicators (KPIs).

The list of research students' graduate attributes originally developed by the AWMC appears below.

Figure 1: Attributes of Research Graduates

- Problem-solving and problem-formulation from different perspectives
- Communication skills
- Project management skills
- Industry-focus and/or professional experience
- Understanding and applying multiple disciplinary and international perspectives

From the list, a reflective review tool was created to assist students and advisors to develop and enhance students' graduate attributes. In the reflective review tool, each attribute is unpacked, using a full description of how these skills fit into the research context and how they can be achieved.

Interdisciplinary research skills, attitudes and behaviours feature in each of these graduate attributes. Although the AWMC is an interdisciplinary centre, later trials in areas such as Animal Studies and other studies have demonstrated the increasing importance of developing interdisciplinary skills in many current fields of research (Bruhn, 2000; Gibbons et al., 1994; Klein, 1996; Nowotny et al., 2001; Somerville & Rapport, 2000). There is no space to explore all of these graduate attributes in detail so two of the attributes that are most relevant to a wide cross-section of disciplines and interdisciplines will be discussed: attributes 5 and 2.

Understanding and applying multiple disciplinary and international perspectives

All graduates, particularly those completing research higher degree studies, are increasingly requiring the ability to understand and apply multiple disciplinary and international perspectives. Table 1 explores how these abilities could be described and developed.

Table 1: Understanding and applying multiple disciplinary and international perspectives in AWMC context.

Description	How this could be demonstrated (KPIs)
Multiple disciplinary perspectives • The student will be able to move beyond the comfort zone of their previous discipline in order to understand ideas, concepts, techniques and methods from other disciplines. • The student will be able to deal with the uncertainty and challenge involved in understanding new ideas, concepts, techniques and methods.	**The student has:** • explored how ideas, concepts, techniques and methods from other disciplines are similar and different from their original discipline/s • explored how the ideas, concepts, techniques and methods from other disciplines fit into their research project • demonstrated when and how they were comfortable with ideas, concepts, techniques and methods from other disciplines.
Multiple international perspectives • The student will have accessed and learnt from local, national and international contacts and perspectives. • The student will have, as a result, developed an understanding of many cultural perspectives and approaches to wastewater management.	**The student has:** • attended at least one international conference overseas and described what they have learnt from their active participation • established personal contact with key local, national and international experts in the field of wastewater management (via email, attending professional association meetings, attending industry meetings, individual meetings etc) • visited other local, national and international workplaces and labs dealing with wastewater management • incorporated different ways of approaching their field in different cultures and locations (eg. Asian countries, Indigenous communities) in their research project.

Communication Skills

While a great deal of attention is placed on communication skills at any level of higher education, there have only been a few attempts to define precisely what constitutes these skills at research higher degree level (Borthwick and Wissler, 2003). In addition, UK research conducted by Cryer (1998) has suggested that many research students are unable to articulate the exact nature of their highly developed communication skills and how these might be transferred to various workplace settings and professions. Table 2 identifies the nature of these skills in the AWMC context and how these could be demonstrated.

Table 2: Communication skills in AWMC context

Description	How this could be demonstrated (KPIs)
To express an idea: • the student will be able to present their work in several forms (written, spoken or graphically) in different contexts and to different audiences • the student will have gained experience in teaching/training and advising people.	**The student has:** • effectively presented their work at internal seminars and/or conferences, congresses, etc. • clearly expressed their ideas and results (orally and in powerpoint), gathered feedback, and demonstrated how they have improved their presentation skills based on this feedback • written well-structured, highly effective reports/papers and indicated their attempts to improve their writing skills • demonstrated the ability to plan and organise lecture, tutorial or training sessions and develop and deliver effective training materials and activities • facilitated the successful completion of honours projects as honours advisors • disseminated special skills like statistical analysis methods to other students.
To understand and value other knowledges: • the student will be able to read, listen to and appreciate other people's ideas.	**The student has:** • compiled an interdisciplinary literature review that will provide them with ways to expand their own work • applied other disciplines' languages and concepts to their work • actively participated in meetings and seminars showing that they understand other people's perspectives • emailed other experts in their field after being introduced by their advisor, keeping the advisor in the loop with email communications • Received tutor training and been involved in teaching and postgraduate advising.
To work in interdisciplinary teams to develop social skills, self-confidence and conflict resolution and negotiation skills	**The student has:** • shown effective participation in team work, by giving input to the general project and applying the outcomes to their own work • established a bridge between different perspectives as a result of their developing interdisciplinary knowledge.

Implementing the development of these interdisciplinary research attitudes and skills

In order to implement the development of these interdisciplinary research attributes, a two-step process was constructed. This involved students completing a reflective exercise each year with their advisor as part of the annual review process and developing a portfolio that organises and documents continuous development of graduate attributes and that could be used as a career development tool. The involvement of the advisor/s in the process was regarded as important, as Borthwick and Wissler (2003) have argued, although it was not expected that the advisor/s would be required to conduct any additional training outside of the usual process of postgraduate advising.

The portfolio template is still under development, although it is expected that it will take the form of an organised collection of evidence demonstrating the achievement of each graduate attribute. It is acknowledged that care must be taken in designing research students' portfolios to capture the level of sophistication they achieve in these graduate attributes. As Pearson and Brew (2002) emphasise, research students are capable of accomplishing more than merely listing their skills in

project management for example. They become 'skilful performers' in these areas (Pearson & Brew, 2002, p. 4) and need to convince employers in industry, the professions or academe of this. Cryer (1998) recommended that students use a transferable skill framework, which was designed to generate students' reflections about situations in which they had applied their skills and how they might frame and discuss these in ways that employers would appreciate. This is why many of the KPIs for AWMC's graduate attributes ask students to write brief reflections on various demonstrations of their skill development. In conjunction with their advisors, students would then devise an individual learning plan each year in order to further enhance these attributes.

Pedagogical features of RSVP

One of the central pedagogical features of the Research Student Portfolio program has been the need to embed further graduate attribute development within students' current research projects rather than requiring them to do additional courses. This decision is supported by previous studies of developing students' skills and attributes at undergraduate and postgraduate levels. Pearson and Brew (2002) warn of the dangers inherent in viewing graduate attribute development as bolt-on aspects of research education. As Pearson and Brew (2002) indicate, this mirrors the debate about embedding generic attributes in undergraduate degree programs (Bowden et al., 2000). Cryer (1998, p. 212) suggests that these skills need to be embedded within students' research degree programs so that they are 'part of the students' everyday thinking, help develop proficiency, facilitate transferability, and develop the habit of lifelong learning'.

There is also an emphasis in the programs on using experiential, active, and interactive learning techniques to help students develop and enhance these skills and attributes (Biggs, 1999; Brookfield, 1990). Some of the key interdisciplinary research skills, such as the ability to understand and apply multiple disciplinary and international perspectives, to be flexible and have a high tolerance for ambiguity, and to develop social, ethical and environmental responsibility, are essentially about attitudinal change and development, which can rarely be taught didactically (Mezirow, 2000; Clifford, 1998). Even some of the more technical skills, such as effective communication and team working, are best learnt by doing (Jackson & Caffarella, 1994; Evans, 2000).

Reflective techniques are also a key aspect of the program and are recognised as a fundamental facet of effective professional practice. Schon (1983) and others (Cryer, 1998; Bolton, 2001; Evans, 2002) have demonstrated conclusively the importance of learning to reflect upon and systematically question your own decision-making and actions as a professional. By requiring students to write reflections on their ongoing development of important interdisciplinary skills and attitudes, the program aims to ensure that research students also enhance their ability to become thoroughly professional reflective practitioners.

Pilot testing of research student portfolio process

During semester two 2003, AWMC students and their advisors piloted the research student portfolio process. A student-advisor contract was also developed because some students expressed concern that their advisors may be too busy to engage in the reflective review with them. A further focus group was held with students and research-only staff to modify the reflective review tool and process, and concerns raised by the students were relayed to academic staff. In order to explore how a number of students and advisors engaged in the reflective review process,

two examples have been included here. We will call the students 'Erica' and 'Ramonez' and will explore their responses to the communication skills graduate attribute.

Erica

Erica is approximately halfway through her doctoral studies and has had a lengthy and varied professional career. She indicated that she considered communication skills to be one of her strongest attributes:

> I have presented my work at seminars (and previously presented on other topics at workshops and conferences). As an experienced [worker], I have developed the ability to actively listen and draw together ideas. However, both my written and verbal communication would benefit from use of mind mapping to structure the approach. My literature review is interdisciplinary ... and I have maintained contact with my associate supervisors ... [in other disciplines]. I have worked in many teams.

Her advisor agrees but recommends that 'we need to think about your ability to present research outcomes – this is a very different and difficult skill. [We need to] make sure that you have enough opportunities to practice this (student reflective review)'.

Ramonez

Ramonez has just commenced her PhD program and has less prior work experience than Erica. She initially sent her advisor very brief reflections on her communication skills. Prompted for more information and reflection by her advisor, she then added the additional comments. She suggested that:

> I feel that my communication skills are fine. I have always had the ability to convey my thoughts and ideas across considerably clearly though I do get exceptionally nervous during presentations with groups of people larger than say, 20 people ... I am able to listen to peoples ideas, analyse them and I do find it very valuable. I have not, as of yet, presented my work at internal seminars or conferences, but I will be presenting [soon] I will gather feedback on my presentation ... I do participate in other disciplines seminars (though they have been restricted to my friends first year reviews) and do have a general idea of their jargon. I will have to make sure that I make an effort to look into the seminars that are presented in [another School]. Also, I am hoping that spending time with [postdoc in another discipline] will allow me to get immerse myself into another field of science and allow me to understand an area that I have previously not been interested in. Lastly, I have had to organise a tutorial and feel that I would be fine if I had to organise a lecture on a subject that I am familiar with. I've already learnt from tutoring that there is no better way to understand a subject than actually teaching it.

Her advisor responded by agreeing that her:

> Oral communication skills—one to one—are excellent. This is a very powerful tool, which I am sure will benefit you. This is something to continue to develop. However, from a PhD point of view, it is important that you develop a high level of

> ability in technical communication—which is a very different skill. We need to develop an action plan to help you to develop your skills in this area.

In exploring the interdisciplinary aspect of communication skills, her advisor emphasised that:

> The issue of inter-disciplinarity is an important one. This refers to your ability to develop expertise in more than one area. I feel that you are addressing this well at this stage by integrating [postdoc in another discipline] into the project. Working with [them] over the next couple of years will help you to become 'bi-lingual'. You will need to decide how much skill you would like to develop in the [other] area—although I will encourage you to be very comfortable discussing [these] issues related to your project. This is an important part of the KPI—'applied other disciplines' languages and concepts to their work'. The idea behind the project work is to encourage formal interaction between the people in the AWMC, in order to help students experience work in a multi-disc team. I do think that this is a very important part of your PhD experience, although I am not yet sure how best to achieve it. We should discuss this, and then raise it at the upcoming focus group on the graduate attributes.

Developing action plans

All of the students and advisors involved in the pilot study negotiated an action plan for the student's systematic development of each graduate attribute. Table 3 shows how Erica, for example, decided to develop her communication skills:

Table 3: Excerpt from a Student's Action Plan (completed and reviewed 4 months later)

GA	Action	Who	When
3. Communication skills	Improve communication of structured/ detailed research methodology and outcomes, using key messages, via:	student	Have refined presentation of research outcomes
	a. 2 presentations to AWMC - on research methodology & research outcomes.	student	As negotiated in seminar program
	b. Publication in international journals such as **Water 21** and **Water International**	student	Submit when data available
	c. presentation at an international conference e.g. IWA World Water Congress (Sept 2004) or IWA sustainability conference (Nov 2004).	advisor	July 2003 discuss appropriate conferences with another lecturer. NO RESPONSE AS YET
	d. Comment in the preparation of the above		As needed

Evaluation of the Research Student Portfolio

In December 2003, an evaluation of the Research Student portfolio was conducted with staff and students in the AWMC. Approximately half of the research higher degree students had completed the reflective review process with their postgraduate advisor. A number of students who were nearing completion elected not to engage in the process. Others had been unable to schedule a time to meet with their advisors. A number of postdoctoral fellows also expressed interest in completing the reflective review as an additional career development tool that could be used in

conjunction with their academic portfolio. More recently, they have called for a modified version of the Research Student Portfolio that would be suitable for their professional development needs.

An effective planning tool

Students who participated in this pilot study indicated how useful it was for their overall research planning and future career development. In particular, they felt the reflective review was a useful 'scoping tool' and could even be used as a 'problem-solving tool' (meeting feedback).

Erica commented that:

> I found this a useful exercise in critically reviewing my development as a graduate ... It gave me a useful overall picture of where I was at and where the gaps were ... It allowed me to prioritise certain key actions that I would like to follow up on, like publishing papers, gaining more international exposure and identifying an additional mentor or support group (student feedback).

Another student, 'Bob', found that his advisor was 'willing to support me more in what I wanted to do than I previously thought' (student feedback).

An effective framework for postgraduate advising

Advisors have also indicated that the research student portfolio process is a valuable framework within which to situate their advising practice and to ensure that they are providing support in all areas of their research students' professional development. It also allows them to provide constructive and positive feedback to students, not only about their recommendations for future development, but also about students' achievements, which is very motivating for students. The reflective review tool also enabled them to plan additional interdisciplinary research experiences for students.

At a broader Centre level, this process has allowed for the development of a shared understanding of and commitment to the key elements of research education within this interdisciplinary Centre. It formalised the mentoring role advisors adopt for their research students. In this way, it aimed to ensure that each of the Centre's research students would have more equitable and transparent access to the intellectual and financial resources they require to develop professionally and personally during their candidature.

Planned modifications to the interdisciplinary research education program

As a result of an evaluation of the pilot program by staff and students, a number of modifications were incorporated into the Research Student Portfolio. While it was agreed that six to twelve monthly intervals were appropriate, it was felt that the first six month interval was too soon to complete the first full reflective review. Instead, it was recommended that advisors go through the list of graduate attributes and the reflective review tool with students at the beginning of candidature, and that they start to work on their reflective review after their first half-year seminar at about eight to ten months into candidature. This would ensure that their first full reflective review and action plan was completed as part of the confirmation of candidature process and would then be revisited every six to twelve months after this.

Other modifications included:

- revising the order of graduate attributes so that the review process would start with more familiar goals (such as problem solving and communication) and work up to the more difficult attributes
- adding entrepreneurship and commercialising the student's intellectual property to the industry-focus and/or professional experience attribute
- condensing the written material contained in the reflective review tool
- making explicit reference at the beginning of the reflective review tool that this was intended to be a planning exercise and not just a reflection on what the student had already achieved
- recommending that students not attempt to complete the whole reflective review in one sitting
- developing a portfolio template that will allow students to compile evidence of their achievement of each graduate attribute.

Conclusion

The Research Student Portfolio process is currently being trailed in the Schools of Engineering, Social Work and Applied Human Sciences, and Animal Studies to test its transferability. Participants in a learning circle on postgraduate advising, run by an academic staff developer, are also exploring the process with their research students. It has been tabled for discussion by the university's Postgraduate Studies Committee and has also informed the current development of university-wide policy on research higher degree graduate attributes. It appears to address the challenge of embedding the development of research students' graduate attributes into the students' research studies. As the portfolio aspect of the process is further developed, careful planning will be required to ensure that the portfolio captures the sophistication of research students' knowledges, attitudes and skills. So too, the issue of the relationship between graduate attributes and research skills identified by Borthwick and Wissler (2003) will also need to be addressed. The Research Student Portfolio process, however, has the clear potential to be a valuable career planning tool for students and a useful framework for effective postgraduate advising. It could also become the basis for a professional development resource for postdoctoral and research-only staff.

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SYMPOSIUM SESSION:
LEARNING PLANS FOR HIGHER DEGREE BY RESEARCH STUDENTS AT THE UNIVERSITY OF CANBERRA

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Background

The University of Canberra is committed to delivering supervision of the highest quality to its Higher Degree by Research (HDR) students and to achieving successful learning outcomes for these students (on-time completion of a high quality thesis and the acquisition of a range of knowledge, skills and understandings necessary for their future employment). Personal learning plans constitute one way the University seeks to achieve these outcomes. Learning plans are sensitive to the needs of individual students and to the distinctive characteristics and demands of disciplines, while also taking full account of the demands of today's higher education context, such as the demand for the development of key transferable skills and competencies. The University believes that research education programs and practices need to be embedded in the student's everyday research practice to successfully balance external performance requirements and the complex interpersonal interactions that comprise the postgraduate research experience at the individual level.

The following principles underlie the University's decision to introduce learning plans.

- HDR students are life-long learners who bring to their studies a diversity of academic expertise, workplace skills and personal and professional experience that is to be valued and respected.
- HDR students can take control of, and take responsibility for, their own learning.
- While learning for HDR students occurs primarily within the context of their theses, a diversity of learning contexts for HDR students is also recognised. It is essential that students interact with other researchers involved in a range of disciplines, research methodologies and backgrounds.
- An individual's learning context should be recognised, and no student should be disadvantaged by these contextual features.

From these principles arises a commitment to ensure that HDR graduates possess advanced skills in inquiry, communication and organisation; are able to reflect critically and take a creative approach to issues in and beyond their field of research expertise; have a positive attitude to the acquisition and advancement of knowledge; continue to learn and provide leadership in their professions; and practise ethically and exert a beneficial influence on society.

What is a learning plan?

A learning plan is a plan for a student's learning over his/her candidature. A learning plan is prepared by each candidate, in consultation with their supervisors, for each year of candidature and is formally reviewed annually. Developing a personal learning plan provides a structured process to help your student think about what they define as a successful doctoral experience and

what they will need to achieve this outcome. The Learning Plan identifies for each of the six key learning areas nominated by the University—**knowledge, inquiry, communication, organisation, creativity, and ethical practice**—the student's desired learning outcomes, the learning opportunities the student will seek to achieve these outcomes, a timeline for their achievement, and the evidence to be submitted to support achievement of these outcomes.

Developing a Learning Plan

As the student begins to develop their Learning Plan, the student can reflect on their reasons for undertaking a research degree, their expectations and their goals, and discuss them with their supervisor. Having identified their goals, the student can then undertake a needs analysis in relation to each of the six key learning areas identified by the University. For each key learning area, specific learning outcomes have been related to the key attributes of conceptualisation and understanding, application and reflection. For example, the table below identifies these three key attributes for the Key Learning Area Inquiry.

The research graduate should **understand** the inquiry philosophies, theories and practices in addressing research issues and **appreciate** different methodological approaches.
The research graduate should develop higher order critical thinking skills in order to **investigate**, **formulate** and **apply** a range of approaches to problems including critical analysis and interpretation of research outcomes.
The research graduate should **evaluate critically** and **question** the philosophies, theories and practices, and research outcomes in the research field.

To assist each student and supervisor work together to identify the student's strengths and weakness, statements have been developed for each of the key learning areas that articulate the sorts of skills that characterise each attribute. For example, for the Key Learning Area Inquiry, some examples of attributes students could use to rate their current position and future needs include:

I understand how theories and practices are developed in my field.
I am familiar with the range of research methods available across different disciplines.
I understand the basic principles of research design.
I can critically reflect on my research design.
I can critically question the philosophies, theories and practices used in my field.
I can formulate researchable problems.
I can develop appropriate and achievable research questions.
I can interpret research questions within the existing literature.
I can identify appropriate methodologies and methods.
I can develop a coherent argument to support the chosen methodology/method.
I can analyse and interpret research outcomes.

The needs analysis recognises the student's prior learning and experience, and addresses known and anticipated needs. For each of the attributes under each of the key learning areas students assess their learning needs by rating their current position according to the following five-point scale.

Rating	Descriptor	The extent to which…
1	Very Well	I feel confident in my ability in this area.
2	Satisfactory	I have some understanding of this attribute, but I could improve.
3	Needs Attention	I need to improve my ability in this area.
4	Needs Considerable Attention	I need to put considerable effort into developing this attribute further.
5	Not Appropriate	This attribute is not appropriate to my thesis, nor to my personal or professional development needs at this stage.

Once needs have been identified and prioritised, activities are selected to achieve these outcomes and the most appropriate time in the student's candidature to undertake these activities identified. Among the many ways students can achieve these outcomes are: formal course awards; workshops; training sessions; attendance and presentation at conferences, seminars and discussion groups; practicums; activities of professional associations; and learning exchanges with industry partners.

It is the student's responsibility (in consultation with their supervisors) to choose the learning outcomes from each of the key learning areas they feel are relevant to their thesis needs, their future work or career and the wider life skills they seek. A balance of outcomes and activities across the six key learning areas is desirable. It is not expected that each student would need to develop all attributes for each key learning area. With each student having a unique learning plan, each student will have a unique set of learning experiences.

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SYMPOSIUM SESSION:
EDUCATING LEADERS: LEADERSHIP AND ENTREPRENEURIAL ATTRIBUTES DEVELOPMENT (LEAD) PROGRAM AT SWINBURNE UNIVERSITY OF TECHNOLOGY

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This paper reports on the rationale for and the student experience of the Swinburne University Leadership and Entrepreneurial Attributes Development (LEAD) program. This program offers Research Higher Degree students who have been identified as having high potential for leadership the opportunity to develop leadership and entrepreneurial skills. LEAD comprises two streams of development: leadership and entrepreneurship. The leadership stream of the program aims to expose students to the concepts of teamwork, communication and project leadership. This will enable students to lead Research and Development programs in their professional careers. In addition, it enhances the PhD experience by providing a program that develops networks among students from a broad range of disciplines. These networks will survive beyond the program and serve students throughout their subsequent diverse careers. The entrepreneurial stream of the program focuses on building:

- an understanding of commercial imperatives
- the willingness to take balanced risks
- an understanding of the value and protection of Intellectual Property
- an understanding of the process of commercialisation of Intellectual Property.

In the report from AQUA, Swinburne was commended for the LEAD program http://www.auqa.edu.au/qualityaudit/sai_reports/index.shtml.

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GENERIC AND DISCIPLINE-SPECIFIC RESEARCH SKILLS DEVELOPMENT THROUGH A DEPARTMENTAL INDUCTION PROGRAM: AN ENTRY TO RESEARCH AND PROFESSIONAL CULTURES

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Postgraduate research students in professional disciplines are required to negotiate through the broader academic research culture, their local research cultures, and professional research and management cultures. Each of these cultures is characterised by its own motivations, expectations and standards for success, which conflate to place demands on students for a range of generic and discipline-related skills.

This paper presents the results of an initial investigation into the effectiveness of a compulsory, comprehensive, departmentally-based induction program which aims to address these demands. In this program we attempted to make explicit the elements of these cultures and to foster the skills and knowledge our students need to participate in them. We will describe the means by which we identified target cultural characteristics, provide some detail of the program and the staff involved, and explain how its design can induct students into these cultures. We also provided data on students' and their supervisors' views of the outcomes of the program in terms of its influence on subsequent student performance and experience of postgraduate candidature.

We are interested in engaging in discussion and hearing about the experiences of others in their attempts to induct postgraduate research students into these cultures.

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TRANSFERABLE SKILLS WITHIN RESEARCH DEGREES: DEVELOPING PUBLICATION SKILLS THROUGH A GENRE-BASED, COLLABORATING-COLLEAGUE WORKSHOP APPROACH

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PhD graduates need to develop transferable skills for degree completion as well as later employment, and an important subset is professional-level written communication skills. Writing journal articles for the peer-reviewed international literature is an important priority within research candidatures, and also in research workplaces, so intrinsic motivation for developing the required skills is high. In both these contexts, also experienced researchers in the role of supervisors are hard-pressed to find the time to engage effectively in the traditional mentoring approaches through which they are likely to have developed their own skills. This poster describes a unique publication skills workshop approach based on research findings from genre analysis and methodologies current within the English for Specific Purposes area of Applied Linguistics. Participants' positive responses were shown through quantitative evaluation data on workshops presented in research workplaces in China and Australia, and in university departments. Qualitative data analysis indicates that the workshop features which participants valued most highly relate to its genre-based, collaborative and hands-on nature – all features that have been well theorised in the Applied Linguistics literature. Implications are drawn from these findings for the effective development of desirable graduate attributes within research education programs.

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STUDENT AND SUPERVISOR PERSPECTIVES ON GENERIC SKILLS: ARE WE TRYING TO SELL POGO STICKS TO KANGAROOS?

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Between 2001-2003, postgraduate research students and their supervisors at one Australian university were surveyed about their beliefs about students' acquisition of the generic or transferable skills expected of research students. The surveys covered all stages of candidature: in the first 12 months, in mid-candidature, on the submission of thesis, and at graduation, and preceded any formal programs on the development of generic skills. The results of the surveys indicated that both students and their supervisors believed that students were successfully developing, or had already acquired these skills.

Are we in danger of devoting time, effort, and valuable resources to the acquisition of skills that students already have? If not, proponents of these programs will need to convince students and their supervisors that the time and effort put in to address these skills is worthwhile.

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REFLECTING ON RESEARCH PRACTICE: A CASE STUDY OF THE BUSINESS RESEARCH INTERNS' SEMINAR

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RMIT Business places strategic importance on research and has invested in measures designed to strengthen and enhance its research capacity. Whilst there is evidence of substantial growth rates in tangible research outputs, measured by DEST including HDR completion rates and the number of research publications, we wanted to investigate whether at a more fundamental level the more elusive and intangible quality of 'research culture' was evident within RMIT Business.

The Business Research Intern (BRI) Seminar Series has been a key strategy in efforts to increase a sense of research culture at RMIT Business. The aim of the BRI Series is to provide research staff and students with the opportunity to share their research in an informal, supportive atmosphere and to encourage greater dialogue between researchers. In our paper, we discussed the findings of our research pertaining to participants' reflections on research culture and the role that the BRI Seminar program has played for them as researchers. We also documented the initiatives that participants saw as leading to a more stimulating research culture and its relationship to research outputs. These findings will be important for research organisations that are endeavouring to develop a research culture and increase their research outputs.

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KEYNOTE ADDRESS
POSTGRADUATE RESEARCH RE-IMAGINED: A BALANCE BETWEEN THE PURSUIT OF EXCELLENCE AND REAL WORLD NEEDS OF STUDENTS

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Introduction

There is no doubt that the PhD program is under challenge. It is equally clear that the PhD will survive but it will be significantly changed, and, if we seize the opportunities in an appropriate way, it will be modernized and enhanced.

The Research Ph.D program is one of the most important inventions of the modern university. The image of researchers at work on major research projects which take years in laboratory, library or 'the field' may seem as old as the renaissance (or older) but its incarnation as the PhD program is a relatively recent development. The title of Doctor (of a university) predates the PhD program by a considerable period. It was a university title awarded to indicate a highly learned person able to speak/teach with authority on a subject or discipline (as broadly defined as Law or Theology). It was the PhD program as a course of study resulting in a thesis which was examined to award the title of doctor which was the significant creation.

In its initial version, the PhD was a major rite of passage in the career of aspiring researchers, a successful thesis defense was proof of the ability of the researcher to make an original contribution to knowledge which was something more than a routine engagement with a field of study. The thesis had to show originality: it had to deliver something that was 'new' and challenging; it had to move disciplinary knowledge forward in a way that was acknowledged to be significant. The test of originality, of innovation, was such that it meant that undertaking a PhD was a minority enterprise. Only a few aspiring to be the best undertook the PhD and were then judged by their academic peers and were awarded the degree, often after long years of research and thesis writing.

In recent years, the system has moved towards more of a mass PhD program than ever before. This expansion of the PhD program has its critics. Significant academic figures, have argued that there has been a substantial decline in the quality of research being done as part of the PhD. They assert that most theses being examined now make little contribution to knowledge and are of little interest to anyone other than the students writing them. Grumpy ministers, their staffers, tabloid journalists, DEST bureaucrats and independent think-tank hacks will all complain at times that there are too many PhD students working on inappropriate topics which will never result in national benefit or improved employment prospects for themselves. The number of Phd students who end up driving taxis or who do not work in their area of expertise will be cited as evidence of the over-production of PhDs.

Needless to say, these are not views I endorse. I am impressed by the quality of the research produced through the present PhD program. The test of an original, innovative contribution to knowledge is still being met in a substantial number of cases. Indeed, the range of what is judged to be innovative has broadened to include new research techniques and methods, new interpretations and reconfigurations of topics and fields of study, the creation of new research resources, and the synthesis of materials and interpretations across a number of fields. Sufficient

of the work which is being produced matches the need to operate at the international cutting edge of research to undermine the claims of the mean-spirited critics.

The other reason why the PhD will not fail is that the knowledge economy and an increasingly sophisticated understanding of the requirements of innovation demands an increasing number of 'workers' with the skills and cultural attributes which come from completing a well-designed Ph D program. The voracious appetite of the new economy will call forth for consumption these new resources of human and cultural capital – just as ruthlessly as land was cleared for agriculture, people and products moved around the globe, and mineral resources extracted and consumed in industrial and post-industrial production. The ordinary interactions between politics and the economy will be sufficient to keep a focus on funding (and even expanding) a significant number of postgraduate research students in the system for some years to come.

The present challenge

The PhD has come under challenge in recent years in much the same way as the university education system as a whole. Cuts in university funding and the tightening regulatory framework (which continues unabated despite claims about producing a more deregulated system) has added to the pressure on the PhD program. The three year 'time limit' has meant that the nature of the PhD program has had to be rethought and the process of 'getting' a PhD has had to be made more professional with a greater emphasis on the 'training' side of research training than had been the case before. Improving the professionalism of the PhD program has certainly had its benefits. PhD candidates are not harmed by having to have a better idea of their proposed topic before they commence. The expectation that supervisors should at least be good at thesis supervision is not a serious impediment to the quality of the program. A heightened awareness of the costs of research and the link between the research plan and the production of a thesis text is no bad thing either.

As governments fund more and take a greater interest in the PhD program, the level of bureaucratic regulation increases. In the Australian system, PhD students pay no fees and are not charged HECS. Scholarships (or a significant number of them, are also funded by the government directly (both for international and national students) and indirectly through a variety of national competitive research schemes, including the CRC program. The very high cost of one-on-one supervision (or the even more costly supervision panel) represents a significant government investment in the PhD. Such government funding means regulation and the prospects of increased regulation. So far we have seen a kind of quality driver in the government's concerns – limiting the number of available RTS places and seeking to promote a closer alignment between places and individual institutions claimed (demonstrated?) fields of research excellence. We should expect in the coming years greater government regulation, not less on the topics the government will fund for post graduate research. Institutions wishing to remain at the international cutting edge in humanities, social sciences, and cultural studies or simply wishing to preserve a comprehensive range of disciplines are likely to have to find creative ways of funding such programs.

As government funding tends to promote increased reporting and regulation over time, so other processes have also driven an increased bureaucratic regulation of PhD programs. Most of these have come from within the universities themselves and are driven by management, academics, and students in various combinations and with differing levels of self awareness and enthusiasm. (I admit that I have played a part in these moves and support many if not all of them.) It is hard not to note the way in which a code of practice over supervision, annual progress reports, and processes

to assess and approve initial theses proposals has turned into a whole system of regulation and supervision of both the staff and students involved in the postgraduate program. Ethics approvals, approvals for the research use of animals, health and safety considerations, and the need to 'protect' intellectual property, all have re-enforced this regulatory impulse. Further, this regulation has required a significant increase in the number of administrative staff required to make the new system work to produce its regulatory effects, to collect and assess the Key Performance Indicators and the other pieces of evidence to see that the monumental effort involved in producing a PhD 'outcome' is properly monitored, measured and sustained. I would argue that not all this increased regulation is bad, that often the need to regulate is part of a process for ensuring better-funded PhD programs and better quality programs at that, but there is a price to paid in hours of effort for the heavily regulated environment which has been created. If we do not find a way to lessen the level of regulation, then we are going to have large quantities of resources being consumed in regulation which would be better spent in promoting creativity, innovation, and imagination.

The examination

Although reforming the PhD tends to increase its bureaucratic regulation, I am going to take the risk of discussing some further parts of the PhD process which should be reformed. For example, we need to return to the examination process and consider what we have been trying to achieve in the Australian system. Up to now, Australian PhD theses are subject to 'external examination', often including an international assessor. The number of these assessors may vary (two, three or more) and candidates may or may not have a part to play in the selection of their assessors. Confidentiality abounds over the identity of the assessors and their reports, although actual practice may frequently vary from the official regulations. The assessors produce written reports which are sent to a committee (with advice from the supervisor, Department, school, faculty) and a decision is made as to what the reports mean and what the assessors have recommended and, as the committee decides, a PhD may be awarded.

I want to propose some variations to these processed with some very simple aims: to align the assessment process for the PhD with the traditions of the PhD in its earliest inspiration; to cast off the colonial cringe – that our students' work can only be properly assessed by those working overseas; and to produce a more transparent process to serve the needs of the contemporary PhD while limiting the bureaucratisation of the examination (and appeals) process.

The purpose of the examination is to establish whether the extent of innovation and new knowledge in the theses is sufficient for the award of the PhD and the title of 'Doctor'. Given the time constraints, there needs to be some adjustment to the terms of the examination process to indicate that it is a task undertaken within that constraint and should be judged accordingly.

The second task is to construct the examination panel. In Australia, the chief rule is that the examination panel is 'external' to the university, and the examiners are not known to the candidate. I would propose that we do something about both these points. At the outset of supervision we have been arguing for a panel of supervisors to be created for each candidate, with a chief supervisor who is accountable. Why could not this supervisory panel form the core of the examination team? After all, it is this panel which reviews the work of the applicant and endorses the annual report on progress and which should meet and discuss the viability of the candidature. An external member or members could be added at an appropriate time (which could be quite

early in the piece as the topic is refined and the proposal approved – or later, as now) and I can see no good reason why the candidate cannot be involved in the selection of the external examiner. The defence of the existing position works on the basis of 'conflict of interest' and the 'impartiality' of the examination process, reducing the possibility that the candidate could seek to nobble the examiners. Much of this concern is either misplaced or countered by other procedures which can be put in place. No single individual has power over the candidate as there is both a team of supervisors and a team of examiners. There is external scrutiny of both the supervision process (as evidence by the quality of the work in the submitted thesis) and the examination process. There are no surprises in the selection of the examiners—the candidate cannot be 'ambushed' by an unknown and inappropriate selection of examiner—and the writing of the thesis can be shaped accordingly.

The examination process itself provides the other guarantees. At the moment, very few universities in Australia examine on the basis of a face-to-face defence of the thesis—and the examination process drags on while written reports are being sought and interpreted. I would propose to put the defence of the thesis back at the centre of the examination process—as it is in the United States, Britain and in Europe. Modern communication technologies make obsolete the claim that the distances and costs are too much to have a face-to-face defence of a thesis in Australia. These technologies also mean that supervisory panels can include 'external' experts and meet in a virtual venue to assess progress and to provide feedback on research findings. Contemporary access grid technologies for the use of access grid rooms are such that good quality face-to-face meetings can take place over distance, with high quality visual images and good quality audio at a trivial price. There are no insurmountable problems in the way of such a face-to-face defence of the thesis and the gains are substantial. When the thesis is ready for examination, the examination time can be agreed between all parties on the basis of planned availability and the access grid room time booked. A written response outlining the issues and the preliminary view of the thesis can be requested and made available to all members of the examination panel and the candidate a couple of days before the examination. The examination itself can then focus on the serious issue of establishing the degree of new knowledge and innovation in the submitted thesis with an appropriate dialogue between examiners and candidate without the bureaucratic intermediaries of the present process. What this proposal does is to put the power back in the hands of the examining panel where it should lie and not in some exterior bureaucratic interpretation of comments and recommendations, which are never tested by the examiners themselves. The recommendation to award or not is then made and justified in a transparent way and any proposals for a further work and re-submission can be negotiated between the examiners and the candidate on the spot. This proposal would reduce the bureaucratic inertia of the present process and be far more open and transparent to the candidate than is the present process.

Information and Communication Technologies

Some of the changes required in the new PhD program come from, either the government, or the academic urge for regulation, but from the changing nature of research itself. For example, the new approaches to genomics, phenomics, and metabalomics in the biological sciences have promoted the need for larger teams of researchers working on related sets of problems with more expensive pieces of equipment and greater resources. The pressures for multi-disciplinary approaches to a common research problem have multiplied considerably in recent times. The rise of an e-Research agenda, where the power of large scale distributed computer networks, coupled through the use of internet resources, has transformed not only what is required for cutting edge research but also the

nature of the research problems themselves. These factors combine to have a significant impact on the research experience of PhD programs in all areas.

The application of high performance and distributed computing and robotics has changed the nature of research in so many disciplines and has the potential to change almost all those remaining. Informatics and computational sciences (e.g. computational biology, computational chemistry or rational drug design, radio astronomy, neuro-informatics and geosciences) have changed the resource demands and the skill base of these disciplines. Access to cutting edge (imaging) instruments and an array of expensive resources is the cornerstone of progress in these areas. These changes have an impact on the scope and character of PhD programs. For a start, computation skills are of increasing importance. There is little choice but to move to cross-disciplinary teams with varying degrees of complexity to make advances in these fields, at the very least combining discipline expertise with high-level computing skills. To what extent do PhD candidates in non-computer science fields need to have their computing skills enhanced by the contemporary PhD program? To what extent can PhD candidates who do not have appropriate IT skills be linked up in teams with those who do? How can either of these options be encouraged, funded, or supported within the present arrangements for delivering the PhD program?

The needed computing skills largely come from two related parts of the e-Research agenda. One set relates to the construction and manipulation of databases. Depending on the research area these can vary from very simple relational data bases to those of far greater complexity. With larger datasets, certain skills in informatics and statistics are needed. How are students to gain these skills? There are at least two different models. For those who lack ability to work with computers, this is a serious problem which can only be solved by funding access to 'IT technicians' with appropriate skills. This would increase the costs of the research and add team work to the research (and challenge traditional conceptions of the PhD in its own way). Would such participation need to be acknowledged? Would it have an impact on the quality of work found in the completed thesis? For those who are capable of working with computers (and one would hope that this would be the overwhelming majority of PhD candidates), basic relational database skills need to be incorporated into the research training component of the PhD, if they have not been included in undergraduate or Honours programs. Linked to that would need to be the statistical and mathematical skills to handle the manipulation of large, distributed, and diverse database sets. (As computation science improves, such data sets will need to integrate text, numerical information, visual images—still and moving—and audio and will be relevant across all disciplinary areas.) In advanced areas of informatics, access to IT professionals will still be part of the PhD program, and we need to find ways to fund and incorporate this into the work plan. A failure to do so will see the skill levels of Australian post graduates fall below the standard needed to be internationally competitive. As PhD candidates come to work in more complex and IT-rich environments, the inter-personal skills will need to be enhanced to include an ability to work in complex, inter-disciplinary, and cross-functional teams, both as a co-worker and as a team leader. This is undoubtedly an essential foundation for later research success.

The other needed skill lies in the area of informatics, modelling, and simulation. This is much more challenging, as the level of required IT and mathematical skills are much greater. It is unlikely (no matter how desirable) that all PhD candidates will aspire to the levels of skill required to become modelers and simulators in their own right. Nonetheless, it would be useful if we could design PhD programs which did give researchers the ability to build up these skills and be both confident and

competent to propose (and develop) models and simulations which can inform their research programs and the kinds of new knowledge being proposed.

These proposals to enhance the IT skills embedded in the PhD program are not, just relevant, to scientific (biology, physics, chemistry) and mathematically-based disciplines (such as economics). The social sciences and the humanities are going to require far more IT and computational grunt as the problems and the approaches to new knowledge evolve in these disciplines as well. Cultural studies, anthropology, studies of literatures will all gain from researchers who have these additional IT skills. For these disciplines and for many others, this means that for the research work to represent best practice and to be at the international cutting edge, it will be necessary for teamwork elements to become a standard part of the PhD program. This complements the general change in research, which sees a rise in the need for cooperation and collaboration between research workers from many different disciplinary backgrounds to advance knowledge at the cutting edge. The inclusion of appropriate IT skills is just one part of what contemporary research practice looks like across the broad spectrum of disciplines. The design of the contemporary PhD program needs to be able to incorporate these teamwork elements. Topics for a PhD cannot be restricted only to those which can be explored by a researcher working either in isolation or those doing the supervision and those in clearly subordinate relationship to the candidate. The obvious should be acknowledged: computer science is a research discipline in its own right and does not exist merely to supply passive technicians to the research imagination of others. Some research problems will require cutting edge research in both the discipline of the PhD study and in computer science. It is important that both contributions can be made, acknowledged, and assessed in appropriate ways. The legacy of some PhD topics will include new IT tools, databases or research techniques whose wide distribution will serve to advance knowledge and this too needs to be taken into account when designing the PhD program.

The greatest challenge this poses for the design of the PhD program is to find room within the time limits and the funding constraints to make sure candidates have the opportunity to develop as fully as possible the IT skills required. We failed to find a solution to the problem of incorporating the acquisition of foreign languages into the design of the PhD. We must not fail to find the appropriate response to the challenge of IT and, if we are very lucky, the IT solution might even make it possible to overcome the limitations inherited from our failure on the language policy front.

The coursework challenge

A few years ago, I gave up an arguing for the reform of the PhD program in Australia through the introduction of coursework components based on the American model.

When I returned to Australia in 1978, having completed my PhD in the English system, I spent a good many years promoting the virtues of the American style PhD. I was not convinced by the assertions that holders of American PhDs were less well qualified than their European or Australian counterparts. In fact I could see ways in which the US style PhD provided far better training for the teaching and research academic career that seemed as likely a destination for the best research students as any other. Here were job applicants with graduate training in methods, and with graduate coursework in a number of specialist topics in the disciplines in which they were likely to teach. The claim that this was somehow equivalent to the scope of the Australian Honours program seemed to me to overstate the virtues of the Australian system. It also seemed to neglect the obvious point that the combination of graduate course work and a thesis, undertaken after an

Australian style honours degree, would provide a very powerful foundation for a subsequent academic career.

Some progress was made. Many different ways were found to include a 'course work' component in the Australian PhD in the late eighties and early nineties. Induction programs and structured programs became commonplace. When the UK began to reform the PhD I thought that there was a chance. The reduction in the period of funded candidacy for the PhD and the introduction of the RTS scheme demoralised research educators and me as well. I thought the standard opposition to the coursework components would be reinforced by these administrative and funding changes. But I'm not so sure that the cause is lost. Paradoxically there is some scope in the new arrangements that opens up the way for further reforms of the PhD program to provide students with a better educational and research experience and to better fit the PhD program to the contemporary needs for research. There is student demand for the American style PhD program, if not among Australian students then certainly among foreign students seeking to undertake a PhD program in Australia. Most international student offices receive requests for prospective candidates and from foreign governments seeking programs of this type. This is an opportunity. I would hope that one day an Australian University will have the courage to respond to these requests and build an appropriate coursework and thesis PhD program. Once such a program is in place. it will be difficult to deny Australian students who want a similar experience the same opportunity. It will still be necessary to be creative in finding appropriate funding structures, but I believe it can be done. I do not, however, expect to see this change in the near future.

Conclusion: The quality postgraduate experience

With the rise of the new e-Research paradigm and the evolving nature of cutting edge research methods and agendas, the PhD program and the postgraduate experience needs to be reworked. There needs to be scope for an emphasis on teamwork and team working skills which runs counter to at least some of the individualistic assumptions underpinning the initial design of the PhD. PhD candidates need to experience work in teams and develop the kinds of interpersonal skills needed to make good teamwork generate good research results. Equally, PhD candidates need opportunities to develop good research leadership skills which mean something other than just a willingness to command and dominate. In a related way, PhD candidates need to be exposed to the methods and thinking of different disciplines so that cross disciplinary cooperation can be built on confidence and mutual respect and not avoided in insecurity. Finally, all PhD candidates need to develop the appropriate repertoire of IT skills to enable their own research and to give them confidence to work with IT professionals to achieve the most from their research endeavours.

The changed nature of research, the changed funding regimes, the significant rise of high powered computers and communication technologies and the increased importance of research and innovation in the building of the knowledge economy, all these combine to require substantial rethinking of the PhD program. It is perfectly possible to continue with the present PhD paradigm and its contradictions, tensions, and insufficiencies. I doubt that too many PhD students or supervisors are going to complain much in the present circumstances, although there are bound to be some students who do not feel that the present PhD experience matches their expectations or their needs. Some of their complaints will take the traditional form of concern about the quality of supervision, shortage of resources, insufficient scholarships, work and time pressures, and the precarious prospects for employment at the end of the program. Others may well want the kind of PhD experience being described above, one designed to minimise bureaucratic regulation and

maximise transparency in the examination process, one with coursework relevant both to the research project and to future employment, including proper attention to relevant IT and computing skills, as well as the team work and cross disciplinary environment which will characterise future cutting edge research and the world of work in the knowledge economy.

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DOCTORAL EDUCATION AT A TIME OF TRANSITION

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The particular focus for this paper is the transition, or change, phase in the nature of the doctorate. It discusses: (1) appropriate models for the doctorate, and, (2) the nature of the research question. The discussion draws on data from a national empirical study[1] on the doctoral education experience in PhD and professional doctorate programs across four disciplinary groups and six universities.

The study revealed wide variation within present doctoral structures, none specifically based on contrasts between PhDs and professional doctorates. Further, most research-intensive universities consider the PhD to be working well and able to meet current and future demands and pressures. This includes the addition of coursework and non-traditional doctorates. While there is a case for the introduction of greater flexibility through more entry and exit points in the present PhD, there is a divergence of view on the appropriateness of the US PhD model for Australian universities.

In relation to the nature of the research question, disciplines are placing increased emphasis on initial topic selection and reducing the time taken for topic refinement. The institutional emphasis is on manageable topics, sufficiently resourced over a finite three to four year period. It was evident that in some fields the move has been to pre-structured, 'production line' research topics. Also evident in some fields and institutions is greater selectivity in students, with the consequent reduction in diversity of the doctoral student body and hence diversity of research questions.

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MOBILISING METAPHORS: RESEARCH/SUPERVISION/PEDAGOGY

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Increased pressures of policy accountability in research higher degree management have produced a commensurate intensification of research and professional development over the past decade. Incentives for improved completion rates and times, together with a culture of threat with regard to diminishing research funds for poor performance, have generated an unprecedented level of activity across a number of fronts.

Supervision of research degrees has come in for a share of this attention, both in research and in professional development activity across the nation, and more systematic conceptual attention to practices and relations of supervision and candidature as a mode of pedagogy has begun to emerge over the past decade or so (Lee and Williams 1999, Bartlett and Mercer 2001). We suggest, however, that, welcome and timely as such attention has been, there remains a need for theoretical resources sufficient for understanding and critically situating research supervision pedagogy in its own emerging and changing intellectual and institutional contexts (Green and Lee 1995).

A characteristic feature of much literature on research degree supervision (and arguably still much policy at the institutional level) is that it remains conceptualised as essentially a one-to-one relationship, in this instance a largely individualised exchange between a doctoral student and a supervisor, a state of affairs which still pertains to the majority of social-science-based domains of inquiry (Marginson [ed], 2002). This residual conceptual understanding is of course under increasing stress in the changing structural and institutional arrangements of contemporary universities, and policies and practices are evolving and adjusting accordingly. Nevertheless, there remains a lack of appropriate theoretical resources to *rethink* both the historical and the emergent problematics of supervision pedagogy in relation to these policy-driven and institutional pressures, despite timely calls nearly a decade ago by policy-based inquiries such as Cullen *et al.,* (1994). There remains, we argue, a real need to find ways to think more coherently and productively about *supervision-as-pedagogy*, in its complex and problematic relationship to dynamics of disciplinarity and emerging practices and relations of research and knowledge production.

Specifically we argue that there is an urgent need for a more robust language of description and analysis which will better engage these contexts and the pedagogical practices which sustain them:. A key challenge therefore is to generate a lexicon for such a conceptual task.

Attention to the language of discussion of supervision-as-pedagogy shows attempts of various kinds to provide such a lexicon, with differential effects. Supervision for us crucially involves power-knowledge-desire relations, a symbolic and rhetorical production and positioning of Self and Other within powerful institutional constraints and the production of particular kinds of research subjectivities (Green and Lee, 1995; Green and Lee, 1999, Lee and Williams, 1999). Supervision, we have argued, is a practice of assisting a candidate to come to *know* particular things in particular ways and also, crucially, of coming to *be* – and *become* – a certain kind of authorised researcher identity.

Accordingly, in this paper, we have begun to map these dynamics by means of a set of guiding *metaphors* that cluster around current and emerging practices of research degree supervision. These metaphors suggest the production of a certain repertoire of pedagogical relations and subjectivities, and attempt to grasp the complex and sometimes contradictory nature of traditional, current, and emerging practices. Competing dynamics of disciplinarity, professionalism and industry need; of maintenance and of renewal of disciplinary identity; and policy-funding-driven imperatives for diversification and change all produce all a complex and sometimes confused response. In our work, accordingly, we have begun to explore what we prefer to call 'metaphors, conceived not so much as discrete 'models' operating in an implicit preferential hierarchy but, rather, as clusters of conceptual possibility, suggesting power-knowledge-desire formations in play. The aim is to expand the conceptual field, to enable a more informed connection between debate about modes of knowledge production, policies for structural change and pedagogies for supervision. We work here with three distinctive metaphors of research supervision pedagogy that, we suggest, are intelligible within current and emerging circumstances. These metaphors are, respectively, *cultural-discursive apprenticeship, project management,* and *co-production*. Each of these, we argue, presupposes often tacit assumptions about the dynamics of knowledge production and of research, teaching, and study in the nexus described by Clark (1994). Each suggests a cluster of subject positions, more or less explicitly articulated.

This paper explores these metaphors at some length, and elaborates accordingly an argument for rethinking research supervision pedagogy as socio-discursive practice. A principal aim of such an exploration is to expand the range of possible matters for discussion, and to draw attention to the possibility of a more comprehensive and flexible pedagogy which facilitates the development of a repertoire of subject positions, optimally responsive to the changing dynamics of candidature and research practice.

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THE SEARCH FOR RICHER METAPHORS: RESEARCH SUPERVISION RE-IMAGINED

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Throughout the last decade, university educators and educational policy makers in Australia have sought to understand and improve the policies and practices upon which research degrees have been founded. The changing context of the research training landscape has been examined (Green, 2003; Green & Usher, 2003; Pearson & Cryer, 2001) and the role of the research supervisor has received increasing attention as far-reaching changes are made to policies, research imperatives, and expanding research degree frameworks.

The current situation in Higher Education in Australia, which centres on the Research Training Scheme (introduced midway into 2001), is such that academics in Australia have been placed under increasing pressure to supervise 'well' and to ensure also that the research student reaches completion as speedily as possible. Given that we are consequently positioned in a context of performativity (Lyotard, 1984) and a context in which performance is rewarded by fiscal gain (to the university in this instance), we must supervise well, but 'fast' (Green & Usher, 2003). Under the RTS, Australian universities are rewarded for successful, timely completions. Arguably, this puts a great deal of pressure on both supervisors and candidates. Hence, in this period of 'fast supervision', it is even more crucial than ever before to consider the nature of supervision from the perspective of both supervisor and candidate.

In this paper, we utilize two very different metaphors to 're-imagine' research education and the doctoral experience. First of all, the skilled supervisor's 'protean shapes' are explored in order to highlight the ways in which the roles of supervisor and candidate must change as the research activities, including the writing of a scholarly text, progress. Secondly, key ideas are borrowed from the concept of 'knowledge management' with its emphasis on the creation, accumulation, use, and transfer of knowledge in complex environments, in order to explore the processes by which knowledge is constructed during a typical three- or four-year candidature.

This paper, then, seeks to look once again at supervision and supervisory practices, but from the viewpoint of an experienced supervisor (Green) and one of her successful doctoral candidates (Reidy), now ready to supervise doctoral students for the first time. We look at supervision in terms of changing roles ('shapes') and collaborative knowledge management before moving to reflect critically upon our own practices as supervisor and candidate and the journey that has taken us from coach and novice, mentor and mentee, to friendly professional colleagues. In the paper, we present a detailed analysis of extended interviews and the resulting transcripts. In doing so, we aim to generate further insights into supervision practices, the candidate's journey, and the strategies by which one can enrich the other.

Throughout the paper, we argue that the initial phase of the candidature is critical for the success of the undertaking, as many of the patterns that that will characterize the interactions between candidate and supervisor are set up in the first few months of working together. It is also argued

that very regular communication and a shared work ethic contributed to the success of this particular supervisor-candidate relationship.

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IS IT POSSIBLE TO DEVELOP SUPERVISORS?

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We have developed an extended education programme for PhD supervisors with funding from the National Council for the Renewal of Higher Education and from Umeå University Board. In this paper we present our programme in detail, and share some of the experiences we have had along the way.

The Swedish system

In Sweden, undergraduate and postgraduate studies are tuition-free. Undergraduate students normally take student loans to finance their education, and they take their basic degree after 3-4 years. For a PhD, students are likely to study 4-5 years more, depending on whether they teach or not. All PhD students have to be fully financed throughout their education. Many are engaged in a research project and therefore financed by a research funding council, and others are employed by the universities. In both cases, they have a salary that is just below average.

At present, there are 18,400 active PhD students in the country; 50% are women. At Umeå University we have 1,284 PhD students, and each year approximately 150 take a PhD degree. Three-year governmental goals are set for each university that state how many PhD degrees they must 'produce'. This is the political way of steering the universities and making the country's PhD education more efficient.

We only have one doctoral degree (PhD) but several syllabi; each of them includes both courses and thesis. At least one year is reserved for scientific courses of different kinds, and the rest for the thesis. The PhD student normally has a supervisor and an assistant supervisor. The final examination takes place at the 'disputation', where the student has to defend the work in public, often in front of a large audience, where an opponent questions the scientific methods and results. An examination committee, selected for the specific occasion, judges both the thesis and the scientific defence.

Education for supervisors

Postgraduate training has experienced major changes during the past few decades, and the new situation is a great challenge for both the students and the supervisors. Since 1997, Umeå University has offered postgraduate supervisors a course, 'Supervision in theory and practise' The course consists of six days of seminars, workshops, training, lectures, discussions, and assignments requiring in all two weeks full-time work. Each course has 16 participants from different faculties. Some are experienced as supervisors and some are not the group is very heterogeneous. The structure is thematic and we move from external to internal aspects, from the framework and regulations to self-reflection and self-knowledge. To pass, you have to participate in all sessions, observe a supervisory session at another faculty, and write three individual reflective assignments. Today, almost 2/3 of all supervisors at the university have attended the course and in the most recent semesters we have doubled and tripled the courses. The course has been mandatory for all our supervisors for the past two years.

The need for an extended education programme for supervisors soon became obvious—there is a need for life-long professional development. We wanted to provide room and time for discussion

and reflection on pedagogical issues in postgraduate training. It was, of course, very important to make an inventory of needs, pick up ideas and get feedback on the work from both supervisors/educators and doctoral students. This was done through seminars, workshops and conferences, as well as formal and informal meetings. It was not easy, since both categories are very busy. In order to really succeed in involving students and supervisors, you need to find incentives which make it worth-while to participate in the work, and clearly show how their contribution will be used in the project.

However, it was clear that we needed to go into new topics and themes which could not be fully covered within the basic course. There was also a need for both more specialized and more advanced discussions. We intended to offer a variety of courses, seminars, and discussions on different levels. We also tried to build flexibility into the new structure. So this is what we actually did.

The extended education programme for PhD supervisors

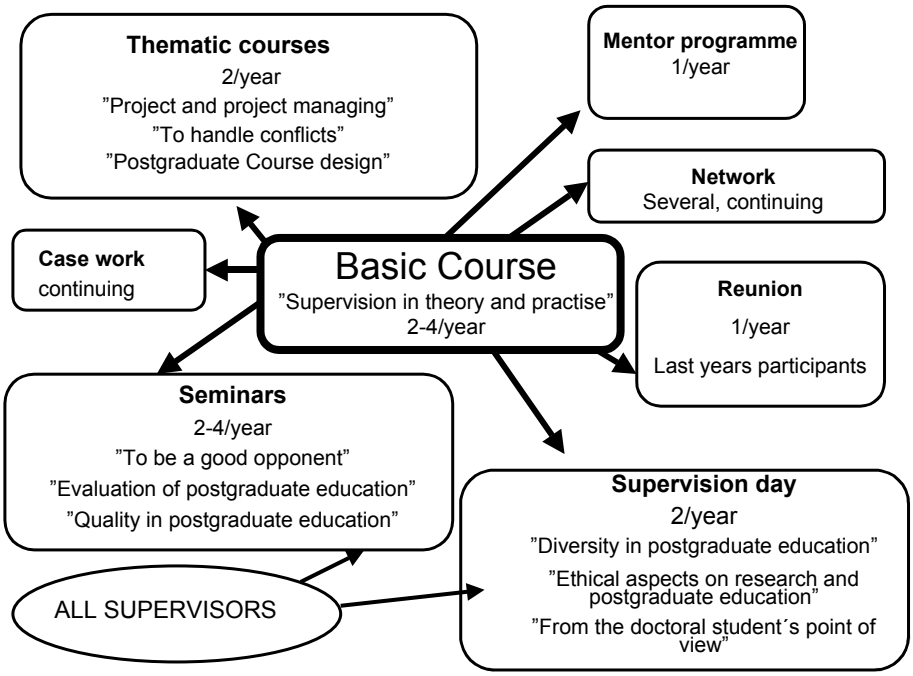
We offer courses on different levels: university, faculty, department, and individual supervisors. The courses are all given at the university level, and the strategy is to mix supervisors from different faculties to get input from many aspects, to broaden their minds, and also to give supervisors the opportunity to share experiences with their colleagues. Overall, we are prepared to state that there are major similarities among the faculties, although they themselves often like stating their special needs and special circumstances. But there are of course also some areas that might be special for a certain faculty, which could be a reason to offer activities on the faculty level. The departmental level is also interesting to work with, and what we can offer is mainly consulting and support, for example in forming supervising staff meetings. For supervisors off campus, we arrange different kinds of web-based activities.

The program consists of various forms of learning opportunities, such as courses, seminars, mentor programmes, networks, reunions, projects, case studies, consulting assignments, and individual ICT-based work. By requiring that almost all activities are open only for supervisors who have taken the course supervision in practice, we are guaranteed that the participants are all on the same level and are familiar with the learning model used in the courses.

Thematic courses

We offer two courses a year, and so far we have developed ‘Project and project managing’ and “’To handle conflicts’. One course is still to be developed and that is ‘Postgraduate Course design’. If there was a trend in Swedish doctoral education, it would be that course design and pedagogical issues have become increasingly important.

The courses run for three days, and they have been developed in co-operation with the Office for Human Resources and Organisational Development. The courses will also be run in the programme for Developing Leaders within the university.



Seminars

We also offer seminars in different forms and length. The focus will be set on issues on the current agenda, like diversity, gender, ethics, and legal aspects. One example is the seminar on the important task of being a good doctoral opponent.

Supervision days

We offer supervision days twice a year, this year on ‘Diversity in postgraduate education’, ‘Ethnical aspects on research and postgraduate education’ and ‘From the doctoral student’s point of view’.

Case studies

We have written a series of cases from a fictive department, and these cases will be used in various activities. The cases focus on different topics, such as sexual harassment, stealing doctoral student results, ethnicity, ethics, lack of funding, legal issues, and so on. The cases are also intended to be used in other courses within the teacher training programme, but then will focus on other issues within the fictive department.

Mentor programme

We offer a mentor programme specially designed to meet the supervisors’ requirements. The mentor is never from the same faculty as the adept, and it is also important that there are no other bonds between the couple. This programme has been tested for one year and, at the moment, we are working on the assessment.

Network

Many activities have the underlying purpose of establishing different kinds of networks. One of the strategies is that all supervisors get to know people from other faculties. In order for the networking to function, the participants must be willing to continue meeting. We intend to form groups that will later take over the responsibility for running the network. If the participants don't do it, there is no network!

Reunion

One year after the supervisors have taken the basic course, they will be invited to a reunion. The purpose is to give them the opportunity to discuss their experiences as supervisors and to work with one of the cases.

It must also be possible for supervisors to meet and share experiences even if they haven't yet taken the basic course. It is also important to involve doctoral students in the programme and to offer them an arena for discussion. All seminars and supervision days are therefore open to all supervisors and doctoral students.

Conclusion

Thus far the work has been successful, and we have achieved the desired project goals. The educational programme for postgraduate supervisors/educators is now a reality at Umeå University, and we have already experienced considerable interest from our supervisors. The programme has, to all appearances, strong support among supervisors, as well as doctoral students.

As a supervisor, you often have to balance on a tightrope. It is not easy, but it is an exciting challenge. To do a good job and feel comfortable, you need to improve your supervisory skills—in many ways. We started with a question: Is it possible to develop supervisors? And we say—OF COURSE IT IS!

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SUPERVISION : INDUCTION TO NEW PRACTICE AND DEVELOPING BETTER PRACTICE: ARE THEY THE SAME THING?

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Introduction

The induction of new academics into the role of research supervisor is usually informed, and sometimes led, by experienced, `expert' supervisors. Is this an appropriate starting point?

Experienced, successful supervisors have, overtime, developed strategies that are effective and efficient and that possibly anticipate potential pitfalls. These strategies, however, are largely tacit routines and based on untested assumptions. Britzman (1991) has a cogent cautionary argument about the risks involved when there is exclusive reliance on experience as a source of expertise. Shulman (1987) labels such expertise developed from experience as `wisdom of practice'. Such `wisdom' Shulman also posits as tacit and unscrutinised. Never before has the act of critical scrutiny and review become more important in supervision. The context of research supervision is rapidly changing due to increased pressure for guaranteed outputs in terms of completion and publication output; accountability measures for quality; and demands for enhanced university research agenda engagement with industry and the needs of the community.

These contemporary pressures generate particular challenges for universities. One is to find effective ways to induct new academics into the demands of the contemporary role as research supervisors. Another is to find effective ways that support experienced supervisors to review and adapt the personal values, beliefs, and strategies that underpin their supervisory practices. Achieving these challenges is difficult in a context in which the focus of action is largely on the development of the Higher Degree candidates' capacities rather than those of the supervisors (Willcoxson, 1994).

The second of the challenges is additionally complicated by the fact that supervision has been a largely private and individualistic activity. The merits of supervisors have been measured largely in terms of the acclaim for the uniqueness and level of their academic expertise, as well as for their access to funds. Individual idiosyncratic supervisory behaviours have been tolerated and protected by `academic freedom'. Emerging commentaries on high quality supervision, however, focus more broadly, nominating attributes of effective supervisors (Fraser and Mathews 1999). These commentaries include reference to interpersonal and communicative competences, cultural awareness and literacy expertise in research and project management, and being informed about the institutional, industry and disciplinary context and resources to support candidates' success (McWilliam, 2002). Furthermore, policy measures are being introduced that challenge many assumptions underpinning notions of academic freedom.

Addressing these dual challenges of inducting new supervisors and improving experienced supervisors' practices are two very different problems. We would argue that it would be a mistake for institutions to establish generic strategies to achieve effective, high quality supervision. Rather we argue that a learner focus is required in seeking solutions and a ready acknowledgement of the unique nature of the practice issues that confronts each of the two groups. On the one hand, new supervisors need not only informational resources and induction, but also their own identity as supervisor and researcher and confidence in their capacity in their new role. These needs are best

approached developmentally, accepting that there will be change in the supervisor's primary focus, that progresses from self, to content, to student learning achievement, to collegial support.

On the other hand, experienced supervisors need support and encouragement to abandon their private approach and collaborate with peers across disciplines and institutions to challenge their own existing practices. Such engagement requires experienced, but time-strapped supervisors to understand that this is necessary, as well as the cultivation of a trusting environment that is free from punitive measures. This is difficult to achieve in a context that is highly competitive, newly subjected to accountability measures, and under threat.

The study

This is an interpretive study that attempts to identify and describe what is happening, and what needs to happen, in enhancing the quality of research supervision of both new and experienced supervisors. Self reported concerns regarding the learning needs of new research supervisors will be interrogated and compared with the self reported concerns and learning needs of experienced supervisors and research administrators. The intention is to identify shared and contradictory perspectives about what is required for effective contemporary supervision. The methods used in the study include Stage One, questionnaires Stage Two, interviews and focus groups.

Of particular interest is that the data generated include both tacit and explicit frames of reference that are held by experienced supervisors who began their academic careers as research supervisors in vastly different times. This body of data is used to address the question: *Do these frames of reference address the needs of novices?*

The objectives of this study are four-fold. The first is to determine the nature of the learning and support needs of new supervisors and how they change over time. The second is to evaluate the efficacy of generic, and discipline-specific resources for supporting first time supervisors. The third objective is to determine how to engage continuing supervisors in critical reflection on, and scrutiny of, the `wisdom of experience' that shapes their current approach to supervisors. The intention here is to understand how to encourage or require renewal of established practices through policy and professional development programs. The fourth intention is to explore the potential of using experienced research supervisors as mentors for novice supervisors. The premise underlying this plan is that the actual process of engaging experts in a mentoring role may promote ongoing review and development of existing supervisory practices.

Stage One involved a survey that was administered to 500 new and experienced supervisors across one institution. The response rate to date is low (30), but we intend to pursue this over a longer period to increase the response rate. The information distilled from this survey will form the basis of focus groups and interviews.

Findings for Stage One

Respondents included one-third new supervisors and one-third experienced supervisors. New supervisors were those who either had not yet supervised or had supervised for less than two years and had not yet had a student successfully complete the thesis. Experienced supervisors were those with more than five years experience and whose students had successfully completed their research and produced a thesis that had been passed on examination. Almost all (85%) of the new supervisors who responded to the survey had attended the Mandatory New Supervisor Induction Programme, whereas only 54% of experienced supervisors had attended any supervisor

education. The following is a comparison of the new and experienced supervisors perceived professional development needs for effective supervision.

Clearly, as Table 1 indicates. new supervisors perceived a string need for resources and workshops to assist them to carry out their responsibilities and were seeking inputs on what they currently experienced as needs, such that they were only interested in information about supervising international students if they were actually engaged in the activity. Less than 40% of continuing supervisors, by contrast, were seeking support, information, or workshops except in the case of examining a thesis. This is one of the most private activities in the higher education endeavours but one that is most highly exposed post hoc. It is also the most under-researched. It is not surprising then that this would engage slightly higher interest among continuing supervisors.

Table 1: Supervisors perceptions of HD supervision induction needs

Please rate the level of importance you perceive current staff development offerings have in Supporting you being an effective supervisor? (New supervisors underlined. Experienced supervisors in brackets)			
	Important	**Not Important**	**Not Applicable**
Web resources on Research Education	71% (38%)	29% (62)	0% (0)
Workshop on supervising International students	57% (38%)	0% (62%)	43% (0%)
Workshop exploring different approaches to supervision and models of supervision	100% (38%)	0% (62%)	0% (0)
Workshop on examining a thesis and assisting students prepare for re-examination.	100% (50%)	0% (50%)	0% (0)
Workshop on Flinders University policies and procedures for research higher degrees	71% (25)	29% (75%)	0% (0)

Table 2 illustrates and compares the concerns of new and experienced supervisors.

Table 2 Supervisor's concerns about the role of supervision

New Supervisors	**Experienced supervisors**
Having sufficient knowledge to be a effective supervisor.	Finding sufficient time for supervision
Overlooking a crucial element in the research, which the supervisor doesn't pick up.	Finding sufficient funds to support students research
Having the breadth of knowledge in methodological area	Dealing with unproductive students
Providing students with adequate feedback	Getting support from peers and others
Taking on too many students and not being able to meet all their needs.	Gaining sufficient support from co-supervisors
Having concerns about their own capacity to advise on writing styles	None!
Attending to students who have more than-normal needs (time & skills)	
Maintaining an effective and supportive relationship over the long period it takes to complete a PhD	
Getting the balance right with support but not taking over.	

These findings illustrate the contrasting self perceptions and confidence of new and continuing supervisors. New supervisors show deep concern regarding their own ability to supervise and conduct research and to establish supportive relationships with their higher degree students. Experienced supervisors, by contrast, expressed concerns about having sufficient funding resources, time, and co-operation from others. They expressed little concern regarding their own capacity to undertake the role. These differences in perceived concerns between new and

continuing supervisor are mirrored in the differences in their perceived needs for support from the institution (Table 3).

Table 3: Perceptions of their need for institutional support for supervision

New Supervisors	Experienced supervisors
Provision of university requirements, word limits, extensions	Time
Time for supervision recognised in workload	Effective recognition of the task
Funding support for international conferences to keep up to date with research field	More avenues for funding
Training in supervision strategies	Assistance (workshops) for dealing with unproductive students
Staff development opportunities about what students look for in supervisors	Incentive and rewards for success in supervision
Library support	None!
Regular input on policy changes	
Funding for students	
Student development courses in research eg thesis writing, managing references, time, skills management	
Time for experience/ mentors	

The comparison of perceptions of what research students need demonstrated slightly more similarity then the previous perceptions. Continuing supervisors' discourse was more detailed for example, new staff referred to *keeping students on track,* whereas continuing supervisors identified *goal setting and breaking the task into small sections.* They possibly refer to the same issues, but continuing supervisors can call on their experience to frame the need in strategic terms.

Table 4: Perceptions of HD students' needs from supervisor

New Supervisors	Experienced supervisors
Guidance regarding the scope of the research (achievable proposal and plan)	Feasibility and viable architecture of the project, general constraining of the research
Guidance on an appropriate topic	Guidance
Guidance on presentation of the thesis (relevant arguments, structure etc)	
Emotional support	Support and understanding, particularly in the first year, with a mutually agreed plan to increase the student's independence over time. Guidance and emotional support & endless encouragement
Keeping students on track (focus and time management)	Goal setting breaking task into small sections.
Honest constructive feedback that is timely	Constant feedback, fast turn around time
Referral to literature that that would be useful to explore a new concept	
Critical perspective on methodology and ethics	
Knowledge of the topic	Relevant background in the topic and prior experience in the methodology
Enthusiasm for the students' research	Enthusiasm for the research
Regular meetings	Availability for brainstorming, availability
Research facility support	
Supervisor who draws out students' ideas through questioning	
Encouragement to write	Encouragement to publish and present at

	conferences
Encouragement to become part of a research community	
	Guidance on funding
	Knowledge of key research policies, resources and procedures

Observations and conclusions

While there are similarities between the perceptions of new and continuing supervisors, there are some clear differences regarding level of importance placed on particular issues. Firstly, the discourse of the new supervisor was detailed, process oriented and focused on practical/ informational issues as well as interpersonal, social/emotional support issues. It would not be too presumptuous to suggest that their focus was still influenced by their possibly recent personal experiences as higher degree students. The discourse of experienced supervisors, however, was more pragmatic, holistic, compiled and goal oriented. Secondly, perceptions of personal ability were quite different. The uncertainty of the new supervisor can be contrasted with the confidence, yet longing for support and collegiality, of the experienced supervisor.

Despite these differences it would seem possible for experienced staff to provide adequate education and mentoring of new staff provided they had insights into the precise nature of their needs. Typical institutional level programmes for new staff, indeed the one at this university, do address many of the needs expressed, but perhaps not in the kind of practical detail that has emerged in the survey of concerns. Clearly, however, the kinds of needs of experienced staff have not been addressed by the institution-wide generic supervisor induction programme. Their needs would possibly be more appropriately addressed at the level of their academic organisation unit. However, Britzman's (1991) concerns about being reliant merely on experience to generate and justify practice must be heeded. Either through mentor training or research led expertise, there must be a body of evidence to support the examination of old practice and the development of new.

It is our intention to continue to gather more survey data. These observations will be translated into further inquiry through focus groups and interviews to gain a deeper understanding of both process and content as related toaccountability for research supervision quality at the institutional level.

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PEER LEARNING AS PEDAGOGIC DISCOURSE FOR RESEARCH EDUCATION

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The 'peer' is a defining figure in research practice. For example, the institution of peer review is both indexical of, and productive of, what comes to be accepted as good research among licensed members of scholarly communities. Within university departments, too, there is a rhetoric of 'peer-ness' with regard to learning relationships among research students and, in part, between research students and the academics they work with. Unlike other students, research students often have staff-like privileges and can, in theory, at least, become 'normal' members of research teams. In addition, they are structurally thrown to a great extent on their own resources, to learn without the direct instruction of their supervisors. They enter formally and informally into a territory of self and of peer learning.

Australian federal government changes to research education to enhance student completions—within the policy framework of the Research Training Scheme—have hastened a move away from an exclusive focus on the individual student-supervisor dyad relationship towards an emphasis on providing a rich research culture to foster the development of research students. These initiatives have resulted in moves to link students in various ways into existing research concentrations. As well, there are widespread developments focusing on new kinds of doctorates, new research support programs, more active management of candidature, multiple supervision, and increased developmental activities locally within faculties, departments, or research groups. Underlying many of these developments are, we suggest, more or less tacit assumptions about peer learning, understood as a 'two-way reciprocal learning activity' (Boud, Cohen and Sampson, 2001).

Peer learning, of course, is a term to describe one of the ways in which research students have always managed their own education. What has changed in this country, though, is the shift of peer forms of study and learning from the informal world of students coping with the circumstances in which they find themselves into the world of explicit program planning. However, while there has been much investigation of students working with each other and ways in which it can be fostered in coursework programs—under the headings of peer or collaborative learning—there has been little theorisation of this practice and little documentation of its application to research education. Indeed, notions of peer learning can transgress what can often look like nostalgic attachments to older discourses—cherished notions of autonomy, the necessarily lonely and potentially heroic journey of research degree candidature, and an often almost medieval spin on the metaphor of apprenticeship—which arguably still circulate in the discursive spaces of research degree pedagogy,

Recent investigations into pedagogies for research education have indeed tended to focus on the practices and relationships of supervision, to the relative neglect of more distributed forms of learning. This point is also made within the context of the continuing need for research into postgraduate pedagogy in general. Despite welcome developments, this form of formal pedagogical practice remains significantly under-theorised and under-researched, in a climate of increased policy pressure (Green and Lee 1995). Of particular relevance to the pedagogical questions to be discussed in this paper are the significantly changed dynamics of knowledge production within the day-to-day research environment of the Academy. Notions of the 'knowledge economy', within an increasingly unstable higher education environment of economic globalisation,

inevitably link research agendas in particular sites to commercial, professional, and political imperatives. In this climate it seems an urgent task to advance conceptions of pedagogies for research education which in some sense reflect and also self-consciously build towards a greater approximation to the changing world of research and scholarship. Such a task requires a reconceptualisation of powerful structural binaries of self/other, novice/academic, student/researcher, candidate/supervisor, etc., in order to open pedagogical space to imagine different metaphors of 'peer-ness' and 'becoming-peer' which might be more conducive to productive epistemological and pedagogical relations.

The aim of this paper is to take up the current discussions of peer learning in the general field of higher education teaching and learning and explore the ways in which it might be usefully appropriated and expanded as a frame within which more systematically to re-conceptualise research degree pedagogy. Current pressures and emerging practices necessarily involve an expansion of the conceptual space of pedagogy in research degree education, allowing a focus on the common institutional context of both knowledge production and pedagogical practice. Two case studies of current students' accounts of their research degree experiences are examined. The first articulates her understanding of candidature and research learning within a strongly 'vertical' framing of pedagogical relations and doctoral student-hood. The second, in contrast, mobilises a more 'horizontalised' set of relationships and learning practices, underpinned, we would argue, by an informal theory of self as 'becoming-peer', as researcher and academic within a community of research practice. These two case studies will be used to elicit some key points of principle which are at stake in theorising a pedagogy of and for peer learning in research education.

Such principles take account of and address the needs and pressures of the current policy environment, as well as the requirements of building an intellectually sustainable research culture in specific sites, while acknowledging and rendering visible the points of tension and potential conflict between these different imperatives. At stake here is the need to reconceptualise notions of autonomy and of peer relations in order to include images and practices which address both the daily realities of policy performativity and an ethical project of the re-formation of an idea of intellectual 'community'.

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RESEARCH HIGHER DEGREE STUDENTS' PERCEPTIONS OF THEIR LEARNING

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This paper centres on research concerning skills that RHD students perceive they have learned and how learned. Supervisors' perspectives are also considered. The study on which our discussion is based is part of a national investigation of the context for postgraduate learning, with Paul Ramsden and Linda Conrad as co-chief investigators. That study involved 137 departments across 16 universities. We are reporting, however, on follow-up qualitative research focussing on five departments in science/engineering and five in arts/education, selected from six universities in four states. Data were drawn from e-mail surveys comprising open-ended questions, or focus groups, or individual interviews.

Students and supervisors pointed to learning of a) technical or very project-specific skills, b) broader research skills, and c) 'generic skills' widely transferable to other situations. They also highlighted lifelong learning skills such as self-management (e.g. organisational skills and personal skills such as good humour, patience, and self discipline). The paper will address issues arising from the analysis, including questions of whether students and supervisors tend to agree on skills and ways of developing them, and whether commonalities exist across discipline areas.

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SYMPOSIUM:
RESEARCH CULTURE AND SUPERVISION IN TIMES OF CHANGE

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with
Anne Morrison, Pamela Schulz and Barbara Grant

Aim of the Symposium

The presenters in this symposium wish to explore the tensions inside the idea of supervision as a pedagogy which disciplines—the ways in which through dialogues with the supervisor the student is 'asked' to conform to the discipline (in particular the supervisor's ideas about academic work) and the ways in which they are not.

This symposium involves the presentation of three papers and an interactive exercise where those who attend will be invited to engage in some data-based activities that will highlight the issues we are addressing in the papers.

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SYMPOSIUM SESSION:
STUDENTS IMPROVISING THEIR LINES: SUPERVISORS EXTENDING THEIR REPERTOIRES

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Supervision inevitably entails negotiating difficult decisions with graduate students. As one supervisor in my study put it, his postgraduate students find going to see him about their theses to be one of the most stressful events in any month or week. But why are some students cautious, even fearful, about interacting with their supervisors when their supervisors are supposed to be helping them?

A supervisor's feedback, consciously or unconsciously, is always implicated in power relations because the relationship between giving and receiving feedback implies an evaluative judgement of some kind. For these reasons, attending supervisory meetings can arouse mixed feelings in students, such as discomfort and apprehension. Supervisors are entrusted with the pedagogic responsibility of inducting graduate students into the authorised versions of the disciplinary domain as they are inscribed in the subject discipline's practices. Yet these demands for certain kinds of academic identity may clash with the student's desires for a different kind of identity. Where there are mismatches between the institutional demands and the student's desires, the various power asymmetries between supervisors and students may mean that their meetings, as the site for their developmental interventions, become difficult.

A supervisor's oral and written feedback is an example of a regulated communication which exerts great force in constituting student identities. When explicit attention is given to developing a student's research capacities and practices of academic writing, so too are the emotional dimensions of identity formation implicated.

The first part of the paper draws on data from my doctoral research which capture how the delivery and subsequent reading of the feedback determine whether it is accepted or rejected. The interview data were obtained from seven PhD students and their supervisors, who were interviewed separately three times over a three year period from the students' middle stages of candidature to the end stages of candidature. I have undertaken a study of the micro-analysis of disciplinary power relations in pedagogy using discourse analysis in order to identify what might need to be done differently, given students' dissatisfaction with feedback. By drawing on theories of the development of writing identity, dialogism and desire, we can break through some of the silences surrounding the privatised pedagogy of supervision. This work has highlighted important elements of feedback as a pedagogical performance.

I will argue that the source of dissatisfaction from students may be due to the inappropriate overriding of their conceptions of the self in ways that do not fit with their aspirations. This is particularly noticeable in the students' reporting of their supervisors' prescriptive assessments of their work. Students feel they are having to *learn their lines* as they are being channelled towards certain modes of expression and appropriate dispositions. But they display the capacity to disrupt these disciplining systems to negotiate, improvise, and fashion their own research identities.

Because writing is the dominant form of academic practice and the ultimate performance by which students give evidence of their scholarly abilities, high stakes are attached to it. Students must be properly disciplined into appropriate ways of performing their academic subjectivities. The

supervisor's insider knowledge allows them to intervene in the process of writing so students can learn via auditioning their writing before a (mostly) captive/receptive audience.

A crucial aspect of their supervisor's pedagogy is the feedback which they communicate through dialogues in which students are encouraged (at times even strongly advised) to conform to the norms governing the discipline's modes of thinking. This is not meant to imply that they are *learning their lines* by heart in parrot-like fashion. Students are *learning their lines* in the sense that they are polishing their performance, so the work they do together is an exercise to fine-tune the delivery. Through the rehearsal of the thesis, students must move to the position of the autonomous scholar by appropriating speaking positions for their own.

This involves helping students *get into character* through learning what is sayable, in order to stage a convincing performance appropriate to the socio-cultural and institutional contexts. The data from my doctoral research have captured the intricate decision-making which informs feedback and how its delivery determines whether it is accepted or rejected; how the expectations of the supervisor who is reading the work feed the student's desire to write; and how students negotiate and improvise to fashion their own research identities.

The notion of rehearsal stresses the warm-ups needed for our conversations about research, that can ease the writing process. The supervisor's feedback is made up of lines that have already been uttered and these dialogues are scripted and rehearsed as they have already been delivered in other contexts. In other words, these are not new sets of practices as they are drawing on already existing sets of practices. Comments addressing the person go to the core of the person's identity because they are bound up with notions of scholarly ability and student's desires to succeed. There are huge emotional investments in the writing, so that managing fears and developing desires productively necessitates acknowledging the significance of the emotions which lead the student to position themselves in their texts in certain ways.

To conclude, I offer some tentative possibilities for thinking about feedback that would give a supervisor a repertoire of strategies with which to facilitate students' writing and also acknowledge the specificity of students' own goals and hence their own investments in particular identities.

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SYMPOSIUM SESSION:
MASTERS AND SLAVES: THE TWISTED DIALOGUES OF SUPERVISION

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Abstract

There is a trend, both in the research literature and institutional policies, to frame graduate research supervision as a dialogue between equals. Insofar as it depends on overlooking the difficult and contentious dimensions of supervision, this framing is flawed. In this paper, I view an ordinary supervision dialogue through the lens of Hegel's story of master and slave, as interpreted in Zali Gurevitch's analysis of everyday dialogues. This lens brings difficult, yet unavoidable, elements of mutual dependence and struggle into focus. The dialogue and the accompanying data are excerpts from interviews and supervision meetings of a supervisor and student pair working together on a Masters-level Arts-based research project. In the data we can see aspects of the master-slave relationship being played out. In particular we can see the tensions which arise over the way the supervisor-student relationship is mediated by supervision's third element, the thesis.

Introduction

Supervision is usually enacted through modes of dialogue. Traditionally this dialogue has occurred during meetings between supervisor and student or through written feedback which the student responds to (or not) when revising the work. But what is dialogue and what kinds of dialogue are likely within the proscribed cultural space of supervision? In this paper I want to bring a suspicious view of dialogue into focus, a view which sees supervision dialogues through the lens of Hegel's master-slave relationship. I have felt some reluctance to gaze at supervision in this way – perhaps because it seems so outrageous and also somehow outdated ('Masters and slaves? Surely not in this day and age!'). In the end the interest shown by supervisors when I sketched out the ways in which the master-slave drama plots onto supervision[1]—in particular how it makes visible the largely undiscussed relation between the supervisor and the thesis—convinced me that the task is worth doing. While much of my work on supervision is framed by a Foucauldian worldview—and I value the way his concept of power relations is useful for attending to the to and fro of human relations—I am uneasy about the way his work obscures the troubling effects of structural asymmetries of power. Contemplating supervision through the master-slave drama allows me to focus on the effects of hierarchisation in supervision dialogues without claiming that this drama is the only one being played out in supervision, or is in any way supervision's whole story.

Dialogue in supervision

To date, dialogue has received little direct attention in the supervision literature, perhaps because most studies have explored supervisors' and students' perceptions of supervision rather than looking at any actual supervision interactions where dialogue is taking place. However the role of dialogue is sometimes alluded to in discussion of issues like communication or negotiation—see for example, Sandra Acker's discussion of 'Negotiating with the advisor' (2001, pp.66-70) or Estelle Phillips and David Pugh's of 'How to reduce the communication barrier' (1994, pp.103-106).

1 I am grateful to Peter Reinholdsson, Per Lauvås, Anngerd Lönn and Gunilla Amnér for the opportunity to conduct several seminars on supervision in Norway and Sweden in September 2003. During the course of that visit, I developed some of the ideas that form the basis of this paper and tested them out in discussion with many supervisors from different disciplines.

Where dialogue has been explored explicitly, the authors have tended to take what seem, to me to be either an idealistic view which sees dialogue as the solution to the problems of supervision, or a suspicious one which finds it to be the source of those problems. An example of the idealistic view of supervision dialogue can be found in Gina Wisker and colleagues (2003). Here the authors argue for the value of supervisory dialogues between supervisors and PhD students in promoting:

> forms of collaboration and interaction as collegial equals in order to empower students to undertake and maintain momentum with their own research, ensuring that the responsibility and self-awareness this involves encourages them to own the process and the outcomes (2003, p.387).

These seem laudable goals for supervision. However, they depend on an understanding of dialogue as an unproblematic and achievable good, only requiring the right intentions and strategies from supervisor and student. Somewhat ironically, both extracts of dialogue offered in the article both show the supervisor overwhelmingly dominating the conversation space *and* the direction of the student's thinking. While in their dynamic and substance, these dialogues may well be helpful supervisory moments, they hardly figure as the interaction of 'collegial equals'.

In contrast, an exemplary case of the suspicious view of dialogue in supervision is given by John Frow (1988). Frow understands supervision as a process of initiation and transformation which transforms the student. In this way, PhD supervision parallels the guru-disciple relation by laying out the trajectory of candidature as a three-stage process akin to religious initiation: first, separation out from others (hence the common complaint of isolation); second, a long transition across a threshold—a liminal process marked by various forms of dispossession that are centrally about breaking down the old ego through ritual humiliations and ordeals. (In supervision, these include various forms of dialogue: the supervisory meetings in which the student is called to account for their thinking and activities, the submission of written work for feedback in a process over which they have little or no control, and the presentation of work-in-progress seminars which may be experienced as public sites of attack.) Third, a rebirth into a new self. The oral defence figures as the final ritual of subordination: the student enters into a dialogue with representatives of the community of masters, defending their work in ways that will be acceptable to others. While the successful student is able to make a decisive break with the supervisor and become in turn a master, overall, Frow says, PhD supervision is a 'mad process in its assignment of a structural role to insecurity' (1988, p.319).

In this highly charged view of supervision, dialogues between supervisor and student will always be distorted because of the radically asymmetrical positions occupied by supervisor and student, the ongoing structural insecurity of the student, the kinds of experiences they must endure, and the feelings that will be entailed. Crucially the dialogues of supervision will also be distorted by the play of transference in which the student will experience 'impulses and phantasies which are aroused and made conscious during the progress of the [supervision]' (Frow 1988, p.116, citing Freud) and which come to be focused on the supervisor, even though their original target was typically someone from the student's early childhood. The student's transference—which can produce intense positive or negative emotion—is met by the supervisor's counter-transference. The distortions produced by this dynamic—a possible source of pleasure as much as pain – are likely to be opaque to both student and supervisor.

While the guru-disciple reading is compelling and productive for helping me make sense of the problematic character of supervision, I find it much less convincing for Masters supervision (my research site) because it depends for its power on the fertile dynamics of the *prolonged* trajectory of PhD supervision. Masters supervision is almost always a much shorter affair. So I want now to propose a similarly suspicious but somewhat different view of the dialogues of supervision through the drama of master and slave. Like Frow's, my view understands dialogue as always a matter of struggle and misunderstanding, a place where power and desire play out. By seeing Masters supervision in this way, I wish to foreground certain difficult but unavoidable features of dialogue therein, features which are often suppressed in institutional policy documents and the induction and training for supervisors and students.

Dialogue between Master and Slave

> [E]lements of opposition, coercion, fear and struggle [are] inherent in the dialogic encounter … (Gurevitch 2001, p.89)

Zali Gurevitch understands the duelling dynamic of Hegel's master-slave dialectic as a condition for recognition and thus intrinsic to dialogue (although not its totality). In brief, Hegel's account of the master-slave relation (1977/1807) shows how two consciousnesses become bound together in an ambiguous and contradictory relation of domination and subordination. Knowledge of the self and the world is motivated by the intersubjective desires mobilised through this relation. It is a *necessary* relation of mutual struggle and dependence. It is also a complex, triangular relationship, in that relations between master and slave are mediated by the things of the world, and relations between master or slave and the things of the world are mediated by the other. I think this view of intersubjective relations can teach us something about the troubling complexities of supervision as a disciplinary practice.[2] Supervision likewise is a necessary relation of mutual struggle and dependence; likewise it is triangular in structure—as I have discussed in an earlier paper (Grant 2003)—because relations between supervisor and student are mediated by the thesis and those between supervisor or student and thesis are mediated by the other.

For Gurevitch, in the inaugural moment of dialogue, where 'speech fights against another speech' (2001, p.89), the speakers 'strive for recognition, independence and mastery' (2001, p.90). The struggle leads to a submission: the winner gains the right to speak, to have the last word; the loser is silenced, their silence marking recognition of the master. The consequence of establishing submission and superiority is that the 'delicate moment of imbalance at the heart of human encounter' (2001, p.91) is silenced and erased and becomes itself a repressive and repressed silence. From then on, the dialogue takes place through things 'which for the Master are a nuisance and for the Slave are blood, sweat and tears' (2001, p.92).

Repressive silence now functions as the middle term of dialogue. It implies that the struggle for speech has been decided – as much through various 'ordinary' means like institutional norms and internalised discipline as through extremes like terror. Because one side has won the right to speak, the master-slave dialogue hardens into the fixed sides of repressor and repressed and is littered with prohibitions. In everyday conversation, as much as in the practices of education, there are many ways in which repressive silence arrests speech:

2 The idea of 'discipline' used here refers both to "the distinct forms of knowledge as we conceive them and to the action of bringing about obedience" (Grant 1997, p.107).

> [I]n slight hints, a twitch of an eye, or a changing expression of a face, signs (so evident in intimate relations) that we tend to respond to almost with a reflex; and they may be overt, like not listening, turning to someone else, diverting a subject, not asking an expected question, or hurting with words against words, saying 'it' is worthless, and thus signalling speech to stop (2001, p.92).

However, repressive silence is not absolute silence in the usual sense of the word. Both repressive silence and repressive speech "'are states of a distorted, broken or violently cut conversation' (2001, p.94). This distorted dialogue functions as convoluted or subversive speech, as silenced speech:

> We become in part silenced speech, unheard, euphemised, or obsessive, carrying in our speeches a chain of repressions, fear, unstruggled for words, orders, chickenings,[3] victories, from both sides of the Master-Slave equation (2001, p.92).

In supervision, the right to speak—the 'dictating mouth' (2001, p.94)—is the supervisor's. The student's unwillingness to raise matters of concern—their silence—*marks their recognition* of the supervisor. The dialogue between supervisor and student takes place through 'things': the research project and the thesis. These things are a nuisance for the supervisor in the sense that they are often marginal to their real interests and significantly out of their control. For the student, though, they are grinding, daily work and the outcome matters dreadfully. In the master-slave story of dialogue, the student's silenced speech is met by the supervisor's silenced ear: the supervisor is oblivious to the student's 'nightmare' (2001, p.93). This is apparent in ordinary ways—for instance in how the supervisor does not think much about the supervision, the student or the work between meetings—and other more exceptional ways such as the supervisor who makes it plain that they are not interested in (will not listen to) anything to do with the student's personal life.

In supervision meetings, lack of preparation by the supervisor, interruptions at the office door, trivial feedback, inadequate preparation, receiving phone calls and so on may all be ways in which the supervisor signals the student's speech to stop. The student cannot give these repressive signals. Their moves to stop the supervisor's speech are more likely to be forms of repressed silence such as avoidance, appeasement, false agreement, or refusal. In supervision dialogues, there are words that both supervisor and student are afraid to utter and hear. Indeed, the experience of silence may be the biggest fear of all.

Seeing the dialogues of supervision through the drama of master and slave – and understanding that repressive silence is never fully successful—focuses us in on the ways in which these dialogues are distorted by the ongoing workings of superiority and submission, authority and control, speech and silence, rebellion and subversion, prohibitions and chickenings. These problematic twistings are unavoidable elements of supervisor-student dialogues as we shall see in the analysis of data below.

Notes on methodology

> [T]extual knowledge knows, but what it knows is undecidable – it cannot be settled for once and for all. This is because the process of creating and reading texts, the process of interpretation, is 'inaugural, in the primal sense of the word' (Derrida).

3 By chickenings Gurevitch is referring to the game of playing chicken in which one party sees how far they and another party can go before yielding – typically played in fast cars driving straight at one another!

> Interpretation starts up the process of meaning-making, but it can never know or control where that process will end up. (Ellsworth 1997, p.67)

In the analysis which follows, I take a deconstructive stance towards my data, a series of texts. By this I mean that I understand texts as always already open to interpretation, with misreading and error as inevitable by-products, making it impossible to definitively explain or isolate their truth. In any text there are gaps and silences which are empty of apparent meaning, and thus subject to different, sometimes conflicting, interpretations arising from stereotypes, presumptions, anxieties, attractions. Every explanation can be supplemented by another, and that one by yet another, and so on (Lynn 1998). This problematises the text's authority to simply speak and my own authority in interpreting it. Ultimately, in the deconstructive mode, a text means "whatever the entity with the most power says it means, unless of course other readers continue to read it otherwise" (Lynn 1998, pp.87-88). In this understanding, data analysis is the forcible transformation of ambiguity into certainty (Johnson 1980). The researcher acts as the judge and does a kind of violence to the data. I want to acknowledge here that neither of my informants is likely to have thought of herself as master nor slave (indeed that is one of the matters that compels me to take this reading) and neither may like the metaphor—I want to apologise if, in this 'violent' interpretation, I cause either of them sorrow. However, while the position of the researcher-analyst-author is a powerful one, no less is that of the reader who must be convinced for the analysis to have a life.

The interpretation that follows has the shape of a thematic analysis. I have taken some of the twisted moments of master-slave dialogue as described in the previous section and made them into analytic categories. While these categories are not exhaustive, they do comprise a distinctively-hued lens through which to view some extracts of data in order to bring the master-slave dimensions of supervision into focus. They are four, as follows: (1) The supervisor has the right to speak (the 'dictating mouth'); (2) the student's silence marks her recognition of the supervisor; (3) the dialogue between supervisor and student happens through things which are a 'nuisance' for the master but 'blood, sweat and tears' for the student; (4) the speech of both is silenced and distorted by prohibitions, by signals to stop.

The text below was produced by transcribing the audiotape of a supervision meeting. The exchange I have selected to analyse is in no way extraordinary in relation to other of my data—indeed it is an example of what I have come to recognise as typical exchanges between supervisors and students. I interpret the exchange by reading it through the themes above, and then by bringing other, related texts to bear: notes that both supervisor and student wrote individually within 24 hours of the meeting, and transcriptions of interviews I had with them separately within a week of the meeting. I use these related texts to thicken and colour my interpretation of the meeting text, in particular to highlight the contradictions, ambiguities, tensions and slippages between supervisor's and student's narratives.

Master-Slave dialogue in ordinary supervision

This extract is from a meeting in a supervisor's office in which the supervisor (white NZ woman, around 60) is giving the student (white NZ woman, early 20s) feedback on a draft chapter. It is August, and the thesis is due to be submitted in November. The supervisor has previously given the student feedback on other draft chapters. The exchange below occurs about five minutes into the meeting and lasts three minutes—in total the meeting takes an hour. I have included the extract in full so the reader can get their own feel for the tone and rhythm of the dialogue and can more critically engage with my interpretation. In the analysis that follows I refer to fragments of the

text either by re-quoting them or by reference to the code for a turn in the exchange (eg S1 or St19 and so on).

The supervisor (S) has just begun to give the student (St) feedback on the conclusion for a chapter. The tone of the meeting is quiet and somewhat conversational, laced with the intermittent sound of paper rustling as supervisor and student look through the manuscript. The student laughs often, at times (it seems to me) a bit nervously.

S1 … But otherwise I thought yes, you've overcome the sense that I had that you hadn't finished.

St1 Mhmm. Yes. I think I knew it in my head, I just hadn't *[laughs]*

S2 (***)[4] Mhmm

St2 forced myself to write it down.

S3 And it is nice, cos actually this, this is saying something quite different about the relationship of the novels from [that other chapter], because

St3 [(***) says 2-3 words I can't hear but it sounds like she's agreeing*]*

S4 in this one you are arguing they are quite different, and in this one you are actually arguing that, although they might seem different, they are actually quite similar.

St4 Mhmm

S5 Is that right?

St5 That is how it seems to be. I sort of just realise these things as I do them. *[laughs]*

S6 Mhmm, that is what, having read the whole thing, I thought that probably you needed something, again it is the same thing, I think you need an introduction of some

St6 Yes, well this is only bits of it. I am going to write more about the death scenes, I thought

S7 oh good

St7 of Hamilton and Claire – I thought they are pretty major, um

S8 Yes

St8 Especially Hamilton, universal salvation, so

S9 Oh, that would be good. Yes because I thought you could have put more emphasis on that theme of universal salvation

St9 (***) yeah

S10 which is consistently through the book

St10 Yes. So this is only about 3,000 [words]. I was going to write another

S11 right

St11 2,000 or so.

4 The triple asterisk (***) indicates that the utterance so marked overlaps with that immediately before or after it.

S12 Yeah, right, right. I thought if you had an introduction what I'd suggest, and again you can think about that, is that um I'd have perhaps something along the lines of that the attitude to religion in the two novels is usually seen as, as – I'm not sure if it's diametrically opposed, but Esther is the liberal or whatever she is, Amelia is the religious um proselytizer

St12 yeah

S13 um but however a close study of the two novels reveals more similarities than have usually been acknowledged

St13 *(***) [*2-3 words, sounds like she's echoing the supervisor's words*]* Mhmm.

S14 something like that. Because that would then make this a sort of—the person reading this would know where you're heading for.

St14 mhmm, yep

S15 And I think it would be nice because—does it come after this [other chapter]?

St15 *(***)* Yeah, it will come after that.

S16 Yes, because then that is sort of saying that something different is happening which is nice. So would that be okay? Something

St16 *(***)* Yeah.

S17 something along those lines, which would only have to be a short paragraph.

St17 Yes. Should I, for the introductions to each chapter, should I keep them fairly short do you think?

S18 It depends. I mean I think with this one it just seems that

St18 *(***) [*says something inaudible*]*

S19 then you'd be leading into the contrast between them, but you can make it as long as you like, but I think some sort of structure like that would um

St19 Yep.

S20 Yeah, yeah. Because people do usually say, don't they, that they are very different.

St20 Oh yeah, definitely. *(***) [laughs]*

S21 So you could easily find, I mean if you wanted to, you could even give a quote or two there

St21 *(***)* Mhmm

S22 Um, or you could just leave it quite simple

St22 *(***)* Mhmm

S23 and then your close study of the two novels or perhaps put my close study of, if you wanted to there or

St23 *(***)* Yeah

S24 or just a close study reveals more similarities

St24 *(***)* Yep

S25 than, and then that makes what you are doing actually quite interesting and original, um

St25 *(***) [laughs]* Hopefully

S26 You are saying that you are doing something the critics aren't doing. I think that's

St26 *(***)* Yeah, that's what I'm trying to do.

S27 Mhmm, yeah. I think if we gave it some sort of position like that then, then you can just start straight in as you have done which is, which is good. Um, there's just a few minor things at this point.

From here on the supervisor goes on to raise a series of micro-editing points. She pays close attention to the student's text, at times reading sentences aloud to re-work them. Sometimes she questions the student's reasoning, thinking through the argument aloud. The pattern of exchange visible above continues. Towards the end of the meeting, however, the student indirectly raises the issue of a chapter she sent the supervisor for feedback earlier in the year that has never been returned to her. The supervisor realises she has lost it, and they arrange that the student will resend it.

The dictating mouth of the supervisor

This exchange shows quite clearly the supervisor's right to speech. Her ascendant voice both leads the exchange and dominates it. In speaking, she makes a range of responses. Some are judging in that she tells the student her (the supervisor's) view of the state of the work, for example 'you've overcome the sense that I had that you hadn't finished' (S1), 'I thought that probably you needed something, again it is the same thing, I think you need an introduction…' (S6), and 'then that makes what you are doing actually quite interesting and original' (S25). At times she tells the student what she thinks the student is saying—for example 'in this one you are arguing they are quite different…' (S4) and "you are saying that you are doing something the critics aren't doing' (S26). She also gives the student advice and direction: 'I think you need an introduction…' (S6), 'you can make it as long as you like…' (S19), and 'you could even give a quote or two here' (S21). At times she literally dictates to the student amendments to the draft, as in turns S13 and S23-24. Two or three times she checks for agreement and understanding from the student—'Is that right?' (S5) and 'So would that be okay?' (S16). At these moments it is unclear whether she is seeking the student's permission or compliance.

While she takes up the right to speech, the supervisor seems ambivalent about it. Her suggestions are often framed tentatively, for example "I thought that *probably* you needed something" (S6) and "what I'd *suggest*, and *again* you can think about it" (S12). In her post-meeting notes (written the next day), she writes:

> I felt I had been successful in pointing out alterations that would make the chapter more shapely and get its message across. I'm less happy about the tone of the meeting. R was too passive – or rather I was too controlling. I tell her what I think will improve her thesis. I need to think about ways of allowing her to suggest the alterations rather than telling her what to do. *(Post-meeting notes)*

In contrast, in her notes (written the day of the meeting) the student says:

> I think (hope!) she was pleased, basically because she seemed friendly and relaxed, and interested in what I'd written and had to say. She also had plenty of feedback, which seemed to show that she thought my argument was a good one. *(Post-meeting notes)*

It is interesting to see that while possessing the dictating mouth is not always particularly pleasurable for the supervisor, the supervisor's possession of it can be enjoyed by the student. This is one of the twisted elements of supervision, that the way individuals enact themselves as supervisor and student has unpredictably different effects on the other.

The student's silence

The contrast in the student's contribution to the exchange is marked. She speaks a lot less, mainly only in response to the supervisor, and most of the speech she does offer has a silenced quality. For example, most of what she says is assenting—19 responses out of 23 (not including the three I can't hear which sound assenting in tone)—and her voice often comes in behind the supervisor's. Her agreement mainly takes the form of either yes (13 times) or mhmm (4 times). However, sometimes she makes more elaborated agreements, for example 'That is how it seems to be. I just sort of realise these things as I do them' (St5) or by (defensively?) claiming that she was just about to do whatever the supervisor has just suggested, for example, 'Yes well this is only bits of it. I am going to write more…' (St6).

At times there is a more explicitly appeasing quality to the student's speech. For example she sometimes hedges her responses as if anticipating the supervisor's disagreement: 'I *was going* to write another… 2000 words or so' (St10-11) and 'I *am going* to write more about the death scenes, *I thought*…' (St6). When she does ask a question, it is phrased very tentatively: '*Should I*, for the introductions to each chapter, *should I* keep them fairly short *do you think*?' (St17). Also she laughs from time to time, but usually as she admits to some failing or uncertainty in herself—for example she laughs after she acknowledges that she hadn't put her ideas onto the page (St1), and again when she says 'I sort of just realise these things as I do them' (St5). Like some of her comments, the laughter seems to be expressing a certain amount of rueful discomfort and self-effacement.

It is hard to interpret silence so it seems important to turn to the other texts in order to understand how it might be understood by the participants. The student recorded that:

> She spoke a lot more than I did, but this was because she was giving me feedback on my ideas. I expected her to say more than myself, and so it didn't bother me. *(Post-meeting notes).*

The supervisor noted that:

> I realised that R was feeling a little upset/overwhelmed by the number of alterations I was suggesting, so I stopped and praised the passages that worked and the overall argument. I mentioned the fact that her writing was getting more fluent. … She smiles a lot, but I get an underlying feeling of distress. Is it at my criticisms? *(Post-meeting notes)*

We were both in the same 2-hour class immediately afterwards. R is usually quiet in class but a couple of times I worried that my comments had been too negative as she looked depressed. I

agonised several times later in the day over having forgotten to return the chapter and over not having discussed possible grades with her. … *(Post-meeting notes)*

But once again the student's point of view is different:

> I felt pleased that A liked my argument—it's been a difficult chapter and her praise is encouraging…I think the meeting went well—I found it productive and helpful, and thought it had an easy, relaxed tone. *(Post-meeting notes).*

The contrast here between the worrying supervisor, who feels as if her critical feedback is too painful for the student, and the pleased student is yet another twisted element in this dialogue.

A dialogue through things

What is not immediately obvious from the text above is that the dynamic of this supervision meeting is triangular in structure: present in the exchange are the supervisor, the student *and* the 'body' of the draft chapter. On the tape, I can hear the rustling of paper as pages are turned, and pauses in speech while the supervisor finds the part of the text she wants to comment on. Seconds earlier there had been a brief exchange over the way the student's formatting of the draft had been lost in the supervisor's print-out. The student seemed a little dismayed to find the supervisor's version did not look like what she had sent in for feedback. This signals that the physical 'body' of the draft can affect supervision.

On the surface it seems as if the point of the exchange (indeed the meeting generally) is simply for the supervisor to assist the student improve her draft. Yet there are ambiguities which make this simplicity more apparent than real. For instance in the opening exchange (S1-St1-S2-St2-S3), is the supervisor reflecting back to the student something the student already knows, or is she giving the student something to know? (These kinds of exchanges with their blurry boundaries are very characteristic of supervision.) And later, in the closing exchange (St26-S27), the student asserts 'that's what *I'm* trying to do' while the supervisor responds 'Mhmm, yeah. I think if *we* gave it some sort of position like that…'. The student's rare (in this extract) assertion of her authorship of the thesis is met by the supervisor's 'we', seemingly asserting joint authorship.

What we can glimpse functioning here is how the supervisor's relation to the student is mediated by the thesis. Everything the supervisor says to the student is about the thesis – she talks through the body of the draft to the student. Her praise is usually quite impersonal: 'and it is nice, cos actually this, this is saying something quite different…' (S3) and 'Oh, that would be good…' (S9). We can also glimpse how the supervisor's relation to the thesis is mediated by the student. The supervisor does have plans for the chapter which she tries to draw the student into by weaving them around both the student's draft and the student's responses to her feedback. While she checks to make sure the student understands and consents, she also at one point ('the person reading this' S14) invokes the examiner (another master) to lend weight to her suggestion for an alteration to the draft.

Some of this becomes plainer when the supervisor writes about her feelings towards the thesis and how her relationship with the student is bound up with these:

> I don't feel I'm relating well to her. There is not a feeling of rapport. I seem to be too much in the role of a corrector. Basically I think it's due to the fact that it's not going to be a brilliant thesis, that although competent it lacks either the intellectual flair or

> really solid background research that would make it A+. When I suggest other background reading she does always do it—but she comes up with no discoveries of her own. *(Post-meeting notes)*

Later she elaborates this complex of thoughts and feelings towards the thesis and student:

> I feel a little bit worried about [the thesis] being so uncreative on her part where some of the students have been – they have created something of their own so that at the end I am quite surprised at what they have done, and those are the students who often resist your suggestions – whereas R doesn't, she does exactly what she is told. If I say perhaps you should go and have a look at those poems which might be useful, she'll go away and she will look at the poems and then she took two and put them in there. It didn't do much – she was doing what she was told. She is a good girl. But I feel I haven't quite sparked her off. And I am not sure if that is her or whether [it is me]. *(Post-meeting interview)*

There is a sense of disappointment in the student because of the obedient way she goes about the thesis. This is one of the problematic contradictions inside supervision – wanting the student to take inspiration rather than direction from the supervisor but the two being entangled in actual dialogues. Later in the interview the supervisor says she thinks the student is unhappy with the thesis, but the student's story is one of keenly enjoyed independence and originality, so we can ponder whose unhappiness the supervisor is reporting.

In these examples we see more evidence of the twistedness of the dialogues of supervision – the things the supervisor worries about but cannot say (likewise the student). Moreover, in other interviews the supervisor talks about the process of examination and how she is implicated in the final grade awarded to the thesis: she has relations with other masters to negotiate at the same time as that with the student:

> I still get anxious when [the thesis] is going off to an external examiner … I sort of feel [the examiners] are grading me as much as the student in that the way it is organised and its presentation … is really my responsibility. *(Initial interview)*

> There was one bit [in the examiner's report] where he said he really liked the argument about Amelia and I thought ooh that was my argument. I actually felt quite pleased about it. *(Final interview)*

In a curious reversal, we see the supervisor being caught up in fear of other masters and also in the pleasures of being recognised.

Prohibitions and signals for speech to stop

Now to focus on ways in which the exchange between supervisor and student is a "distorted, broken or violently cut conversation" (Gurevitch 2001, p.94). What prohibitions and signals are at work? This is a hard question to answer because, in the absence of data about body language, it seems to require attention to what was *not* said. Again, my analysis will be helped here by reference to data other than just the meeting text.

In the flow of making judgments, of recapping what she thinks the student is saying, of giving advice, and of dictating the words the student might use, the supervisor's speech pre-empts the student's speech. The supervisor's speech suggests that at this moment she is carrying the

responsibility for thinking about the thesis and the student's submissive assenting speech—which signals to the supervisor to keep on speaking—suggests she has given over this responsibility to the supervisor. But the supervisor cannot take responsibility for the thesis because it belongs to the student who does the work – and so, in order to have some control, the supervisor keeps checking to see if the student understands and agrees with her feedback. An effect of this dynamic may be that the student's relation to (conversation with) the thesis is broken—or violently cut—by the supervisor's interventions. At times there appears to be a hint of rebellion in the student's defensiveness (St6, St10). Likewise, the student's relation to the supervisor may be broken by what she cannot say to the supervisor about her own ambitions and desires for the thesis—there is a sense of chickening in the very tentative way the student puts forward any ideas for the thesis. This is also likely to be the case for the supervisor's relations to the student and the thesis. Within the structure of the supervisor-student-thesis triangle, and because of the connections between this structure and other masters in the discipline, it is hard to see how this twisted dynamic might be otherwise.

In the exchange, we can see the radical imbalance of the supervision 'conversation'—where one person is in a position of giving judgment and guidance and the other is not. Such an imbalance produces systematic distortions in what each can say to the other. We can see that only the supervisor says certain kinds of things, that the student tends to say other kinds of things, and that at times they talk past each other. For instance, in the matter of the originality of the work, we can see from the quotes above that the supervisor feels that the student's work is not original, that it lacks spark. However, the student thinks differently:

> I do [feel passionate about my topic] because it is something almost original. People haven't really done this before, at least not in the depth that I am doing, so I am hoping to sort of interest a few people, well the supervisors anyway … *(Post-meeting interview)*

She is pleased with the originality and independence of her work.

In another example of broken conversation, the supervisor worries about giving critical feedback while the student is clear that this is what she expects of supervision. The supervisor:

> But I can't really make her more creative. I mean I can say 'go and look at this' and 'do a bit more of that', but I can't say to her 'you are not thinking hard enough'.

Researcher: Why wouldn't you say that to her?

> I think it would destroy her. I think she thinks she is—I mean she is sort of thinking… *(Post-meeting interview)*

And the student:

> [Giving critical feedback] is what I want her to do…If she didn't say as much as what she did, then I'd be wondering why not really. Because I know I'm not a perfect student…I mean it depends on how the feedback is given too I think…you know she just says it in a nicer way and when it is coming across like that I don't mind and I mean that is her job and it is my job to listen and improve and to learn off her, so I would be silly not to listen to her if she is trying to improve [the thesis] for me *(Post-meeting interview)*.

The student asserts that she does want critical feedback—indeed that giving it is the supervisor's job. There seems to be a disjuncture here between how the supervisor sees her and how she sees herself. The student does though remark that how the feedback is given is important—so maybe the supervisor's intuition that the student would be destroyed by challenging feedback has some truth. On the other hand if the supervisor could give it in the way she usually does (that the student says she finds helpful), maybe not. Whatever, it means that there are silences inside this supervision dialogue arising from the supervisor's desire not to overly hurt or discourage the student.

Are there any silences arising from what the student will not say? She gives us a couple of glimpses:

> I think one of my very first meetings I actually wrote down—I had quite a few just sort of general points, I think about four questions, so I wrote them down. But I felt like a bit of a geek sitting there with my book, going now—it felt too formal and I didn't want that sort of relationship really, I wanted it just to be more easy going and relaxed *(Post-meeting interview).*

> Oh I didn't mind [about raising the missing chapter] because I knew she wouldn't get narky because it is not my fault. I mean I needed feedback on it so, and I had to say something *(Post-meeting interview).*

There is an implication that she will be silent rather than risk striking the wrong kind of note in the supervision, and that she will be silent about things that might put her at fault. Here are traces of the twisting effects of fear on this dialogue.

Some conclusions

The extracts of data offered here are not intended to produce a judgment in the reader that 'this was a bad/good/outrageous/helpful etc supervision'. While the supervisor worries about her supervision, the student is pleased with it. And, after all, this is just one moment late in a supervision trajectory which led to the award of a first-class thesis. I offer this view to bring into focus the undeniable complexities and tensions which arise inside supervision as pedagogy, a pedagogy which is intense and intimate and which is supposed to lead the student to her own conclusions—but which takes place always under pressure of time and within the ineffable workings of an interpersonal relationship.

This close look at an ordinary supervision dialogue through the master-slave drama does bring "elements of opposition, coercion, fear and struggle" (Gurevitch 2001, p.89) into focus, elements which twist such dialogues in many ways so that misunderstanding is likely. We can see that complex relations exist between supervisor, student and thesis. Given supervision's function—as the process by which a student is inducted into the pre-existing and highly disciplined scholarly culture of academic research—it is hard to see how it could be otherwise. And then there are the supervisor's necessary position of authority and the ambiguous status of the thesis. Yet supervision is clearly a source of pleasure for many students and supervisors and, to date, has often been a relatively effective mode of enculturation for neophyte researchers. However, it remains an unstable and tension-ridden process, filled with gaps and distortions arising from the irreducible differences between its protagonists and its entanglement in disciplinarity.

Much current discourse around supervision wants to posit supervision as something else – as mentoring or as sponsorship, as something more mutual and collegial. While I understand the democratic, or 'client-centred', rationale for such an impulse, ultimately I find it to be flawed. It overlooks difficult elements in the day-to-day interactions between supervisor and student as, from irremediably different positions, they cajole, incite, confront, appease each other better to perform more of the roles they believe are appropriate, as they try to cover for their fears and insecurities, as they negotiate the flux of excitement and disappointment, as they try to show their best selves.

A final matter which interests me is the way in which current trends in the funding of graduate research supervision—largely captured by the idea of supervision as training—may well invigorate the master-slave tendency in supervision. By 2006, in Aotearoa New Zealand, government funding will follow successful and timely completion of research degrees (as it already does elsewhere). An institution's response is likely to be to put more pressure on supervisors to get students to complete on time. The response of supervisors will be diverse as always but, as the new logic sinks in, it is likely that some at least will take a more 'masterful' role in the supervision: *requiring* more frequent meetings, making more insistent *demands* that the student conform to work schedules, coming to prefer *docile* students and *safe* research projects. This will undoubtedly have implications for their students and the kinds of scholarly work they produce.

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SYMPOSIUM SESSION: OVERVIEW OF MY THOUGHTS ON SUPERVISION AND CONVERSATIONS WITHIN THE CONTEXT OF CHANGING TIMES

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> ...the privilege given to practice assumes the university should prepare individuals adequately for the world of work; the privilege given to research and theory assumes the university's purpose is to produce knowledge for, and understanding of the world. (Baez 2002 p 53).

Education, whether we like to admit it or not, has become a commodity that is marketed to select target groups for consumption. In turn the education of would-be postgraduates would inevitably travel the same route as Fairclough (2002, p. 207) suggests so eloquently:

> It is no longer surprising for example for sectors of the arts and education such as theatre and English Language teaching to be referred to as 'industries' concerned with producing, marketing and selling cultural or education commodities to their clients or consumers.

I am one of those would-be consumers. I considered entering academia as a professional with more than 20 years of a career behind me. I also thought that I would be able to slot into this area by seeking out the most appropriate "product" for me based on what had been marketed to me by representatives of the University of South Australia. The information sent out to prospective students identifies the course outline of study as something to 'buy into' for personal gain, satisfaction and status.

According to Fairclough (2002, p. 208), this is a form of educational discourse that encourages course designers and presenters to give students *at all levels* 'what they want', as part of the push into marketing.

He also asks who really constitutes the client/customer base? Is it the employers, who will take on these graduates, or is it the customers themselves? This is an ongoing debate, especially within vocational education discourse.

Despite this thought, I know that to develop a passion for learning more and doing more within the framework of your profession, to theorise about it and to make (it is hoped) a significant contribution to it are goals for many. I am amongst these hopefuls.

To that end, I presented myself as hopeful postgraduate student to be considered for the hallowed halls of academia, to do the ultimate, a doctorate: to many an aspiration, but for others out of reach, daunting and strange.

This in turn would give me more credibility, more status, particularly in a profession dogged with 'a bad press'. The title of Doctor is vital: it comes from the Latin (Doceo) "I teach" which suggests someone trusted to pass on (to teach) information and knowledge and to assist in bringing another selected candidate into that sphere of knowing, part of tradition, and acknowledged for years of effort. This in turn brings credibility (Latin credo "I believe"): it is no wonder then, that people will queue up to become part of what they assume will be a select group, given honour and status for work performed, achieved at a level deemed to be appropriate to this degree, a type of distinction.

(This idea of 'distinction' should be debated in order to determine how this ideal organises individuals and education in particular ways.)

The attainment of a doctorate can be seen as value-adding to a long, illustrious, and positive career. But fear can stalk the hallowed halls of learning quite easily when one is not used to the gruelling tasks outlined.

Reams of paperwork, writing and thinking are all bound up in the need to establish one's claim to the honour; merit one seeks within one's own field of expertise. Only a University that is accredited and known for its standards of excellence can give this reward.

According to some student colleagues, the new field of 'locus academicus' can change from a passion for learning and the valuing of past experience and expertise, to a rush to learn a new vocabulary and ways of expression. This can often lead to frustration and 'fear of failure'. In turn tension can grow when an expert in the profession is placed squarely into the role of the student novice, apprehensive about ever being able to fit into the 'habitus' of a University space and tradition. From the outside looking in. the habitus seems effortless, seamless and challenging.

After all, the real world is not like academia. Even Bourdieu (1986) suggests that, in some circumstances educators within the university context are likely occupy a caretaker role, where a rather powerful minority (perhaps even one's supervisors!) can sit in judgment, examine, and decide one's suitability to enter, participate, and continue in this process of the acquisition of such desirable cultural capital.

According to Peter Taylor (2001) however, it is crucial to have a collaborative approach between student and supervisor and to develop a close working relationship. He claims there is a lot at stake for both student and supervisor. I concur wholeheartedly, especially when the first tentative steps into the different styles and presentations required within the postgraduate context first appear.

Many professional career men and women have learned the art of presenting within their chosen profession. For me, the art of brevity and simplicity sit in stark contrast to the world of elucidation and extrapolation. What now for the Professional Doctorate student?

Should the Professional Doctorate degree maintain the same high standard as those of the Ph D? Of course the answer must be yes, otherwise there would the problem of the one degree not being as highly regarded as the other. But in fairness to the practitioner-oriented program there must a considered effort to rethink the methods and criteria for assessment. There is a discourse dilemma here. Value of life work and expertise translated into theoretical perspectives versus a 'research only'-based paradigm interwoven with traditional academic language creates a conflation of tension. How should this be approached? For example public relations practice is a problem solving model which distils to core key concepts, whereas academia 'problematises' and teases out the problem.

The challenge to consider I can regard 20 years of practising and learning as a senior (award winning) practitioner as part of my own qualitative inquiry? I have learned, for example, how to make communication campaigns work and create impact.

I consider that University of South Australia claims to value the life work of the Professional Doctorate student and the expertise of a professional who seeks to become part of the University's focus for standards of excellence. This has become a new pathway.

In turn, this emerging body of students will contribute to the PR profession (in my case) by being more critical of the status quo, self-reflexive, and contribute to further knowledge in the future (Baez 2002).

There is an answer and we will find this in setting out new guidelines for, collaboration, examination and observation.

These conversations are now beginning and Taylor (2001) suggests keeping some of the following ideas in mind:

- constant collaboration between student and supervisors
- consultation on what can and cannot be achieved within the confines of the new practitioner-oriented Doctoral Degree framework
- encouragement for the student to publish their work when the time and level of confidence is right
- assurance that students have the same level of agency as first autor and supervisor

The last ideas are mine.

- Remember that peer review takes on a whole new meaning when you are fresh to the idea; this can be a frightening concept to someone who normally gives advice and counsel on a daily basis to CEO's Ministers and senior managers but does not have to submit to peer reviews on a regular basis, other than to establish whether they are achieving set goals.
- Teach the rigours of academic writing but also maintain the freshness of creativity that is a hallmark of public relations.
- Accept that quality is more relevant than quantity.

In turn, empowerment of both student and supervisor is a mutually-assured goal. This goal can be seen as excellence learning, and better-accredited practitioners with the distinction of university-appraised knowledge behind them.

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SYMPOSIUM:
RE-IMAGINING THE DOCTORATE IN INDUSTRY AND PROFESSIONAL PRACTICE

David Hodges
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with
Mike Brown, Brad Haseman, Janne Malfroy,
Heather Meyer, Roslyn Sayers and Laurene Vaughan

Aim of the symposium

Doctoral programs in Australia have been influenced by the recent policy changes instigated by the national government, and currently operate in what is considered a radically different environment for doctoral education. One aspect of this change is the move to link more explicitly post-graduate research programs with industry and professional practice. This situation is not isolated but is mirrored internationally. However, many reports on doctoral education present this as a top-down process only; in fact, there are many doctoral programs fostering and initiating changes in doctoral education using data from practice. This pressure to move doctoral education into new and different arenas comes from both supervisors and students.

Fostering innovative post-graduate research programs that link the academy with industry and professional practice is complex. The objective of the symposium is to explore some of these complexities from the perspective of the curriculum, the student and the supervisor.

Each segment is framed in terms of a series of challenges developed in an introduction lasting 15-20 minutes. During this introduction members of the panel will sketch the dimensions of the challenge and outline their response to these challenges. The experiences of the panel members, as researchers and supervisors, demonstrate the diversity of possible responses when re-imagining research education. Following this introduction, symposium participants will then be invited to outline their own attempts to create innovative responses to these challenges. To facilitate discussion a number of additional challenges/questions have been included within the three major segments. The segments are:

1. The challenge to design an innovative and contemporary curriculum which guarantees doctoral level standards and rigour.

- The challenge is to embed a cohort-based, collegial approach to learning as a primary curriculum design principle and so depart from the ‘free form’ nature of most research doctorates.
- The challenge is to build connectivity between university expectations and standards, the demands of the candidate’s workplace, and the candidate’s particular professional development needs.
- The challenge is to determine to what extent work place practices should change in order to accommodate the requirements of a postgraduate degree, what compromises a university oought make in order to contribute to workplace learning, and the development of situated knowledge?
- The challenge is to confront some of the basic assumptions that underpin post-graduate research. What does it mean to ‘do’ a literature review in the project mode? What changes in approach ought a university tp make in order to contribute to workplace learning and the

development of situated knowledge? Who is the audience for the written text – the academy or fellow workplace based practitioners?

- The challenge is to re-define how best to examine doctoral achievement. What outputs should be examined and by whom?

2. Challenges faced by students:

- The challenge is to manage the complex relations that emerge as a result of the link between the academy and industry/professional practice.
- The challenge is to foster a supportive environment for the research student so that they can negotiate the complex relationships that emerge when industry/academy partnerships are formed.
- The challenge is to balance flexibility, generally essential for effective research in industry, with a degree of structure that is essential for managing relationships and ensuring completion.

3. Challenges faced by the supervisor/supervisory team:

- The challenge it to determine the relationship between student and supervisor has changed in response to the new directions and pressures from both inside and outside the academy, in particular the influence of doing research in a workplace or community setting.
- The challenge is to go beyond the supervisory team of one or two and open up possibilities for multiple mentorship from the academy and industry.
- The challenge is to define and justify (to the academy and to the industry or community organization) the supervisory roles and their contribution to successful and timely completion.

New forms of postgraduate research provide an opportunity to take the knowledge and expertise of the academy into the broader community. but there is also a responsibility to inform the academy of the complexities of undertaking such an endeavour. By confronting these challenges it is possible to make a contribution to the re-imagining of post-graduate research and education.

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SYMPOSIUM:
IMAGININGS OF THE DOCTORATE: PAST, PRESENT AND FUTURE

Margot Pearson
The Australian National University
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With
Terry Evans, Diana Leonard, Peter McAuley,
Janne Malfroy and Mark Tennant

Aim of the symposium

As the scholarship and debate on doctoral education encompasses an increasingly wide variety of themes, interests and issues, it becomes difficult for anyone to keep abreast of what is being produced. In this context the limited theoretical, historical, and empirical data and critique of past and present practice provide a problematic base from which to imagine and propose future action. For example, although there are constant references to past or 'traditional' practice, compared explicitly or implicitly with present practice, and new programs such as professional doctorates, just what tradition, and for whom, is left unarticulated? Is it the Australian tradition? Does this tradition encompass all fields of study? Are discussions of present practice grounded in the perspectives of all the key stakeholders, including research students?

The intention of this session is to present some recent and preliminary research findings and the thinking behind the studies, to challenge preconceptions about doctoral education, and to extend our ideas of what is important and what is possible. We will present data and perspectives on the past, the present, and the future trends in doctoral education, drawing on a number of projects and studies of the following aspects:

- the development of the PhD in Australia
- the contemporary experience and expectations of doctoral students
- postgraduate outcomes.

Reference

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SYMPOSIUM SESSION: THE PHD IN AUSTRALIA

Terry Evans and Pete Macauley
Deakin University
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and
Margot Pearson
The Australian National University
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The presenters gave an introduction to the development PhD in Australia with an emphasis on the diversity of award programs and their development. They drew on work which is part of a larger project to investigate the PhD in Australia since its inception in 1948. Already drawing on a substantial bibliographic collection of PhD records—approximately 51,000—from Australian university libraries for, PhDs awarded since 1948, Evans, Macauley, Pearson & Trengenza (2003) have been able to challenge some preconceptions about traditional versus innovative doctorates.

The presenters then outlined the issues involved in connecting and integrating work and learning in research education being examined in an ARC Link Grant project. This Link project, which has as its Industry Partners the student associations CAPA, ANUPARSA and DUSA, investigates the experience of full-time and part-time research students. The project recognises research students as research workers, adults with parental and community responsibilities, those combining their student role with other roles as research assistants, lecturers, tutors and project officers, as well as those already employed outside the university, or taking a break from their employment mid-career.

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SYMPOSIUM SESSION:
DOCTORAL PROGRAMS AND KNOWLEDGE IN ACTION

Janne Malfroy
University of Western Sydney
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This presentation will report on an empirical study of two doctoral programs that explicitly link the theory and scholarship of the academy with the practice and professional knowledge of the workplace and community environment. The research study examined the tensions, relationships, new practices, and new outcomes in these particular programs, and prompted a rethink of the way relationships between university, profession and workplace are imagined. A variant model focusing on practice and change will be discussed.

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SYMPOSIUM SESSION:
THE DOCTORATE AND 'EMPLOYMENT-RELATED SKILLS'

Diana Leonard
University of London
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We know surprising little about what motivates people to undertake postgraduate study and still less about what happens to people once they have got a PhD or professional doctorate. This presentation provided some preliminary findings from a study of Education alumni who completed their doctorates one, five and ten years ago (N=162). Respondents were asked how their doctorate affected their employment and/or other aspects of their lives; and whether their studies have resulted in 'knowledge transfer' into the private and public sectors of the economy (as stressed in the 2003 UK White Paper on *The Future of Higher Education*).

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SYMPOSIUM:
THE DYNAMICS OF POSTGRADUATE SUPERVISION

Hugh Kearns
Flinders University
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with
Monika Appel, Rolene Lamm, Tricia Vilkinas
and Peter Willis

Aim of the Symposium

This panel presentation concerns the varied and contested nature of postgraduate supervision practice, its susceptibility to academics' ideologies and pedagogic styles, and the variety of students' cultures and styles. This presentation focuses on the 'situated' and 'relationship' nature of supervision while not ignoring the contextual influence of policy concerns to improve efficiencies of outcomes. The session will consist of short presentations by the above authors followed by an interactive discussion with the audience.

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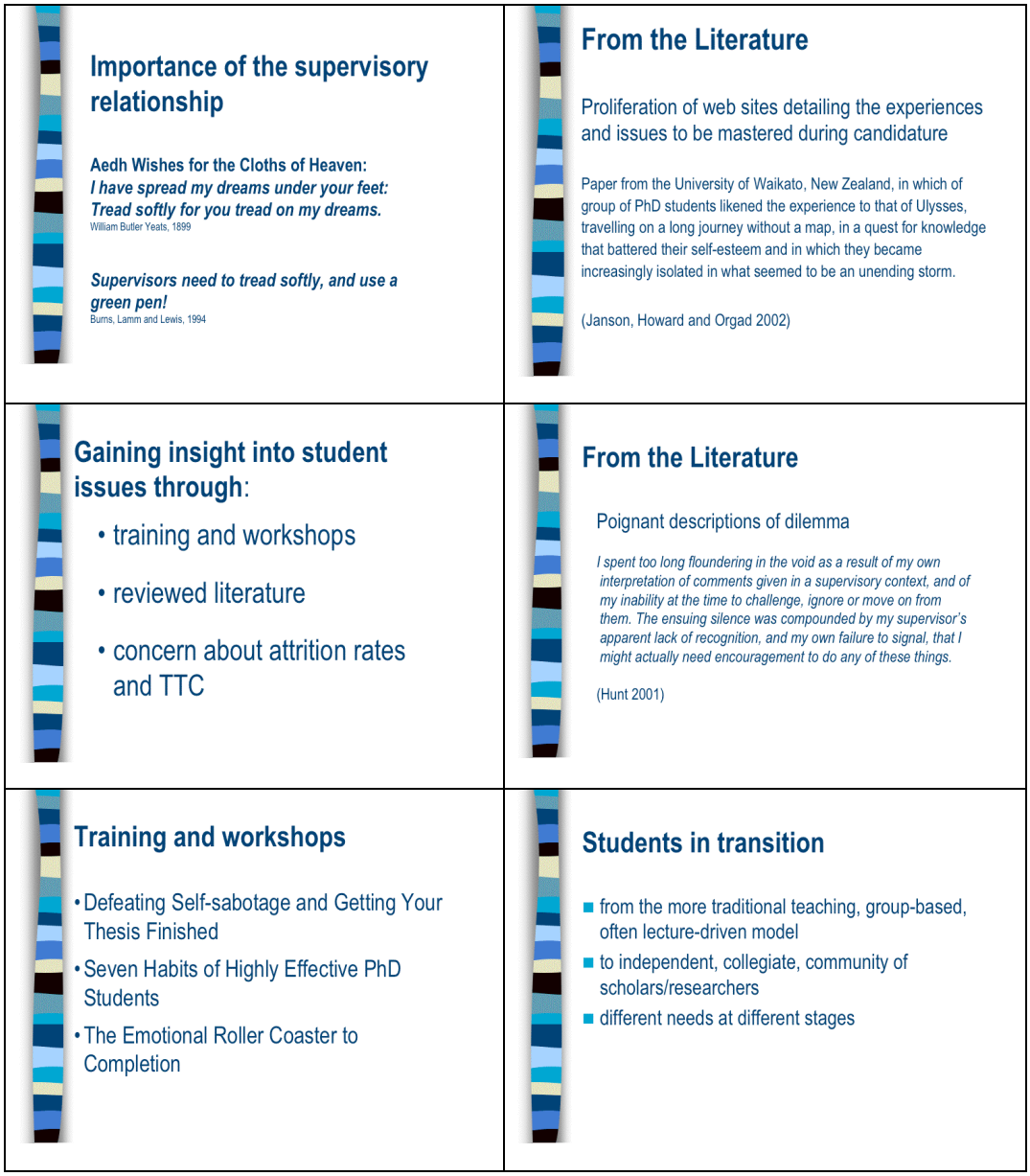
SYMPOSIUM SESSION:
SUPERVISION AS A CHANGING RELATIONSHIP

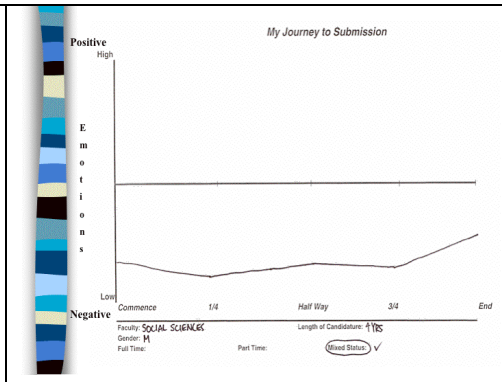
Hugh Kearns and Fran Banytis
Flinders University
Australia

One of the critical factors in the success of otherwise of higher degree students is the student-supervisor relationship. This statement is well supported by the literature. Phillips and Pugh for example suggest that the heart of a successful supervision process is the quality of the relationship between supervisor and student (Phillips and Pugh 2000).



Student needs and emotional state in constant state of change:

- moving to maturity as an independent professional researcher
- fluctuations caused by hi-lights/lo-lights of their own projects



Sternberg's Dissertation Wave

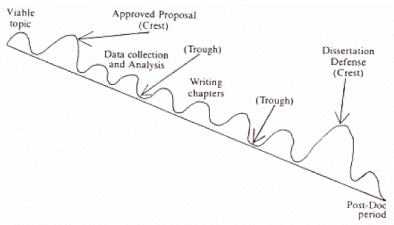
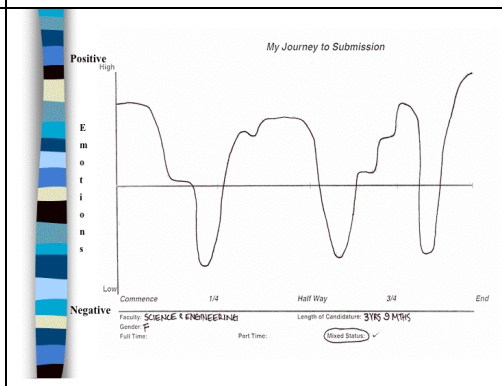
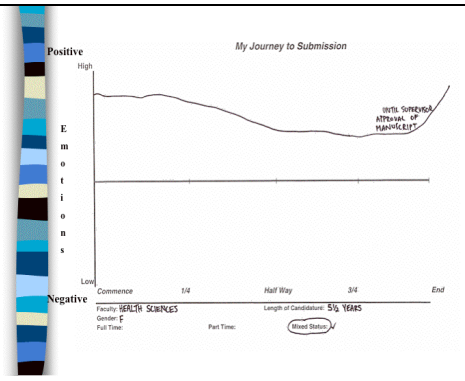
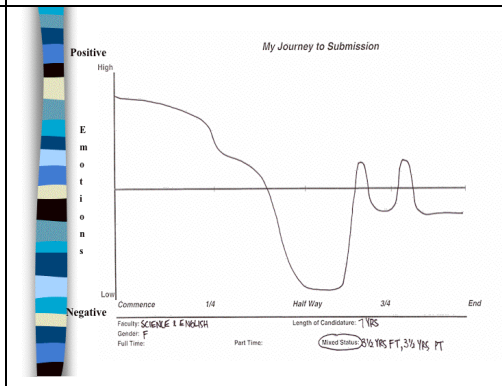
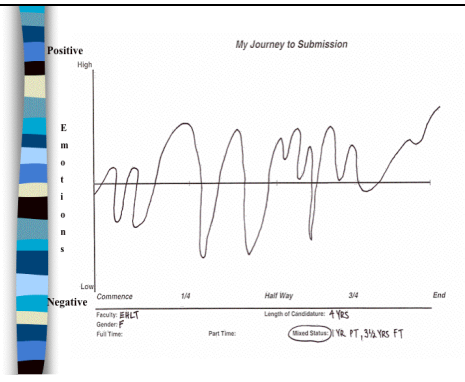


Figure 7.1. The Dissertation Wave
SOURCE: Copyright © 1981 by David Sternberg, from *How to Complete and Survive a Doctoral Dissertation*, by David Sternberg. Reprinted by permission of St. Martin's Press Incorporated.









Student perspective

Need to be aware that:

- their feelings are not unique
- there probably isn't something wrong with **THEM** (ie they are not capable of doing a phd after all.)
- new skills and support services are available

Conversely, from Supervisor perspective:

- scant attention to the psychological component of the process
- dynamic models of teaching and learning required

Impasse?

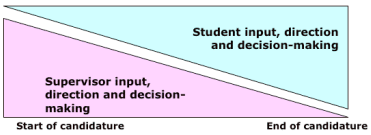
Supervisors think they are supervising a thesis while students think they are being supervised

(Lamm and Lewis 1999)

Implications for supervisors

- need for open communication with students
- need to understand students' predictable emotional turbulence
- need for flexibility in own style
- joint supervision?

A Continuum of Change



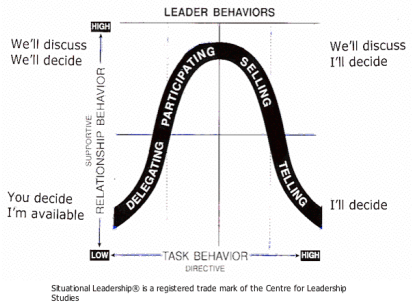
The Changing RHD Student – Supervisor Relationship

Adapted from:
Tannenbaum and Schmidt (1958)

Implications for students

- being prepared for the inevitable setbacks/disappointments
- learn to recognise symptoms of lack of motivation and focus on project
- skills and resources to overcome flat times
- empowered to alert supervisors of issues

Situational Leadership/Situational Supervision



Situational Leadership® is a registered trade mark of the Centre for Leadership Studies

Conclusion

- levels of dependency and self-reliance vary throughout candidature
- students need to be aware of expected oscillations
- supervisors need to understand the crucial impact of their relationship

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SYMPOSIUM SESSION:
SUPERVISION CHALLENGES

Monika Appel and Karen Argen
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Monika Appel's study grew from the need to safeguard the growth of the coming generation and aimed to increase the efficiency of producing new academics to fill the void created by expected retirements. Her study explores how students and supervisors at a Swedish university experience their roles, with an emphasis on students' views.

The study shows that at the same time as the framework for postgraduate studies in Sweden has become more homogeneous, the work conditions are still very heterogeneous. Different problems have been identified and the results indicate putting more demands on universities and on the practice of supervision.

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SYMPOSIUM SESSION:
THE GOALS OF THE ROLE - SUPERVISION AND STUDENT SATISFACTION

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Background

The current Australian University climate, together with the increasing importance of higher degree study, greater numbers of enrolments, more universities offering higher degrees, a changing student profile, and shorter completion times, imposes a heavy demand upon tertiary supervision, and hence it is a significant area of concern.

There is growing competition between Australian universities for both local and overseas students. Greater numbers of fee-paying students expectat a maximum return for their substantial investment. The funding arrangements for higher degree students under the White Paper (Commonwealth Government 1999) encourages students to carry funding with them if they 'separate' and move to another university. This economic model of post graduate research encourages a shift in focus. If students are the new 'consumers' and doctoral candidature is the product under scrutiny, departmental provision for postgraduate students and supervisory practices will be the critical comparative determinants. Consequently, students' perceived needs, their goals and their assessment of satisfaction with their studies is now relevant indeed.

Students' dissatisfaction with supervision has been given as one of the reasons for course discontinuation (Moses 1984; Rudd 1985) and has been significantly associated with attrition. (Burgess 1994; Candy 1988; Holdaway 1996; Ibrahim, et al., 1980; Malfroy and Webb 2000). As a result, students' satisfaction or dissatisfaction with graduate studies has assumed significant status in the literature, from both the personal, institutional, and governmental perspectives (Robbins 1963; Winfield 1987; DEET 1991).

This paper reports findings from a quantitative and qualitative multidisciplinary study of over 300 doctoral students at one large research university. Although as reported in the literature and corroborated by the present investigation, the proportion of serious student dissatisfaction with supervision is not too large, it is a significant 20 – 30 % and, in view of the current situation, it is relevant indeed to focus on student satisfaction and its contributing factors.

In appreciating how satisfied doctoral students are, it seemed appropriate to identify their goals for the degree process.

Three Degree Outcomes

Doctoral study incorporates more than degree attainment and may include a broad range of unique personal objectives. Nevertheless, degree outcomes for this study were restricted to three foci which could potentially involve supervisory input. It was relevant to this project to determine the extent to which students valued each of the three identified outcomes of the process, namely: thesis production, personal development, and professional development. Additionally, given the centrality of the supervisory interaction in this study, it was considered important to examine the influence of the perceived congruence between supervisor and student support for the three degree outcomes on student satisfaction. Students rated these three degree objectives on a five point scale ranging from 1, 'not important', through 3, 'important', to 5 'very important', both in relation to themselves and as they believed their supervisors would rate them.

First, in order to investigate the extent to which students placed equivalent or differing value on the three degree outcomes in terms of their personal goals, a one way repeated measures ANOVA was calculated. The multivariate F was statistically significant [F (37,438)=2.29, p=.000]. Means were contrasted via post hoc comparisons which indicated significant differences in students' prioritizing of the three outcomes. In particular, students valued thesis production (M=4.72) significantly more than professional development (M=4.24) and personal development (M=4.14). However, since a score of 3 indicated important and 5 suggested very important, students indicated that they highly valued all three outcomes.

To investigate the relative importance that students believed their principal supervisors placed upon each of the three supervisory foci, (thesis production, personal development, and professional development), a repeated measures ANOVA was computed. Once again, the multivariate F was statistically significant [F(97.53)=2.28, p=.000]. Post hoc comparisons indicated that the means for the students' perception of how their supervisors would prioritize the three outcomes differed significantly. Specifically, thesis production (M=4.51), was rated as significantly higher than both professional development (M=3.69), (F=127.13, p=.000) and personal development (M=3.53), (F=6.08, p=.014). Consequently, in the students' perception of how important these goals were for their principal supervisors, there was a significant difference between the three supervisory foci. Supervisors were seen to highly value thesis production, and to value to a significantly lesser extent, professional development and to a slightly lesser extent, personal development.

Eighty four percent of students considered thesis production very important while 72% believed their principal supervisors considered thesis production very important. Fifty five percent of students rated professional development as very important to them and only 38% of students believed that their principal supervisors would rate it likewise. Personal development was rated as very important by 53% of students while 32% of students rated their main supervisors as valuing this goal to the same extent. Although all analyses have concentrated on the principal supervisor, it may be pertinent to note that the percentage of very important ratings given to these three degree outcomes by students for their second supervisors were distinctly lower, being 60% for thesis, 31% for professional development, and 19% for personal development.

From inspection of the means and proportions discussed above, it is clear that students prioritized thesis production over professional development and personal development, and rated each more significantly than they believed their supervisors did. Inspection of the relevant data showed that second supervisors were perceived to attribute less importance to these degree outcomes than principal supervisors. This may be the result of less perceived supervision from second supervisors.

Having established significant differences in the pattern of importance attached to the three degree outcomes, the perceived congruence or incongruence of student and supervisor was next of interest. Therefore, pairs of means were compared in order to appreciate to what extent student ratings of the importance they placed on the degree outcomes were equivalent to the ratings they gave for their principal supervisors. To investigate this question, three t tests for matched samples were computed.

The largest incongruity between students and their perception of their supervisors was apparent in the value they placed on personal development (t=8.31). The difference for professional

development, though significant, is similar (t=7.34). While students placed the highest value for themselves on thesis production and also believed their supervisors would, they gave the latter a significantly lower importance rating than they did for themselves (t=4.15).

The data clearly indicates a greater incongruity between students and their supervisors in the emphasis attached to students' personal and professional development than in the value placed upon thesis production. Students, though placing less value on professional and personal development than on thesis production, clearly greatly valued these goals substantially more than they believed their supervisors did. If students' perceptions of supervisors' prioritizing equates with supervisory effort in that regard, then it would appear that supervisors may not be providing as much guidance in the realms of students' personal and professional development along the road to the degree, as students would ideally like.

If some student objectives are not being appropriately supported by supervisors one may anticipate some form of student dissatisfaction.

Satisfaction

Students' evaluation of the supervision provided by their main supervisor was measured on a seven point Likert - type scale, facilitating a wide spread, graded from 1, being very dissatisfied through 4, being unsure to 7 connoting very satisfied. The particular supervisory features of satisfaction that were identified for individual rating were those regarding: thesis production, professional development, personal development, and personal support (eg. encouragement, understanding, friendship).

Analysis was therefore undertaken in order to identify whether students' levels of satisfaction differed significantly across the four identified areas of supervision. A repeated measures ANOVA was computed in order to compare student satisfaction across the four supervisory areas, (thesis production, professional development, personal development, and personal support). Inspection of the data indicated statistically significant differences in the levels of satisfaction students experienced for different areas of supervision [$F(21,97)=3.294$, $p=.000$]. Post hoc comparisons pointed to significant differences between the satisfaction levels students experienced with thesis production ($M=5.48$) and professional development, ($M= 5.05$), ($F=27.07$, $p=.000$), personal support ($M=5.50$) and personal development respectively, ($M=5.05$) ($F=51.17$, $p=.000$), and finally professional development ($M=5.05$) and personal support, ($M=5.50$), ($F=27.98$, $p=.000$).

It was apparent, therefore, that although there was some evidence that doctoral students expressed satisfaction with supervision was a unitary phenomenon, in that all scores were between 5 and 5.5, there was nevertheless significant variation. That is, students could experience degrees of satisfaction in some aspects of supervisory support while simultaneously reporting more or less in another area.

Inspection of the means indicated that students experienced higher satisfaction in the supervisory assistance provided in thesis production ($M=5.48$) and also personal supervisory support ($M=5.50$), than they did in the guidance they were given for their personal ($M= 5.05$), and professional ($M=5.05$) development.

How satisfied was the student population?

In noting the percentage of students who expressed satisfaction with aspects of their supervision, the greater percentages occurred with thesis development and personal support. Only approximately 22% of students expressed a lack of satisfaction with supervisory assistance in thesis production and 22% of students were to some extent dissatisfied with the personal support feature of their supervision. Thirty three percent of students indicated some measure of dissatisfaction with professional development. And 34% of students were fairly dissatisfied with the supervisory assistance given to them in terms of their personal development. In summary, students appeared to be less satisfied with the personal development and professional development features of their supervision than they were with the assistance given in thesis production or the personal support factor. Only a very small percentage of students expressed extreme dissatisfaction in each of the supervisory areas, the smallest percentage (3%) being for thesis production. Five percent of students were very dissatisfied with the guidance given in personal development and also with the personal support element, while 6% of students were very dissatisfied with supervisory guidance in terms of their professional development.

Supervisor or Student Features that Affected Students' Satisfaction

A multivariate three way ANOVA was computed firstly in order to identify any significant relationship between supervisor characteristics, namely: gender, age (relative to the student), or university faculty (categorised into five), and student satisfaction, in each of the four supervisory areas identified. Inspection of the data indicated that none of the supervisor characteristics that were tested significantly influenced students' level of satisfaction with supervision.

In order to discern which student variables, in particular, (faculty, student gender, stage of thesis, status of candidature, or citizenship), significantly affected student satisfaction in the four categories, multivariate analysis was carried out. Inspection of the multivariate F values indicated one main effect and two significant interactive effects, one four way, and one three way.

Although these three and four way analyses have statistical significance, which indicates the possibility of complex relationships between the dependent and independent variables, some small cell sizes suggest that these results were not considered sufficiently powerful and could lead to tenuous conclusions. It is important to note, however, that there were potentially significant interrelationships and that faculty emerged as an important variable.

Inspection of the multivariate F values indicated that stage of thesis had a significant main effect [$F(8,394)=288$, $p=.004$]. The univariate F values showed that stage of thesis was significantly associated with levels of satisfaction with personal development ($F=5.999$; $p=.003$) and with personal support, ($F=3.117$; $p=.046$). Satisfaction levels were seen to reduce substantially after the first stage of the process. For example, the means for satisfaction with supervisory assistance with personal development were: $M= 5.43$ for students in stage1; 4.90 for those in stage 2; and 5.04 for those in the process of completing their study. Inspection of the means for personal support similarly indicated a substantial drop after the first stage of candidature: (Stage 1: $M=5.83$; Stage 2: $M=5.44$; Stage 3: $M=5.45$) Overall, means indicated that students experienced greater satisfaction with supervisory input in relation to their personal development and felt more personally supported by their supervisor early in the process.

Although no further significance was found in the inspection of multivatiate F values, inspection of univariate F values indicated that there were several instances where satisfaction with personal support displayed significant relationships with predictors while the other three satisfaction measures showed no significance. Since these data proved interesting, the analysis was continued.

Student Satisfaction with Personal Support

To examine statistically the influence of student characteristics on their satisfaction with the level of personal support provided by supervisors, a five way ANOVA was performed where satisfaction was the dependent variable and the student characteristics of gender, stage, status of candidature, citizenship and faculty were the independent variables.

Inspection of the relevant univariate F values indicated one significant main effect as well as a number of significant interactive effects. A relationship was found between satisfaction with personal support and five, two-way interactions of dependent variables, one three-way interactive effect and two four-way effects.

Supervisor age, (relative to the student) emerged as a significant main effect, (F=2,204, p=.029). Both male and female students were less happy with the personal support given by older supervisors, irrespective of gender, (M=5.38) than they were with younger (M=5.88) or same age (M=5.81) supervisors.

Discussion

Of all the supervisor, student, and interactive variables measured, one main effect, Stage of thesis, was found to significantly affect students' satisfaction. That students felt happier with the way they were supported early in the process, is somewhat indicative of the nature of the degree process where the supervisor is in a position to be encouraging and positively affirming in the beginning, which is a stage of induction and introduction. The initial stage presents with novelty and the enthusiasm of a challenge where a student anticipates personal exploration, and may be less dependent on supervisory provision, particularly the support dimension. However, as the thesis begins to form and draw to closure, the task of the supervisor is of necessity more that of a critic where errors and weaknesses have to be identified in the pursuit of an adequate standard of work. Difficulties in the research and the strain on the student may create the need for supervisory support which may not have presented earlier in the process. In the light of rigorous criticism, students may well have a sense of being less supported. Notwithstanding this explanation, the finding suggests that students would like more support from supervisors during the middle and later stages of candidature than they frequently receive, and that this may well relate to students' desire for more personal and professional development.

The literature has associated disciplinary differences with levels of satisfaction. Higher levels of dissatisfaction were found among Social Science higher degree students than those in the Sciences. (Rudd 1975; Welsh 1978; Ibrahim et al.,. 1980; Whittle 1992). The present study reflects a far more complex pattern of interactions, where discipline has an affect on satisfaction when interacting with other variables.

Of the four areas of supervisory satisfaction measured, the personal support factor was the one area that was most reactive in terms of student satisfaction, and was the one area where several significant effects were found. A consistent pattern emerged, where both male and female students

indicated less satisfaction with the level of personal support they received from older supervisors. This confirmed Welsh's (1979), findings that report greater student satisfaction with younger supervisors. Older supervisors may be less aware of or less in touch with this personal support component of supervision, or philosophically may believe it not to be a legitimate component of the supervisory role.

Satisfaction Related to Congruence of Perception

Three four-way repeated measures ANOVAS were computed in order to calculate any significant relationships between aspects of student satisfaction and perceived incongruity between student and supervisor ratings of the importance of each of the three degree outcomes. Transformed variables assessed the gap between perceived supervisor and students' ratings of importance on each of the respective degree outcomes and each became the dependent variable in an analysis. Satisfaction with supervisory input in relation to (a) Thesis production, (b) Personal development, (c) Professional development and (d) Personal support, were the independent variables in the four respective analyses

The greater the perceived incongruity between student and supervisor within each of these supervisory foci, the greater the dissatisfaction with the respective area of supervision, with progressively lower levels of dissatisfaction expressed in the other three supervisory areas measured.

Perceived incongruity between student and supervisor with regard to the importance placed on the goal of thesis production, was significantly associated with dissatisfaction with supervisory support given for thesis production, [$F(6,285)=9.69$, $p=.000$] and with lower levels of dissatisfaction with the help given towards professional development [$F(6,284)=6.1$ $p< .000$], personal development [$F(6,285)=4.65$, $p=.000$] and personal support [$F(6,286)=4.81$, $p=.000$] respectively. Incongruity between students and their perception of their supervisors in the amount of importance placed on the goal of professional development was significantly associated with student dissatisfaction with the supervisory assistance provided for their professional development [$F(6,278)=27.80$, $p=.000$], with lessening levels of dissatisfaction expressed for the supervisory assistance given in personal development [$F(6,279=14.56$, $p=.000$], personal support [$F(6,280)=12.34$, $p=.000$) and thesis production [$F(6,279)=11.18$, $p=.000$]. Finally, incongruence in student and perceived supervisor priority given to the goal of personal development was significantly related to dissatisfaction, with highest levels of dissatisfaction in the personal development features of supervision, [$F(6,281)=23.81$, $p=.000$] and lower amounts in the areas of personal support [$F(6,282)=15.33$, $p=.000$], professional development [$F(6,280) =13.67$, $p=.000$] and thesis production [$F(6,281) =9.75$, $p=.000$] respectively.

Summary

Students' level of satisfaction across the four areas of supervision measured, indicated distinct differences such that students could experience higher levels of satisfaction in one area while simultaneously experiencing lower levels of satisfaction in another. Students appeared to be happier with the assistance that they were being offered by supervisors in thesis production but were less happy with the supervisory guidance and support given to their personal and professional development.

Students indicated reasonable amounts of satisfaction with their supervision in general, in that dissatisfaction ranged between 20-30%. This is consistent with published findings. (Berelson 1960;

Moses 1984; Powles 1988; Rudd 1975, Welsh 1978; Lee and Green 1995). Satisfaction with the personal supervisory support aspect of supervision emerged as the most reactive, and highlights the importance of the personal supervisory relationship for optimal outcomes of the degree process. This finding appears consistent with the views of researchers such as Bottomley (1973); Katz and Hartnett (1976); Welsh (1978); and Lee and Williams (1999) who consider that dissatisfaction with supervision relates primarily to the interpersonal aspects of the supervisory relationship.

Perceived incongruity between supervisor and student with respect to degree goals, appears to be significantly related to students' dissatisfaction with supervision. Personal and professional development were the areas of greater difference between student and supervisor perception of desired outcome, and these were the areas that most strongly predicted dissatisfaction. This research also supports results of the Postgraduate Research Experience Questionnaire (ACER 2001), which reports significantly less student agreement with items relating to intellectual development than those pertaining to supervision or skill development. These findings also clarify some earlier research that suggests that some of the dissatisfaction actually emanates from differences in focus between supervisor and student, where students would like more attention to them as opposed to sole attention devoted to the thesis (Candy, 1988; Parry & Hayden, 1994, Burns et al.,. 1994).

The results of the analyses indicate that there are complex and interactive features operating for students in terms of their supervisory requirements and the satisfaction derived from their studies. Culture, gender, age, issues of candidature and the culture of the discipline, as well as the match between these student characteristics and those of the supervisor, all appear to affect. Further investigation with large samples is needed.

These findings have significant implications for supervisory practices and departmental provision.

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SYMPOSIUM SESSION:
THE MANAGEMENT DIMENSION OF SUPERVISION

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Trish Vilkinas' paper 'How academics manage their research students' uses a structural approach to compare modalitites of supervision against a management role matrix. Her paper argues that generic research on leadership and management has much to offer supervisors of research students. The points of congruence between the two supervisory roles of business manager and academic supervisor are many, and the qualities and benefits of good supervisory practice are as valid in the academic arena as in the corporate world.

Supervisors need to become informed of this framework, to have the opportunity to develop the capabilities required for each role, and to receive feedback on their effectiveness as principal supervisors.

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SYMPOSIUM SESSION:
SUPERVISION AS A RECIPROCAL DANCE

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Peter Willis' paper is an exploration of the changing and risky role of the 'engaged supervisor' in supporting research students' growth to academic and personal maturity and independence through 'dialectic conversations'. The 'engaged supervisor' draws on humanistic approaches to educational practice in contrast to more detached and 'cooled out' styles.

This paper suggests supervision practice can be understood as a particular kind of risky mentorship with supportive yet detached elements. Student researchers, in their own research life and their parallel dialectic relationship with their supervisor, seem often to be challenged to manifest organic, unitary, and critically transformative development.

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FRAMEWORK FOR BEST PRACTICE IN DOCTORAL EDUCATION IN AUSTRALIA

Helene Marsh on behalf of
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Graduate Studies

Background

In June 1998, the Council of the Deans and Directors of Graduate Studies approved a document entitled *Guidelines: Professional Doctorates*. This document has been widely used in Australian universities by people planning new professional doctorates and has had some influence on their nature and substance. To accord with our policies of continuous improvement and international best practice, the Council decided to revise the document in 2002 in response to the changes in Australian Higher Education.

This framework for best practice in Australian doctoral programs was approved by the Council at its April 2004 meeting. It builds on guidelines developed by others, particularly the Australian Qualifications Framework[1], and has been improved by consultation with various people with responsibility for or interest and expertise in doctoral education

This framework encompasses all supervised doctorates offered by Australian universities[2]. It recognises the diversity of research and research training needs, contexts, and outcomes. It is not designed as a substitute for the policies of individual universities; rather the intent is to inform the (re)development of such policies, and the Council encourages institutions to use the document when they revise their doctoral programs.

The Council considers that research is the fundamental substance of a doctorate. That is, a person who has earned a doctorate should be expected to have undertaken a period of research education leading to the successful design, implementation, analysis, theorizing, and writing of research that makes a significant and original contribution to knowledge. On this basis, coursework in a doctorate can only contribute to the research education of the candidate; it is necessary for original and significant research to be undertaken in order to earn a best practice doctorate in an Australian university. Therefore, the Council does not accept that a best practice doctorate can be earned solely or substantially on the basis of coursework. Indeed, the Council does not subscribe to doctoral coursework for credit within a doctorate being other than about research education. Any other coursework should be in addition to the requirements for the doctorate and concerned with assisting candidates achieve their doctoral outcomes.

Acknowledgements

The Council gratefully acknowledges the valuable contributions of Evan Arthur, Erica McWilliam, Ruth Neumann, Carol Nicol, the Council for Australian Postgraduate Associations, the Deputy and Pro-Vice-Chancellors (Research) of Australian universities, participants at the Australian Association for Research in Education conference on defining the doctorate (October 2003), and the Australian Psychological Society.

1 http://www/aqf.edu.au/bmdguide.htm.
2 Higher doctorates, which are awarded for internationally-recognised original contribution to knowledge rather than supervised candidature, are not covered by this Framework

GUIDELINE FOR BEST PRACTICE	COMMENT
Doctoral Program Outcomes A graduate of a doctoral degree program should have demonstrated the capacity to: • design and implement at a high level of originality and quality, either an original research project(s) of significance to a discipline or field, or a project(s) addressing an important problem or question concerning policy and/or practice in a profession or industry; and • present, using one or more media, a substantial and intellectually coherent product or product(s) such as a thesis, dissertation and artifacts, or exegesis and portfolio of creative works and/or performance, for submission to external examination against international standards.	Characteristics of the outcomes at this level include a substantial original contribution to knowledge in the form of new knowledge or significant and original adaptation, application and interpretation of existing knowledge. These outcomes may be based on a comprehensive critical review of literature, empirical research, creative work, or other systematic approach embedded in a field or discipline, and/or they may be based on advanced and sustained critical reflection and analysis of professional theory and practice. Each university should formally identify the desired academic, professional, and personal attributes of the graduates of its doctoral programs and check that each of its doctoral programs provides candidates with the opportunity to develop these attributes.
Entry requirements A Masters degree or a Bachelors honours degree (first or second class, upper division), or equivalent, and Demonstrated capacity to undertake significant research in the proposed doctoral field.	These requirements provide candidates with the necessary background to complete a doctorate in their proposed field of study in a timely manner. Substantial professional experience may be an appropriate additional entry requirement for some doctoral programs. It is appropriate to have a formal transfer process to enable in-progress research Masters candidates, who can demonstrate the viability of their work to fulfill doctoral outcomes, to transfer to a doctoral degree.
Duration of Program At least three years' full time equivalent (FTE) study.	It is unlikely that doctoral outcomes can be met in a program which generally requires less than least three years' full time equivalent (FTE) study. Because candidates hold a range of relevant skills and capacities to undertake doctoral work, the duration of individual candidatures may vary.
Advanced standing Advance standing should be negotiable for candidates who have completed appropriate doctoral coursework at another university for equivalent coursework in each doctoral program.	Advanced standing relates only to the coursework in doctoral degrees. Candidates cannot be given advanced standing for the research and scholarship component(s) of doctoral program. That is, the examination requirements of the thesis for a doctorate must not be reduced.
Nature of program A best practice doctoral program should comprise a combination of research with doctoral coursework and professional practice and enquiry as appropriate, such as: • a supervised research and scholarship program of at least three years' FTE study; • a coursework, research and scholarship program of at least three years' FTE study, with at least two years' FTE research and scholarship; or • a professional practice and enquiry, and coursework program, together with at least two years' FTE research, totalling at least three years' FTE.	The Council considers that research is the fundamental substance of a doctorate. It does not accept that a best practice doctorate can be earned solely or substantially on the basis of coursework. The Council considers that the research and scholarship component(s) of a best practice doctoral program should be at least equivalent to two years' FTE doctoral study. The Council does not subscribe to doctoral coursework for credit within a doctorate being other than about research education. Any other coursework should be in addition to the requirements for the doctorate and concerned with assisting the candidate achieve their doctoral outcomes.
Research and scholarship component The research and scholarship component of a best practice doctoral program may	The Council considers that for a person to have earned a best practice doctorate they should have undertaken a period of supervised research education leading to the

include: • the development of new research methods and new data analysis; • writing of documents where the document is a research or scholarly product; • the work involved in planning and undertaking the research, developing the thesis and the preparation of the products for examination; • the development and/or performance of creative works, and • other activities fundamental to the research and scholarship.	successful design, implementation, analysis, theorizing, and writing of research that makes a significant and original contribution to knowledge. On this basis, it should be necessary for original and significant research to be undertaken in order to earn a doctorate in an Australian university and coursework in a doctorate must contribute to the research education of the candidate.
Coursework component The coursework component of a best practice doctoral program should include but not be limited to: • doctoral-level courses in research methods and data analysis procedures; • other courses at doctoral level, such as those providing advanced knowledge relating to professional practice, appropriate to the outcomes of the degree.	The coursework component of a best practice doctoral program should be at a level which would be challenging and enhancing to an honours graduate in the discipline or professional field.
Generic skills component Each candidate in a best practice doctoral program should be provided with the opportunity to undertake a generic skills program tailored to his or her individual needs or the needs of his or her cohort groups.	The program should provide: • the skills and knowledge development required to achieve the timely completion of the degree • the generic skills required for career development
Supervision A principal supervisor should be appointed to coordinate the research of each candidate. This person should assisted by a colleague (such as an associate supervisor) or colleagues (such as an advisory team, supervisory panel) who may have different roles in the supervision process.	The principal supervisor should: • have expertise in the field of study • hold a doctoral qualification or equivalent • be research active in a relevant discipline or disciplines • have sufficient time and resources to provide a quality learning experience for the candidate • have training and/or experience in the supervisory process. At least one person involved in the supervision must have supervised a relevant research degree to successful completion as principal supervisor. Prospective candidates should be encouraged to make the inquiries necessary to make an informed decision about the suitability of their proposed supervisors to meet their needs over the period of their candidature. Each institution must have procedures in place to provide timely replacement supervision if the principal supervisor is no longer available.
Research environment Candidates should have an open, collegial and productive learning environment including a coordinated program of activity to integrate them into their university and faculty, school and/or department.	Cohort or research group activities are particularly appropriate for integrating students into the research environment of their university and faculty, school and/or department.
Resources Each candidate should be provided with the appropriate resources and facilities to enable the successful and timely completion of the degree.	Prospective students must be provided with explicit information about the resources available to enable them to make an informed decision about the capacity of the program to meet their needs.

Monitoring The progress of each candidate should be transparently monitored via a structured process with significant milestones, including a confirmation of candidature, annual and exit reports.	Candidates should be regularly advised of their progress and appropriate remedies and actions be taken where necessary. Each candidate should be encouraged to give presentations on their research and scholarship as part of this process.
Codes of practice Each university should have a code of practice outlining the rights and responsibilities of doctoral students and the university.	
Intellectual property Candidates should be made aware of their university's policy relating to intellectual property before embarking on their program. If the research project involves assignment of intellectual property, the candidate should be actively involved in the development of the IP agreement and should have access to independent legal advice, which should be paid for by the university through the postgraduate students' association.	The candidate should be proactively advised of the institution's intellectual property at the time of enrolment. The policy which must have been approved by the relevant university council must be accessible throughout candidature. Any confidentiality agreement relating to the research program must not hinder the examination process, nor unreasonably prevent the thesis or other publications resulting from the research from being made public, after a period of time sufficient to protect intellectual property if this is required.
Basis for award of degree The degree should be awarded on the basis of the products of the research, which should be externally examined.	The products of the research should be examined by at least two appropriately qualified examiners external to the institution in which the candidate is enrolled. The qualities of the examiners should be similar to those of supervisors listed above. Clear guidelines for the assessment of the assessable product(s) of the relevant doctoral program must be provided to both candidates and examiners. The additional use of oral examinations may be appropriate in some circumstances. Where oral examinations are used, candidates should be informed at enrolment and subsequently provided with good preparation for the event. Best practice guidelines for doctoral examination have been developed by the Australian Council of the Deans and Directors of Graduate Studies and are at http://www.ddogs.edu.au/cgi-bin/index.pl
Appeal Each university should establish an appeals process to allow candidates to appeal decisions made about their doctoral candidature.	This appeal process should follow the principles of natural justice and should have been formally approved by the university council.
Review Each university should have arrangements to ensure that its doctoral programs are reviewed regularly, and reported to the academic community for comment and deliberation	

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DRAFT NATIONAL GUIDELINES FOR THE EXAMINATION OF AUSTRALIAN RESEARCH HIGHER DEGREE THESES: REVISED AT DDOGS MEETING, GLENELG, APRIL 2004

Alan Lawson on behalf of
The Australian Council of Deans and Directors of
Graduate Studies

The Australian PhD examination process differs somewhat from that used in Britain, North America, and Europe. In Australia, the doctoral thesis is typically sent out for examination by two or three examiners, at least two of whom are external to the candidate's university. One or more examiners may be from overseas universities or research organisations. This is an important means by which the quality of Australian PhDs can be benchmarked internationally (Pitkethly and Prosser 1995) and the work of Australian PhD candidates made known. Each examiner independently submits a detailed written report on the thesis and makes summary recommendations to the university's Postgraduate Studies Committee, which considers all the reports and makes the final decision concerning the award of the degree. In contrast to practices in Britain, North America, and Europe, oral examinations are rarely used.

A crucial feature of the Australian RHD examination is that it is a formative process—'an exercise in giving feedback in an effort to assist the candidate in further developing and improving their work' (Mullins & Kiley 2001). It is important to emphasise the formative opportunities of the examination process to both examiners and candidates.

These Guidelines have been developed by a Working Party consisting of Professors Helene Marsh, Trevor Tansley and Alan Lawson. Information on practice at all Australian universities was sought and tabulated and guidelines were iterated through discussion at several DDOGS meetings. The process, and an earlier draft of the attempt to reach consensus on thesis examinations, resulted in the publication of a paper, 'Towards a National Code of Practice for the Examination of Australian Research Theses: Topics for National Consensus?' Australian Universities Review (46, 1, 2003), by the members of the original working party. Margaret Kiley has made valuable comments on the paper.

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Guidelines	Explanation/Comment
Prior to examination of theses Candidates should be prepared for examination and should be informed of the criteria by which their theses will be evaluated and the form of the examination	Formal confirmations of candidature and exit seminars internally examine and even certify some elements of the candidate's research. These do not preclude or limit the examiner's autonomy. Nevertheless, examiners should be advised of the nature of the internal institutional processes that precede the formal examination.
Presentation of thesis Before the thesis is submitted for examination, the candidate (with the advice of their supervisor) should ensure that a very high standard of scholarly presentation has been achieved. This includes ensuring that: • the use of academic language is at a level appropriate to journal publication in the discipline; • the thesis is free of typographical and grammatical errors; • illustrative material is presented at a level of reproduction that enables examiners to assess all aspects of the work; • extraneous material does not detract from the presentation of the findings and the argument; • where, in exceptional cases, formal approval is given for length limits to be exceeded, examiners must be informed of the length of the thesis before they accept nomination; and • a thesis should have a title that gives an appropriately clear description of its content and an Abstract or Summary that gives a clear and accurate account of its main arguments, methodology and scope.	An important element of research training is the acquisition of skills in scholarly presentation of research. A research higher degree thesis must demonstrate these skills at a very high level. Each discipline should provide candidates and examiners explicit guidelines for presentation, referencing, and citation in the discipline. There will sometimes be specific guidelines for the form and presentation of theses in some disciplines (such as creative arts): these must be given to candidates, supervisors, and examiners. Theses should be printed on both sides of the paper wherever practicable. Where the assessable content of the degree is in a form other than print, an enduring record must be: • made available to examiners • preserved in the Library after the examination as a record of the contribution to knowledge and as an example of the university's standards. Conciseness is an important element of good scholarly communication. Universities should set upper limits on the length of theses for each higher degree program they offer. Over-length theses seldom find favour with examiners. Material that is supportive of the main findings of the thesis may sometimes be placed in an Appendix; if lengthy, such material may be more usefully placed on a CD or other appropriate medium.
Acknowledgement in the thesis of the work of others • Candidates **must** preface their thesis with a signed statement affirming that, to the best of their knowledge, the thesis contains no material previously published or written by another person except where due reference is made in the text of the thesis. • The candidate **must** also affirm that the material in the thesis has not been the basis of the award of any other degree or diploma except where due reference is made in the text of the thesis. • All substantive contributions by others to the work presented in the thesis (including, of course, jointly-authored publications) must be clearly acknowledged.	Research in many disciplines is increasingly done in teams or by informal collaboration, and research candidates are encouraged to access assistance from beyond their supervisory panel including technical, editorial, or statistical support provided by their university or even commercial providers. Examiners must be fully aware of these contributions to make their assessment of the candidate's achievements. The form in which this acknowledgment is made should be prescribed by the university. Work that has been submitted for a previous degree by the candidate, or done prior to candidature may be included only if it has been fully acknowledged and received permission from the relevant university committee or officer. Universities should establish clear guidelines for the amount of work done outside the supervised period of research that may be incorporated in the thesis. The statement disclosing the relative contributions of the respective authors and the contribution by others to the research findings in the thesis should be signed by the candidate, principal supervisor, and Head of Department.

Examiners Each university must have publicly-available criteria for the nomination and appointment of examiners. Candidates must be given the explicit opportunity to provide a list (giving reasons, wherever possible) of examiners who they believe would be inappropriate. Doctoral theses **must** be examined by at least 2 examiners who are external to the University in which the thesis is presented. At the conclusion of the examining process, examiners should be • formally thanked; • informed of the outcome of the examination; and • sent copies of the other examiners' reports on request.	The qualities desired of examiners are described by Tinkler and Jackson 2000. Examiners perform a very significant service to the candidate, the university, and to the discipline and the research community. This should be borne in mind by the university when choosing examiners and communicating with them, and by examiners in accepting and completing the duty. The relationship between the university and examiners must always be professional and at arm's-length.
Expertise of examiners • Examiners should have appropriate academic credentials (especially expertise in the research area and/or methodology of the thesis). • A brief statement outlining the reasons why each examiner is being nominated is **recommended**.	It is a critical feature of the Australian doctoral thesis examination that examiners possess the expertise to judge the originality and significance of the research reported in the doctoral thesis. This provides a useful background for the consideration of conflicting examiners' reports, particularly in the case of multidisciplinary theses. Some universities require this only where expertise is not evident from the nature of an examiner's current appointment.
Experience of examiners **Examiners** should**:** • hold a degree equivalent to that which they are examining; • have substantial recent research or relevant professional experience; • experience relevant to the thesis examination process. At least one member of the examining panel should have experience in the examination and/or supervision of Australian PhD theses.	The lack of an equivalent degree should not be an absolute disqualification, but the University must be satisfied that the examiner has appropriate qualifications and experience in the examining of research higher degree theses at this level.
Conflict of interest in the examination • It is crucial that all examiners act, and are seen to act, with integrity and to assure quality to the institution and to the discipline. • Those with readily identifiable conflicts of interest should not be nominated as examiners. • Before accepting a thesis for examination, examiners must be asked to declare that they have no conflict of interest with the candidate, the supervisor, or the project. • Potential examiners **should not** agree to examine a thesis that they believe they are likely to fail on the basis of the research paradigm or methodology. • Someone who has supervised this or another thesis by the candidate **should not** be appointed as examiner. • The supervisor **must not** be an examiner. • Where the candidate is also a staff member of the university, it is **strongly recommended** that all examiners be external.	Conflicts of interest (including paradigm clashes) are more likely to be apparent to examiners if they are sent an abstract or summary of the main approach and findings of the thesis before agreeing to examine. When accepting an invitation to examine, the examiner should be required to sign a statement that they have no conflict of interest. Universities should establish explicit guidelines about what might constitute conflict of interest. Some universities set the period (e.g., five years) that must have elapsed since an external examiner had any formal attachment to, or significant presence in, the department or the location of the candidate's research (which may be off campus) or employment (important for part-time candidates).

Oral examinations Where oral examinations are used: • Candidates should be informed at enrolment of their purpose, their nature and the extent of their use. • Provided with good preparation for the event.	The additional use of oral examinations may be appropriate in some circumstances. The oral examination **should not** in any case replace the formal written reports by examiners. Oral examinations may be used as supplementary examinations to: • clarify particular matters of concern, • provide an additional pedagogical experience, and • provide an agreed date for the conclusion of the examination
Confidentiality of the examination • The examiner must not divulge any (unpublished) content or findings of the thesis—before or after the examination—without the consent of the author. • Candidates **may** be invited to participate in a discussion with their supervisors and other appropriate staff about the composition of a panel of names from which the examiners to be chosen by the university will be selected. • Candidates **should not** be made aware of the names of their examiners while the examination is in progress. • Candidates **must not** contact examiners during the examination; if inadvertent contact occurs, it is **never** appropriate to discuss any aspect of the thesis or its examination. • Examiners **should** be able to request the names of the other examiners before submitting their report. • Examiners **may** only consult with each other—via an approved process—after reading the thesis but before submitting their report. • Each examiner **must** submit an independent report. • If universities offer examiners the option of having their identity concealed from the candidate after the examination is completed, examiners need to be informed that FOI legislation in some jurisdictions may limit this option.	It must be understood by all involved in the examination of a research higher degree thesis (candidates, supervisors, examiners, administrative staff) that the propriety of the examination depends upon certain levels of confidentiality being maintained. Universities may offer candidates the option of a confidential examination if legal or commercial issues justify it. In this case, an examiner will be required to sign an undertaking of confidentiality before accepting the thesis. If consultation between examiners occurs, a statement of the nature and extent of the consultation should be reported to the university along with (but separate from) the examiner's reports. Because one of the benefits of the Australian system of examining is that it inducts graduates into the research community and provides networking opportunities for candidates, and because transparency is desirable, anonymity is not a preferred option and examiners should consider very carefully before requesting it.
Examiners' reports • The report **should** discuss the strengths and the weaknesses of the thesis. • The report **must** be sufficiently detailed and comprehensive to fulfil the summative and formative objectives. A report of less than 2 pages is **unlikely** to serve these purposes. • While examiners recommend rather than decide examination outcomes, an examiner's recommendation must never be overturned or overlooked lightly.	The reports from examiners are critically important • summatively, to the university in reaching its decision about the outcome of the examination, and • formatively, to the candidate in bringing the thesis to the highest possible standard and in pursuing their future research, publications, and career. All reasonable recommendations by examiners for the improvement of the thesis **should** be addressed by the candidate before the degree is conferred.
Examiners' summary recommendations Examiners' reports must be accompanied by a summary recommendation on the level of acceptability of the thesis for the benefit of the university's decision-making bodies. It is **recommended** the summary report offer examiners 5 options. a. Confer the degree without any amendments. b. Confer the degree when minor amendments have been made and certified by a local authority (e.g., Head of School).	It must be made clear to examiners that their recommendations provide guidance for what needs to be done, rather than a summative score, grade, or rating for the thesis. Universities must establish transparent processes for handling examiners' recommendations and for reaching an agreed level of acceptability of the thesis. The responsibility for the acceptance of the thesis lies clearly with the university. IT IS RECOMMENDED THAT A DDOGS WORKING PARTY DRAW UP A SET OF CRITERIA FOR EACH OF THESE SUMMARY RECOMMENDATIONS, INDICATING THE SCOPE AND NATURE OF CHANGES THAT MIGHT BE

c. Confer the degree when major changes have been made and certified by a local authority, or by the examiner. d. Revise the thesis after a period of further research, substantial reorganisation, or reconceptualisation and submit it for re-examination by (wherever possible) the examiners who requested this outcome. e. Fail the candidate.	APPROPRIATE UNDER EACH RUBRIC. Some universities offer a 6th option in which the candidate may be offered a lower award (usually after certain amendments are made) in cases where the scope or originality of the thesis as presented falls irredeemably short of the standard required for the degree for which it is submitted.
Discrepant recommendations • Clearly enunciated transparent processes for handling discrepant examiners' recommendations **must** be made known to all parties (including examiners) before the examination begins. • Confer the internal process for resolving discrepant examiners' recommendations **must** involve a university-level body or officer acting with or without submissions from supervisors, candidate, Head of School etc, as deemed appropriate. • If the university-level body or officer is unable to resolve discrepant examiners' recommendations, an **additional examiner or adjudicator** shall be appointed as appropriate. • An adjudicator **must** be - senior researcher in the field, - experienced in the assessment of Australian PhD theses, and - external to the university.	An **additional examiner** will not receive the reports of previous examiners. The **adjudicator** reads the thesis and the examiners' reports, and advises the relevant university committee on appropriate action.
Revised and resubmitted theses • Such theses are normally re-examined by the examiners who made this recommendation. • Each examiner of a revised and resubmitted thesis must receive a copy of all of the original reports, a comprehensive statement from the candidate outlining the substantive changes that have been made to the thesis, and a concise defence against any recommendations for changes that have not been accepted. • Examiners of the revised and resubmitted thesis must be specifically requested to check whether the candidate has addressed the requirements for additional work specified: - by the original examiners and - in the institution's advice to the candidate.	Since a second Revise & Resubmit recommendation cannot be made, universities should advise examiners of a revised & resubmitted thesis that they should not introduce new areas of substantive concern in the re-examination.
Criteria for the award of the degree The university's criteria for the award of its research higher degrees must be available to candidates, supervisors, examiners and others. The criteria should include: • Value of contribution to knowledge of the field: place in the field, value to other researchers, originality, publishability, applicability, and (potential) impact. • Engagement with the literature and the work of others • Grasp of methodology • Capacity for independent, critical thinking • Coherence of research program, its arguments and conclusions • Quality of presentation	This is a potentially challenging issue for consensus, but the reputation of the Australian research higher degree system and our ability to assure the fundamental quality of our most senior degrees depend upon it. The criteria must enable an examiner to distinguish clearly in scope and quality between a research masters degree and a PhD. The criteria established by the university may have discipline-specific addenda. A DDOGS WORKING PARTY SHOULD DRAW UP A FRAMEWORK OF CRITERIA FOR AWARDS

Duration of examination • Examiners **must** negotiate a realistic revised due date with the university as soon as it becomes apparent that the original return date cannot be met. • If the new return date that is significantly later than the original expectation, the university **must** inform the candidate. • When the examiners are appointed, at least one reserve examiner **should** be nominated. • If the examiner fails to meet the renegotiated return date or the proposed date is unacceptably late (considering the candidate's circumstances), the university must consider utilising the reserve examiner.	This is probably the most vexing issue for candidates and administrators. It is an extremely stressful time for candidates – careers, job applications, promotions, significant life-choices depend upon the outcome. Examiners must be conscious of this when they accept the task and agree to examine within the time requested by the university.
Examiner training • Training for inexperienced examiners should be provided as part of supervisor training programs. • Participation in the examination of theses at a lower level is one aspect of this training.	
Appeals All research higher degree candidates **must** be made aware of the university's appeals procedures.	Appeals processes are normally restricted to matters of process and do not consider matters of academic judgment. The quality of supervision is not normally a ground for appealing the outcome of a thesis examination.
The status of the thesis after the examination • It is a condition of the award of the degree that an enduring copy of record be provided to the university. • This copy is normally in the public domain. • Each university must have clear guidelines for considering requests to limit access to the thesis (in whole or in part). • Only in very exceptional circumstances set out in the guidelines, and with the approval of the appropriate university body or officer, should public access be delayed beyond a limited period. • Copyright in the thesis is retained by the candidate.	Doctoral theses are an important contribution to knowledge and, wherever possible, the outcomes of that contribution to knowledge should be disseminated. Moreover, a completed thesis is a public record and a guide to later candidates of the university's standards of acceptability at the doctoral level. At the very least, a copy of the thesis (including an enduring record of all material assessed for the award of the degree) should be placed in the public domain and this is customarily in the university library. Increasingly, theses are made available (in whole or in part) digitally through, for instance, the Australian Digital Theses Project.

ARE AUSTRALIAN POSTGRADUATE RESEARCH STUDENTS STILL STAYING AT HOME?

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Our predictions

Based on the implementation of the Research Training Scheme and the ubiquity of the World Wide Web, we had anticipated that the 2004 study would vary from the 1997 which we had undertaken (Kiley and Austin 2000) in that:

- there would be more student movement than previously, and
- there would be an increase in the number of students seeking information regarding postgraduate opportunities

Method

As with the earlier study, we contacted a range of universities and invited them to participate. Table 1 outlines the types of universities involved in the 1997 study and those in the 2003-4 study. Note that all five of the original universities took part in the later study.

Table 1: responses by University (note that the 1997 results are in parentheses)

	Number	Percent
Go8 (Large)	101 (288)	25.4 (52.8%)
Go8 (Small 1)	99 (70)	24/9 (12.8)
Go8 (small 2)	77 (106)	19.3 (19.4%)
1960s (City 1)	35 (44)	8.8 (8.1%)
1960s (Regional)	30 (00)	7.5 (0.0%)
1960s (City 2)	27 (37)	6.8 (6.8%)
Ex-CAE (Regional)	18 (00)	4.5 (0.0%)
Ex-CAE (City)	11 (00)	2.8 (0.0%)
Total	398 (545)	100%

Demographic background

The demographic background of the respondents is outlined below:

- 81% of the students were living in city/metropolitan areas with 19% from rural/ regional areas
- 58.5% of the respondents were female and 41.5% male
- once they had commenced their research degree, 40% of the respondents were planning to live as 'single off-campus', 40% with a partner off-campus, and 18.3% with parents
- 43.5% were aged <20-24; with a further 25.6% in the 25-30 age range, 17.1% were between31-40 years old and the remainder, i.e. 13.8%, were older than 40 years.

Responses by Field of Study

Participants were asked to identify the main field of study that they were enrolling for. Responses are outlined in Table 2.

Table 2 Responses by Field of Study

	Number	Percent
Science	109	27.4 (27.3%)
Health Science	74	18.6 (11.6%)
Social Science	73	18.3 (11.4%)
Humanities	69	17. 3 (20.4)
Eng__Technology	47	10.6 (8.4%)
Maths Science	14	3.5 (5.5%)
Law	7	1.8 (1.8%)
Agriculture	6	1.5 (3.5%)
Built Environment	4	1.0 (.9%)
Total	398	100%

Degrees

- 90.5% of the respondents were applying for a PhD and 7.5% for a Research Masters
- 75.1% were entering with a Bachelor (Hons) as their previous degree, 8.5% (7.5%) Coursework Masters, and 6.8% (11.9%) a Research Masters
- 55.5% had completed their previous degree in the previous year; 15.3% a year earlier; 9.5% two years earlier; and 19.6% (16.2%) three or more years earlier

Change

The respondents appeared to be slightly less mobile than the 1997 cohort with 60.8% of the respondents planning to study in the university where they gained their previous degree, which included 54.3% in the same department. This compares with 52.1% staying in the same department in 1997.

Thirty five per cent of the students were planning to change university, compared with 39.8% in 1997, however, 18.1% were staying in the same state, in most cases moving to a relatively nearby university. Therefore, a total of 80% were staying in the state where they had undertaken their previous degree. Approximately 12% of the respondents were planning to move to a different state, and 8% were coming from outside Australia.

When asked whether they had explored postgraduate study opportunities elsewhere, 45% responded negatively and 62% did not explore scholarship options elsewhere.

Information that led to choice

Prior to applying for a research degree position approximately 75% of all respondents had not read any standard media—local, state, national papers, journals or websites with the aim of learning more about postgraduate opportunities. This compares with a response of 40% from the 1997 study.

On the other hand, students were overwhelmingly influenced by individuals when making decisions about where to apply for their postgraduate research degree. For example, 26% of those who responded reported that meeting with their new supervisor had led to them making a decision, 21% had been influenced in their decision by their Honours Co-ordinator, and 19% through discussions

with other academics. However, as we had anticipated, 20% had been influenced by information from web sites.

Why students did not consider studying elsewhere

When asked why they had decided not to seek information about studying elsewhere, 51% respondents stated that they were satisfied with their current supervisor and/or university. Twenty four percent had family commitments, 14% stated that lack of time to seek out other opportunities was the main reason, and for 11% it was financial considerations.

Reasons why students considered moving elsewhere

The main reasons given by the students who were considering moving were:

- broadening of research a good thing (44%)
- better opportunities elsewhere (31%)
- financial reasons (11%).

The second reason given for moving included:

- broadening of research a good thing (22%)
- better opportunities elsewhere (36%)
- urging of supervisor (13%)
- no family ties 12%.

Accepting a scholarship elsewhere

The main reason, for the 94 students intending accepting a scholarship at a university *other than the one where they undertook their previous study* are suggested by the following responses:

- 'The university I really wanted' (66%)
- 'Worried there would be nothing else' (7%)
- 'Urged to by my supervisor' and 'the stipend' (both) (5%).

The second reason included given by respondents was:

- 'Urged to by my supervisor' (22%)
- 'The university I really wanted' (16%)
- 'The stipend' (15%)
- 'Worried there would be nothing else' (13%).

For the 88 students who had applied elsewhere but then decided not to accept a scholarship at a university other than the one where they had done their previous degree, the main reasons were:

- Satisfied with supervisor 75%
- Better in current university 10%

The second reasons given were:

- Better in current university 46%
- Did not want to leave 38%

Discussion

- What might these data tell us about Australian postgraduate research students?
- What might it tell us about Australian universities?
- Where might we go now?

Reference

Kiley, M. and A. Austin (2000). "Australian postgraduate students' perceptions, preferences and mobility." *Higher Education Research and Development* 19(1): 75-88.

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THE ROLE OF RESEARCH HIGHER DEGREE STUDENTS AS LEARNERS

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This paper suggests that research higher degree students' roles as independent or autonomous learners may be closely associated with the availability of a supportive intellectual and social climate. A 2002 on-line survey of all Griffith University research higher degree students asked students about their perceptions of the skills and capacities they were developing and what they found best about their experience. The results uncovered what some might at first glance consider an anomaly: students who highly value independence or autonomy as learners, at the same time highly value learning from others in the community. Three attitudes toward community were found among respondents who called attention to independence or autonomy as learners: a few welcomed autonomy and made no reference to community; others said that, finding themselves without a supportive community, they learned independently by default; but many students who valued freedom in learning saw their independence as integrally related to a lively community. The results suggest that a supportive community may be critical in enabling students to take control of their own learning.

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DEVELOPMENT AND APPLICATION OF THE POSTGRADUATE RESEARCH EXPERIENCE QUESTIONNAIRE

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Over the past decade, there has been a significant expansion of postgraduate study in Australia. Knowing about the nature of that experience has become an increasingly important issue for the development of university education. During the 1990s, a 28-item postgraduate research experience questionnaire was developed in Australia in order that the views of graduates on their experience could be gathered systematically. The Graduate Careers Council of Australia (GCCA) and the *Australian Council for Educational Research* (ACER) developed this instrument, known as the Postgraduate Research Experience Questionnaire (PREQ). Its purpose is to gather data about broad aspects of graduates' experience of their research degrees (Masters by Research and PhD) and to relate those data to characteristics of graduates of postgraduate research degrees, their fields of study, level of course, and institution. This paper outlines the development of the instrument and reports on patterns of the postgraduate experience identified in three successive surveys.

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CHARACTERISTICS, DEGREE COMPLETION TIMES AND THESIS QUALITY OF AUSTRALIAN PHD CANDIDATES

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Background and Literature

Introduction by DEST of the new Research Training Scheme (RTS) has tightened the financial guidelines for direct governmental support of research higher degree candidature, raising concerns about degree completion and timeliness. There are two issues at the forefront of concerns by government, universities, postgraduate student associations, and candidates themselves:

1. candidate attrition during candidature resulting in non-completion of the degree, and

2. a longer-than-normal period of candidature, even though the extended candidature results in successful completion of the degree.

Non-completion is of greater concern for both the candidate personally and the university, whereas extended candidature leading to completion may be a problem only for the university, carrying financial penalties within the RTS. However, there clearly may also be financial and personal costs for candidates who take more time. Although candidature completion and attrition are not directly addressed in this study, completion and time taken are closely linked in the literature, and both will be addressed briefly here.

There has been concern about research higher degree non-completion and time taken to completion at least since the 1980s, in Canada, UK, USA, and Australia (see, for example, Smith et al.,, 1993; Sheridan & Pyke, 1994; Kerlin, 1995a & 1995b; Holdaway, 1996; Haksever & Manisali, 2000; Lovitts & Nelson, 2000; Martin et al.,, 2001; Elgar, 2003). In some cases, reported studies have focussed on attrition statistics, with some American attrition estimates for doctoral studies being far greater than 50 per cent (D'Andrea, 2002). However, some university estimates have suggested that attrition over the first several years of candidature is less than 40 per cent. (For example, the University of Arizona's published statistics indicate that 36 per cent of PhD candidates in the 1990s 'attrited' in their first six years of candidature.) Other studies have suggested that more than one third leave in the first year (Lovitts & Nelson, 2000, p.49). At the high end of the scale, some estimates based on cohort studies have been that doctoral candidate attrition overall may be as high as 85 per cent in the USA (D'Andrea, 2002). At the lower end, Colebatch (2002) suggested that completion rates for research degrees in Australia have increased considerably since the 1980s to between 80 and 90 per cent in the mid 1990s. A recent study in Canada indicated that discipline is important for completion, with completion rates varying from 45 per cent in arts and humanities to 70 per cent in life sciences, with science completions being generally in the high 60 per cent range (Elgar, 2003). For the U.K., completion rates after 10 years differed by general discipline area with arts/humanities rates being 51 per cent, and sciences being 64 per cent (Wright & Cochrane, 2000). For Australia, Martin et al., (2001) estimated that 60 per cent of beginning doctoral candidates in 1992 would have completed successfully by 2003 (that is 11 years after initial enrolment), suggesting an attrition rate of 40 per cent. The same study also reported 'considerable variation' in completion rates between institutions and disciplines.

Apart from discipline differences that may exist, in the USA institutional arrangements have been found to be important for attrition, which ranged from 33 per cent in one university to 68 per cent in

another (Lovitts & Nelson, 2000). This study also suggested that different departmental arrangements for graduate students within the one university may be the key to discipline differences in attrition (pp.45-46), with two of the largest factors contributing to student departure being lack of integration into the department's intellectual and social community, and the organisational culture of the graduate school. Lovitts & Nelson also reported that the single most important factor for completion was relationship with a faculty adviser—students who completed being twice as likely to express satisfaction with faculty advisers (p.49). But the direction of any causal link here was undetermined. In the same vein, the most frequently given reasons for non-completion of PhDs in the UK over a number of studies were problems with supervision (Haksever & Manisali, 2000).

Completion time for research higher degrees is calculated in a number of ways. One measure commonly used in the USA has been the time from completion of a bachelor's degree to completion of the graduate degree in question (Kerlin, 1995). This measure would make little sense in the Australian situation where, in some disciplines, there is an expectation that professional experience should be gained before proceeding with a research degree. A simple and more useful measure in our circumstances is elapsed time—that s the time from first enrolment in the research higher degree to completion of the degree. This measure has been extensively used, in part because it can usually be readily determined with a high level of accuracy (see Sheridan & Pyke, 1994). However, such a measure does not account for the nature of student enrolment (full-time or part-time) or any leave taken from studies during candidature. A variant on elapsed time is 'registered time', which excludes time before enrolment in the doctorate and any leave taken during the doctoral candidature (Sheridan & Pyke, 1994). More useful measures of completion time, which recognise the nature of enrolment as well as any leave taken, are more complex and elusive because the necessary information is often difficult to obtain—which perhaps explains why they are seldom used. Part of the difficulty arises from the changing patterns of enrolment in research higher degrees, at least in Australia—almost one-third of successful PhD students now utilise a mix of full-time and part-time enrolment during their candidature.[1] Under the RTS, it is the full-time equivalence of enrolment in a research higher degree that is important for student funding. For the measure of enrolment time used in these circumstances, leave is also excluded. The enrolment measure is candidacy time, being the number of equivalent full-time semesters actually enrolled in the PhD degree, with part-time enrolment counted as half that of full-time enrolment.

Whether total time or registered time was used to measure time-to-degree for doctoral students, it was suggested by Kerlin (1995) that the length of time taken had risen 'in recent years' in most disciplines. In Australia, for six universities since 2000, we can say that the mean candidacy time was 7.9 semesters (or almost 4 years) for completing candidates, and their mean elapsed time was 5.0 years.[2] For the same sample, candidacy time by Broad Field of Study ranged from a mean of 7.2 semesters in Education to 8.3 semesters in Agriculture, with Science at 8.0 semesters and both Arts and Engineering at 8.2 semesters. The results of this study are generally not consistent with international studies which frequently show Science as having the shortest candidatures and Arts and Humanities the longest. However, as indicated above, the measures of enrolment used in the overseas studies were more coarse. If elapsed time were used in the Australian study reported

1 On-going work in the PhD Examinations project (described by Holbrook, Bourke, Farley & Carmichael, 2001) indicates that, for 601 candidates across the six universities involved to date, 55% of candidatures were entirely full time, 14% entirely part time, and 32% were a mix of full-time and part-time.

2 From the PhD Examinations project described by Holbrook, Bourke, Farley & Carmichael (2001).

above, Business and Science candidates would have had the shortest mean times (4.7 years), and Arts, Humanities and Social Sciences candidates the longest (5.7 years).

Time of candidature measures aside, a pattern of relationships of factors with successful research higher degree candidature has been identified over the recent past. An extensive review of research on attrition rates and completion times (Latona & Browne, 2001) found associations with improved completion rates for factors in three areas, namely institutional/environmental factors (including discipline differences, candidature guidelines, and a sense of belonging), supervision arrangements (feedback, meeting frequency, relationships, an early start, and uninterrupted arrangements), and student cohorts and characteristics (entry qualifications, nature of enrolment, discipline differences, and psychological factors). The following have also been found by others to be related to completion: entry qualification and age (Wright & Cochrane, 2000), gender and demands of outside employment (D'Andrea, 2002), provision of direction and motivation and indirect help such as outside contacts (Haksever & Manisali, 2000), national citizenship (Sheridan & Pyke, 1994), having a scholarship and undertaking coursework (Smith et al, 1993). For Australia, Martin et al., (2001) reported differences in completion rates by gender (females had higher a completion rate), age (very young and older students had lower completion rates), and study mode (full time students had higher completion after seven years, but this would be expected given that the 'normal' length of part-time candidature is up to eight years). Using full-time equivalent enrolment as the measure of completion times, the PhD Examinations project has found that across 601 candidates, females had a slightly longer candidacy than males, older students completed more quickly than younger students, and part-time students had shorter candidacy than full-time students.

The focus in this brief review has been on doctoral candidacy. Similar issues emerge for research masters candidates indeed, Martin et al., (2001) estimated that their completion rate was less than 50 per cent, that is it was markedly lower than that for doctoral candidates.

The present study

Information suitable for investigating relationships between candidature, completion times, and quality was available for 601 PhD candidates at six Australian universities. The information was obtained as part of a large study of PhD examination being undertaken by the Centre for the Study of Research Training and Impact (SORTI), at the University of Newcastle. The study forms part of a series of projects in the area, the next being a study focussed more specifically on research pathways and degree completion. This project will also examine attrition rates and possible reasons for failure to complete research higher degrees based on the three areas identified by Latona & Browne (2001—environmental factors, supervision arrangements, and student characteristics.

Descriptive data on time and results

Relationships between candidature characteristics and candidature time

Hypothesised causal relationships between a wide range of 26 candidate, candidature and institutional variables and candidature time were examined using multiple linear regression analysis. The list of potential explanatory variables available for these analyses is shown below,

with variables grouped as (1) candidate characteristics, (2) candidature characteristics, (3) discipline area (BFOS), and (4) University of enrolment.

1. Candidate characteristics

- Gender
- Age at commencement
- Entry qualification (honours, research masters, coursework masters, other)
- Local or overseas student
- Whether a native English speaker
- English proficiency

2. Candidature characteristics

- Proportion of candidature that was full time
- Whether fee paying
- Whether a scholarship was held
- Whether upgraded to a PhD during candidature
- Semesters of leave taken
- Whether change in supervision
- Whether candidature problem was notified

3. Discipline area—Broad Fields of Study

- Agriculture
- Arts, Humanities & Social Sciences
- Business (including Law & Legal Studies)
- Education
- Engineering (including Architecture & Built Environment)
- Health (including Veterinary Science)
- Science

4. University of enrolment included University 1 to University 6 inclusive

Five candidates who were shown as having unusually short candidatures were omitted from the analyses, which were conducted with the remaining 596 candidates. The omitted candidates had less than one year of elapsed time from initial enrolment to thesis submission, or less than two semesters of equivalent full-time candidature. It is likely that they had transferred from another university just before submitting their theses, but nothing of any previous candidature history is known.

Elapsed Time and Candidacy Time

First, all variables in the four groups were entered into two separate multiple regression equations as explanatory variables with elapsed time and candidacy time as the response variable in each case. A progressive backward elimination of variables with non-significant regression coefficients was undertaken. Using the 0.05 probability level for significance, it was found that a total of 11 explanatory variables were significantly related to one or both of the candidature time variables available—total time from first enrolment in the degree and submission of the thesis (called 'elapsed time'), and time of enrolment in full-time equivalent semesters ('candidacy time'). The lists of significant variables are shown in Table 1.

When the variable groupings were considered in separate regression equations, it is of interest to note that, for both response variables, the set of candidature characteristics was the most important group, explaining almost 35 per cent of the variance in elapsed time and almost 10 per cent of the variance in candidacy time. Continuing with elapsed time as the response variable, candidate characteristics were next in importance (5%), followed by BFOS (4%) and finally University (2%). Shared variance resulted in 38% of the total variance in elapsed time being explained when all the significant variables were included simultaneously. For candidacy time as the response variable, University of enrolment was second in importance (6%), followed by candidate characteristics (4%) and finally BFOS (1%). In this case the total variance explained in candidacy time by all significant variables was 22 per cent.

Table 1 lists the significant explanatory variables for both response variables in descending order of importance for elapsed time (as determined by the standardised regression coefficients shown). The nature of the relationships of these explanatory variables with the response variables is now described.

Proportion of full time enrolment. Being enrolled full time gives a shorter overall candidature in elapsed time, and it is clearly the most important variable for elapsed time. Other things being equal, it would be expected that part-time enrolment should take twice as long as full-time enrolment measured by elapsed time. But full-time enrolment results in a longer candidature time when measured in equivalent full-time semesters (candidacy time). There is no obvious reason why this should be the case, except perhaps the possibility that many part-time candidates work on their theses for more than half a normal working week.

Candidature problem notified. Candidates who notified a problem during candidature took longer, in particular in candidacy time, for which this was the most important explanatory variable.

Scholarship held. Candidates who held a scholarship had shorter candidature. These candidates would, of necessity, be full-time students and would tend to have entered the degree with more impressive entry qualifications than most other candidates. One might imagine that entering with higher qualifications should assist degree completion, but entry qualification was not related to completion time.

Age at commencement of candidature. On average, older candidates had shorter candidatures on both measures. They would also tend to be more often enrolled as part-time candidates.

Native English-speaker. Being a native English-speaker results in longer candidature. This is probably a counter-intuitive finding, given the language problems of overseas candidates frequently documented and discussed. In most cases, non-native English speakers would also be overseas students, either on scholarship or full-fee paying. Either of these latter characteristics would tend to lead to more urgency in completion and thus shorter candidacy.

Arts, Humanities, Social Sciences BFOS. Candidates enrolled in this BFOS generally had longer elapsed time, although not a longer candidacy time.

Table 1. Standardised regression coefficients of effects of predictor variables on two response variables: Elapsed candidature time and equivalent full-time candidature

Predictor variables	**Response variables**	
Candidature & other characteristics	Elapsed time [1]	Candidacy time [2]
Proportion of FT enrolment	-0.467	0.227
Candidature problem notified	0.267	0.374
Scholarship held	-0.143	-0.137
Age at commencement	-0.142	-0.145
Native English speaker	0.092	0.112
Arts, Human., Soc.Sciences BFOS	0.068	NS
University 5	NS	-0.311
University 2	NS	0.158
Semesters of leave taken	- [3]	0.099
University 4	NS	-0.091
Female candidate	NS	0.076
Engineering & Architecture BFOS	NS	0.071
Total variance explained	38%	22%

Notes:
1. Time from first enrolment in the degree to submission of the thesis for examination.
2. Length of candidature in equivalent full-time semesters of enrolment (with periods of leave from candidature omitted).
3. Semesters of leave was not included as a variable in the regression equation with elapsed time as the response variable. Clearly any leave taken would add to elapsed time.

There were also four variables that were related to candidacy time but were not related to elapsed time.

University. On average, candidates at Universities 4 and 5 had shorter candidacy times, and candidates at University 2 had longer candidacy times than candidates at the other three universities. It would be necessary to look closely at individual university candidature mix and policies in attempting to identify possible reasons for these between-university differences.

Semesters of leave taken. Candidates who took leave also had longer candidacy time. This was not expected, unless candidates were taking leave to assist completion when their normal candidature was in danger of expiring. If this were the case, perhaps leave should have been taken earlier in some candidatures.

Candidate gender. Female candidates, on average, had a longer candidacy time than male candidates. Gender was not related to elapsed time. Gender is also clearly related to some BFOS,

with majorities of female candidates in Education and in Arts BFOS, and a very small percentage of female candidates in Engineering.

BFOS of enrolment. Candidates enrolled in the Engineering disciplines generally had longer candidacy time than candidates in all other disciplines. Engineering also had the highest proportion of full-time candidature (at 90%) compared with all other BFOS with a mean proportion of full-time candidature of 74 per cent.

Other BFOS

Of note here also is the lack of relationships between other BFOS and the length of candidacy time to completion. In particular, when the proportion of full and part-time candidature is taken into account, as it is in regression analyses, candidatures in Arts, Humanities and Social Sciences were not longer than candidatures in the natural sciences.

This finding runs counter to previous research (see ESRC 1987) and to popular belief, the latter probably fostered by the simple correlation between full/part-time candidature and BFOS. The point-biserial correlations between percentage of full-time candidature and each of the BFOS indicated significant negative relationships for two BFOS, namely Arts, Humanities and Social Sciences and Education (with coefficients of the order of -0.16 to -0.18), and two significant positive relationships, for two BFOS, namely Engineering and Science (with coefficients in the range 0.14 to 0.16). Clearly, the Arts, Humanities and Social Science and the Education candidates were more often enrolled part-time, and the Engineering and Science candidates were more often enrolled full time.

Relationships of characteristics and time measures with thesis quality

Examiner recommendation and committee decision on the thesis were taken as measures of thesis quality. Each of these measures was collapsed to a five-point scale, ranging from acceptance of the thesis without alteration to fail. Examiner recommendation was calculated as the mean recommendation of the two or three examiners for each thesis, depending on the university involved. It is of interest that there were no significant relationships between either of the time measures and the two measures of thesis quality—in fact the coefficients approached zero.

When tested using a multiple linear regression analysis, the same variables in the areas of candidate, candidature, discipline area, and university of enrolment were not strongly predictive of thesis quality (see Table 2). Eight relatively weak but statistically significant explanatory variables predicted only 6 per cent of the variation in examiner recommendation. Seven of these variables were related to the thesis receiving a lower examiner recommendation—Universities 6 and 2, BFOS Agriculture and BFOS Science, having a coursework masters degree as entry qualification, candidate age, and a candidature problem notified. One variable, having had a scholarship, was related positively to examiner recommendation. Given that scholarships are awarded to applicants with the highest entry qualifications, such a result was not surprising. Scholarships are also available only for full-time candidature. However, none of the range of entry qualifications recorded, including entry by masters coursework, was related to either candidature time or result obtained.

Table 2. Standardised regression coefficients of effects of predictor variables on two response variables: Mean examiner recommendation and committee decision on the thesis

Predictor variable	Response variables	
Candidature & other characteristics	**Examiner recommendation [1]**	**Committee decision [1]**
University 6	-0.111	NS
University 3	-0.087	NS
Agriculture BFOS	-0.137	NS
Science BFOS	-0.096	NS
Entry masters coursework	-0.092	NS
Age at commencement	-0.085	NS
Candidature problem notified	-0.083	NS
Scholarship held	0.081	0.073
University 1	NS	-0.087
University 4	NS	-0.125
Total variance explained	6%	2%

Note:

1. Both examiner recommendation and committee decision were reported as 5-point scales: (5) 'Accept the thesis without alteration', (4) 'Accept the thesis but invite minor amendment', (3) 'Require correction of the thesis before acceptance', (2) 'Require the thesis to be revised and resubmitted for examination', and (1) 'Fail'.

Approximately 2 per cent of variation in the committee decision on the thesis was predicted by three of the characteristics and institutional variables from the same set. Variables that resulted in a less-favourable decision by the committee were being at either University 1 or 4, and a more favourable decision was received by candidates who had been on scholarship. Again all the significant regression coefficients were quite small in real terms.

Discussion and conclusions

From the data analysed for this paper, there are a number of variables that are important for completion times for PhD degrees and, taken as a set, these variables explain considerable proportions of the variation in both elapsed time (38%) and candidacy time (22%). The most important variables in both cases are those related to candidature—particularly full/part time enrolment, notifying a problem during candidature, and having a scholarship, with taking leave also important for candidacy time. From these results we could suggest, in a simple world, that providing more scholarships will improve completion times, identifying and attempting to solve problems earlier would help (and perhaps also reduce the need for leave), and allowing a mix of part-time candidature, presumably not on scholarship, would assist with completion times. It is perhaps fortunate that those variables which, at least in theory, are alterable are also those that have the strongest relationships with completion times.

Candidate variables—age, whether a native English speaker, and gender—as another group of variables that are important for completion times, are not alterable. We can recognise some of the complexities of relationships between these variables and others such as discipline area, entry qualification, and nature of enrolment when considering these candidate variables. But, apart from

noting a strong indication that age is not a barrier to completion time and thus probably should not be a factor in research student selection, there is less of use to be learned here.

Relationships between the Broad Field of Study classification used to group discipline areas in these data and completion times suggest a re-evaluation of the common 'wisdom' that science candidates generally take shorter times to complete PhDs than humanities candidates. Although, as a result of being more often part-time candidates, Arts, Humanities and Social Science candidates have a longer elapsed time, these candidates do not have a longer candidacy time than Science candidates. Engineering candidates, who are most often full time, do have longer candidacy times.

There clearly were differences in candidacy time between the six universities involved. The picture is complex with a range of differences between the universities undoubtedly being relevant for completion. For example, universities differed in discipline mix and therefore candidate gender, proportions of full and part time candidature, numbers of scholarship students, policy on taking leave, and proportions of native English-speaking candidates. When the dataset is complete, we intend to undertake further analyses of some of these interesting intersections of candidate and candidature characteristics, discipline area and university of enrolment.

Turning more briefly to thesis quality, it is clear that little explanation of quality, as measured, was possible in the present study. We first need to recognise that, although the committee decision on the thesis does form an ordinal scale which can be considered as a measure of quality, examiner recommendations are less of an ordinal scale, and thus are a weaker approximation to a quality measure. For example, in one case an examiner possibly requires corrections to what he/she considers to be a very good thesis (thus giving the thesis a rating of 3 out of 5) to make it really first rate, while another examiner may accept a thesis without requiring alteration (giving a 'better' rating 4 or 5 out of 5) because he/she does not consider it worth the trouble to improve an acceptable but mediocre thesis. However, that being said, there were many significant explanatory variables (including candidate and candidature variables such as entry level, having a scholarship, age, and notifying a problem), more significantly related to the mean examiner recommendation than variables related to the committee decision.

A postscript

When it is complete, the study reported here will have much more interesting and powerful indicators of thesis quality than 5-category ratings of the examiner recommendation and the committee decision. The complete texts of examiner reports are being coded, based on a scheme consisting of four substantive categories – examiner and process, assessable areas covered, dialogic elements in the report, and evaluative elements, made up of more than 30 sub-categories (see Holbrook *et al.,*, 2001). It is intended that these sub-categories be used to provide detailed, cross-discipline analyses of what is meant by thesis quality and how quality relates to candidate, candidacy and other, more contextual, variables.

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DOCTORAL STUDY—OPPORTUNITY OR EXPLOITATION? IS THE QUALITY AGENDA A DOUBLE-EDGED SWORD FOR WOMEN PURSUING AN ACADEMIC CAREER?

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The quality movement has, to a certain extent, supported transparency and transformation with regard to achieving equality of access and participation within the academy. However the representation of women at higher levels of both academic and general staff in Australia and European universities is still at a low level. Managerial cultures support a different career path for men and women. Women are still clustered in academic disciplines that are poorly funded for research. The impact on women's career development is that the work they do in teaching, learning and administration is strongly aligned with 'academic housekeeping' and is located in the 'ivory basement'. This paper will discuss how the quality movement might enhance or detract from women's career aspirations and success with doctoral study; and why an academic career is still an attractive option for women in spite of well acknowledged organisational barriers. Data from the author's doctoral research will be utilised, particularly a comparative analysis of two case studies of women undertaking doctoral study, one an experienced and successful academic and the other a new researcher who eventually embarked on an academic career at another institution.

Introduction

Whilst women's participation within higher education as students and academic staff has increased significantly over the past 20 years (DEST, 2002), they are, as a group, still under-represented at senior levels within the institutions globally and within Australia (White, 2003). There is still a relatively small number of women in the academy (31.4% of all full-time staff, DEST, 2002) and a concentration of women in part-time, contract and fractional positions. Park, (1996, p. 77) notes that this has created a 'revolving-door phenomenon' and a new class of 'gypsy scholars', the majority of whom are women, who 'move from one low-paying, dead-end teaching post to another'. This condition has resulted in a university culture that has been described as a 'chilly climate' for women (Payne & Shoemark, 1995), where women negotiate their professional lives in an environment in which they are the 'other' (Mc Cormack & Pamphilon, 1997). The lack of academic qualifications such as a PhD constitutes a major barrier to entry and future promotion for a career in academia for women (Probert, Ewer & Whiting, 1998). "It is in this chilly climate that women academics balance their postgraduate studies and their personal/professional lives" (Mc Cormack & Pamphilon, 1997, p. 4). The Probert, Ewer and Whiting report (1998) confirmed that female academics were significantly less likely to have a PhD than their male colleagues. Castelman (in Probert et al., 1998) acknowledged that men have significant advantages over women related to career continuity and lack of family responsibilities.

The purpose of this doctoral study is to add to the present knowledge and understanding of cultural and structural barriers associated with the success or failure of women in higher education research degrees. The research adopted a case study methodology, and interviews were carried out with thirty women across the university. The participants were divided into two groups, those who were experienced academics and those who were starting an academic career. This paper illustrates and gives examples based on the experiences of one of each group, designated Candidate A (inexperienced academic) and Candidate B (experienced academic). Both interviewees had worked in the education environment for a number of years.

The questions asked were based on previous research (White, 1996) which identified areas of concern for women. Interview questions were focussed around the women's biographies and the stories they tell about their academic and social background. These life experiences demonstrate the paths they have taken prior to doing postgraduate study and why it is important for them to do a postgraduate degree at this time in their life. 'Research, like almost everything in life, has autobiographical roots' (Seidman cited in Mc Cormack & Pamphilon, 1997, p.1). Students' personal biographies have been shown to:

> …contain features which work against the positive factors operating at departmental and subcultural levels… Common biographical factors have been demonstrated to influence in a positive or negative sense (the) students' adjustment (Rudd in Hockey, 1994, p.187).

At some points the researcher felt as if her role was that of a counsellor or adviser. In fact a couple of participants had had quite harrowing experiences and told the researcher that it was wonderful to get it out in the open at last. During one interview, the woman thanked the researcher for the opportunity of being able to tell her feelings in this way and described the interview as rather like talking to a critical friend who had helped her see a way through a problem that she was having at that time. The researcher was often asked for clarification on university procedure, regulations, access to equipment, funding for conferences, etc. There seemed a great need by the majority of the women to talk about their research with someone who was not their supervisor.

It has been well documented, (see, for example, Brooks, 1997; Collins, Chrisler & Quina, 1998; Currie, Thiele & Harris, 2002), that higher education is still a place for blokes and chaps. A comment from an interview as part of the author's research noted that:

> I think it's just more the old boys network that still operates, and you see that if you look at the faculty of education you know you've got all these associate professors and so on, men sitting at the top doing very little, palming off all of their classes to sessionals and research students and so on and women on associate lecturer and lecturer level do all the work. You certainly still see that a lot in the university culture and, I mean, Department A is not a real good example of gender equity in its staffing is it? (doctoral candidate A) [1]

Promotion systems are patriarchal in that they may support research performance based on scientific, objective notions of research (as distinct from action and other qualitative research practised with the arts and humanities, where the majority of women work (Bagihole and White, 2003). Teaching and pastoral care of students is still predominantly considered to be the areas where new academic staff are clustered and perform the majority of the administrivia associated with academic work: 'for overworked women academics research becomes a personal indulgence' (p.3).

Leonard (2001) notes that:

> Today most routine teaching, student pastoral care and empirical research in universities depends upon junior teaching staff, 'academic related' ancillary and administrative workers, and contract researchers (all mainly women) who deal with

1 Doctoral Candidate A is an inexperienced academic, Doctoral Candidate B is an experienced academic

> the whole student and the whole research process, so that senior men can deal with just students' minds, make rational strategic policy decisions, and/or create theoretical breakthroughs. (Leonard, 2001, p.44).

The notion of the 'ivory basement' prevails (Eveline and Booth, 2002) as one where women found in the lower sanctuaries of academia performing the under-valued but essential tasks. However, in-spite of well-documented institutional barriers for women who wish to pursue an academic career, there are still large numbers who find it an attractive option. For many aspiring women the pathway to an academic career commences with the decision to undertake a doctoral degree, as a participant in the author's research recognised:

> I supposed I've always been frightened of the thesis, you know, the big project sort of thing, you know this thing hanging over your head (doctoral candidate B).

This participant recognises the importance of undertaking a doctoral qualification to her future career in academia but at the same time acknowledges that the process can be fraught with difficulties. Diana Leonard's book cover on the 'A Woman's Guide to Doctoral Studies' (2001) shows a snakes and ladders game, with many of the issues that women have to confront explained throughout the chapters. Despite many of the Equal Opportunity initiatives of the 1980s, Leonard also points out that the higher degree process is one which still: 'Highly masculinized which overvalues rationality, individual autonomy, objectivity and scientist, and now also political passionlessness and economism' (Leonard 2000 in Leonard 2001, p. 45).

The rapid development of higher education and opportunity has seen a concern for quality of experience at a time when the links between education, training and future employment are being clarified. The debate involving quality of higher education has been carried on in European, United States and Australian universities since the 1980s. Unfortunately, equity has not been on the recent quality agenda; however, social class and isolated student issues have replaced it (Nelson, 2003). What effect might this have on the doctoral experience and the future of an academic career for women?

Quality in Higher Education

Since the 1980s, governments in UK, Europe and USA have expressed concerns about the quality of higher education. Accordingly, 'quality has been used as a vehicle for delivering policy requirements within available resources' (Harvey & Askling, 2003, p.71). A quick search on one internet search engine revealed 26 definitions of quality, from 'an essential and distinguishing attribute of something or someone' to the Oxford dictionary definition which states that quality is to do with 'a degree of excellence'. Within the Australian system, the Australian Quality Universities Agency was established in 2000 to:

> carry out quality audits of Australia's universities, other self-accrediting institutions and accrediting agencies. In each case, the audit is of the whole organisation, and it therefore addresses the effectiveness of the organisation's quality systems for all its activities (AUQA, 2002).

Morley (2003) believes that the quality movement reinforces the position that men and women in the academy are on different career trajectories. She argues that 'the socially constructed indicators of career success reflect existing divisions of labour with research at the top of the hierarchy' (p.155). The ivory basement (Benekraitis, 1999), is well and truly laden with many

structural barriers to women's participation within academia. It is a cycle of deprivation—women are clustered in the lower paid positions, busy teaching and doing administration with little prospect of permanent positions indeed as by noted by Morley (2003, p.155):

> one of the downsides is that women then get offered positions within the quality movement which pushes them further away from a research career into a career associated with 'organisational housekeeping'.

According to Coser (quoted in Currie et al., 2002), quality assurance requirements make greedy organisations even greedier:

> at the same time as the university increasingly demands that they be involved in detailed administrative and quality-assurance type-work. This kind of managerial accountancy, with the endless form filling, data collection, and benchmarking it involves, seriously disrupts and overregulates teaching and research (p.141).

The concept of male career trajectories (Itzen & Newman in Currie, p.144) ensures that pathways to success are built on 'dominant male traits and characteristics' (Izraeli & Adler, 1994). Many studies have demonstrated that women academics put in longer hours than their male counterparts, for example, Park, Acker & Feuerverger (1996), in Currie et al.,, 2003, mention that women put in more hours teaching than their male counterparts.

The effect of these issues is that women have less time to devote to research and publications. Brooks (1999), has noted that gendered work differences account for the fact that more men than women hold doctoral qualifications (Vasil, 1993 in Brooks) and this in turn influences their ability to gain research grants and develop research skills which are important criteria for academic success. Vasil's work in New Zealand universities clearly demonstrates that 'self efficacy' is enhanced when women hold doctoral qualifications (Vasil, 1993 in Brooks, p.102) and 'that this belief is positively correlated with productivity (Brooks, p.102). There is much anecdotal evidence to support the differing work expectation and patterns of female academics compared to male academics. Within the author's own university, a recent promotions' professional development session highlighted a couple of participants' perceptions about their own academic experience which was not valued in the present promotion's system.

> I have worked extremely hard and didn't apply for promotion as I thought that I was not 'good enough. I have developed my skills in trying to pursue better postgrad education both international and local. The uni does not value that contribution. I am at a cross road and I don't know whether it is worth the effort to apply for promotion to the A/Prof level (academic with over 20 years' experience considering promotion).

Morley (2003) notes that the quality movement has, to a certain extent, supported transparency and transformation with regard to achieving equality of access and participation within the academy. In particular, social class has achieved a higher recognition than gender since representation of women in higher degree courses has increased. However, the representation of women at higher levels of both academic and general staff in Australia, and European universities is still at a low level (<11% women are in the professoriate). Managerial cultures support a different career path for men and women. The quality movement supports this where women are still clustered in academic disciplines that are poorly funded for research. The impact on women's

career development is that the work they do in teaching, learning, and administration is strongly aligned with 'academic housekeeping' (Morley, 2003), or that of the 'ivory basement' (Benekraitis, 1999; Eveline & Booth, 2002). Morley also notes that this has implications for women and their academic careers as they are included in quality assurance procedures for teaching and learning which, whilst making them feel valued, further disadvantages their career pathway by denying them the time and opportunity to pursue a research career. A recent DEST report, 'The Doctoral Education Experience' (Neuman, 2003), noted that teaching was a major form of career development available to postgraduates. It was also an important element for financial security and support.

Doctoral Candidate A observed that:

> It has certainly worked to our mutual benefit, you know the fact that I was being paid to do that as well as my scholarship, I think that was a big thing. So that was partly it and then obviously other little projects came up along the way that I got paid for as well, and then I did some sessional teaching. In 1994 I did a lot of extra things and I got myself over-committed. Because, after sort of, the first year, then everyone knows that you're available, you know, that you can do things.

Sessional and casual teaching appointments are a recognised entry into academia for women. However, as this PhD candidate noted, getting distracted by 'academic housekeeping' can detract from the main goal of doing the PhD.

> So in 1994 I just spent a lot of time doing other things, other than my thesis which wasn't very good in the end. It's very easy to get distracted, there's so many fun, interesting, enjoyable, enlightening, stimulating things to do when you're in a university, you know (Doctoral Candidate A).

Opportunity or exploitation?

It has been noted that doctoral students who enter such a course do so for a variety of reasons, with only a small number wishing to pursue an academic career (Neuman, 2003). Doctoral Candidate A is one of these:

> And I thought, well, you know, these opportunities don't come up very often, and you know I'm the kind of person, I suppose, who thinks nothing ventured, nothing gained, so I'd thought about it and did my figures and figured out if I got the scholarship, I'd be able to sustain my present existence with my house. I didn't have many financial commitments other than my housing loan, and I managed to get that sort of quite ahead at that point, so I thought well here's an opportunity, you know, and I suppose people I spoke to *(senior academic woman),* you know, assured me that there'd be heaps of jobs waiting for me at the end as a mathematics educator.

Increasingly, students recognise that opportunities are limited within academia and that in order to have a successful academic career, they need to be outstanding scholars. Ramsden (1998) stated that it is no longer considered special or exceptional to attend university or to have an academic career: 'academics have lost power and advantage in their work and market position' (p.18).

> Well, in the current climate there's no careers to be had unless you are already in a tenured position within a university, I don't see why anyone at the moment would undertake a PhD because there is nothing at the end waiting for you. I mean, here I am going off to the United States because there aren't any jobs available for me [in Perth] (doctoral candidate A).

Academia continues to attract women, not only in its courses but also in the academic workforce where there have been steady rises in numbers at all levels, undergraduate, postgraduate and academic and general staff participation (DEST Higher Education Statistics, 2002).

> Certainly the university is encouraging all its staff to get PhDs, so I think over the next few years the only people who are going to be doing PhDs are those people who are in universities already who haven't got them. It will be very hard to attract other people into it (doctoral candidate B).

An academic career has many advantages such as flexible hours, opportunity to pursue knowledge within an area of expertise, travel, and empowerment once a certain level of promotion is achieved.

> Well I didn't really find them, I suppose it was just a fortuitous path that was laid before me which I had the good sense and the opportunity to take advantage of (doctoral candidate A).

However along the way there can be personal sacrifice for many women, particularly along the route which has impact on their relationships with partners and children.

> I couldn't do that because my family, my family situation now is so interlinked with my PhD and where I went and what I did, I can't compartmentalise things. Everything in my life is connected, you know. My PhD was so connected to my personal life and connected to my supervisor and her support and, you know, she spoke at my wedding, she gave the speech at my wedding, my supervisor I mean (doctoral candidate A).

Acquiring a PhD is seen as an essential component of promotion and career advancement within universities and most certainly for entrance into academia in some disciplines within institutions of higher education.

> Yeah, I changed my mind [about commencing PhD] because the goal posts, I noticed, changed within the university and outside and also, as I said, I noticed that what was going on with the males in the department as well (doctoral candidate B).

Women are still disadvantaged with regard to their representation in academia, with only 24.5% holding doctoral qualifications, compared to 46.4% of men (DEST, 2002). They are also disadvantaged by the masculine principles and structures that advantage males and reflect male work patterns (Currie, Thiele & Harris, 2002) within a corporatised and gendered higher education system.

The doctoral experience can open up opportunities for a career in academia. However, like the snakes and ladders game on Leonard's book, it is useful for women to be aware of the nature of the masculinized culture they are confronting. They can do this by preparing for the journey adequately in the first place. Like an adventurer and explorer it is necessary to ensure that they

have a 'can do' attitude, motivation, support, and a realistic understanding of what they might encounter along the journey.

> I just had no clue about how to go about doing research and, you know, a lot of things. My first year in the program was really an apprenticeship year, I would think, where I just, I did get involved in a lot of different projects that were going on like [two senior academics'] single sex project and their physics assessment project and a couple of things [with other researcher] (doctoral candidate A).

Conclusion

In a globalised mass education environment, quality issues as outlined in this paper can have impact on their experiences and perhaps delay the time taken to complete the degree for women if they find themselves working in the 'ivory basement'. Some of these experiences are good apprenticeship training for academia; however, they can be certainly distracting, and particularly so for women who are not as experienced or empowered to negotiate compared with their male colleagues. The quality agenda, whilst it can offer opportunities for women to gain experience with academic management and teaching, can indeed be a double edged sword if they take on these opportunities at the expense of other academic duties such as research, that are more valued within the present higher education system in regard to promotion and recognition. Women can find themselves in the 'ivory basement'; however, whilst it is important to become involved in the many additional tasks that make up an academics' work life, it is also crucial that women do not lose sight of the bigger picture. In a higher education system that rewards research output and does not reward the contribution women make to co-ordinating student courses and doing all other types of administration, it is important that women do not get off track when working towards a doctoral qualification.

The experienced academic's story is one where she 'wised up' to the culture after a considerable time, when she noticed the differing pathways that males and female can take in academia.

> He [Head of School] advised me at the time—he said you're doing a great lot of work you're doing a great job with students, lots of positives he gave me, strokes. Great job with students, you're doing some wonderful curriculum development work. Go ahead and publish, that's fine, pat pat on the head, and so I did in good faith. Now agreed, the goal posts changed a bit since then, however, when the women in the school started to put their heads together, we realised the men were being told, go for your PhD **son** with a pat on the back, and **we** [women] were being told to carry on with the good work we're doing with the students, which of course is quite frankly what we did. So I went the publishing route and so now I'm back at the stage of getting a PhD as well (doctoral candidate B).

This participant noticed that pats on the head push you down whereas pats on the back enable you to move forward. Certainly women need more pats on the back if they are to take up more senior university positions, and the doctoral degree is the first rung on the academic ladder.

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DOCTORAL NON-COMPLETION FROM THE STUDENT'S PERSPECTIVE: FAILURE OR NEW BEGINNING?

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Today's performance-driven model of higher degree research has constructed student withdrawal and non-completion as failure. This failure is often attributed to the student and internalised by the student as their failure. This presentation takes a longitudinal perspective to examine the experiences of four female Masters by Research students—Anna, Carla, Grace, and Lydia—who had either withdrawn, not completed or who had taken a very long time to complete their research. Their stories revealed they experienced many of the factors recognised in the literature as likely to negatively affect a student's chances of completion: isolation (social and intellectual); lack of resources; 'absence' of, or poor, supervision; and personal crises. Their stories also suggest that tensions experienced as an outcome of the mismatch between an individual's understandings and institutional conceptions of postgraduate research can be interpreted as one of the complex of factors that affect postgraduate completion rates. Rather than internalising their experience as one of loss and failure, each of these woman 'wrote' beyond this expected ending to reconstruct non-completion of their postgraduate research as a beginning to a positive re-storying of their lives.

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SYMPOSIUM:
DEVELOPING PUBLICATION SKILLS IN INTERNATIONAL RESEARCH EDUCATION CONTEXTS: SOME RESEARCH FINDINGS AND RELATED TEACHING APPROACHES

Margaret Cargill
The University of Adelaide
Australia
with
Sally Burgess and Huhua Ouyang

Aim of the Symposium

This symposium aimed to engage audience members in discussing how publication skills can be developed in the range of research education contexts from which they came. After brief presentations from the three presenters, issues explored included these:

- institutional and more local options for supporting the traditional role of supervisors as mentors of novice paper writers in time-pressured work environments;
- implications of the need to publish in English for researchers in locations where it is not the home language;
- the relationship of publication skills to the development of transferable or generic skills in research students;
- the types of expertise and approaches required to foster the development of publication skills in different contexts; and
- the content of a research agenda that will best help us move forward in this area.

An outcome of this symposium was the formation of an ongoing special-interest group to keep in contact via email, with the potential to collaborate on research and publication projects related to publication skills development.

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SYMPOSIUM SESSSION:
THE SPANISH ACADEMIC IN THE INTERNATIONAL MILIEU

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Abstract

The considerable challenge that international publication frequently represents for non-English-speaking background scholars has often been attributed to discrepancies between the discourse conventions obtaining in the international and home-country spheres. Contrastive studies of academic discourse have documented a wide range of differences between English and many other languages. Less attention has been paid to the social and affective contexts in which NESB academics write and publish and to the resources they have available to them if they have limited competence in English. In a recent study of the publishing behaviours of Spanish academics, it emerged that a successful publishing record was often the result of factors other than a researcher's grammatical, sociolinguistic and discourse competence in English. Instead, these competencies acted in concert with social and affective factors to determine publishing success. In my contribution to the symposium, I will explore this relationship and suggest ways in which research educators and the academic institutions that employ them might facilitate and support international publication by Spanish researchers.

Background to the study

- Contrastive studies of research writing in English and Spanish (Burgess, 1997; Garcia & Divasson, 1996; Martín Martín, 2003 a & b; Burgess and Fagan, 2002)
- Literature on dominance of English as a language of academic publication (Canagarajah, 1999; Mauranen, 1993; Rey Rocha and Martín Sempere 1999)
- Implications for academic staff of recent reform of Spanish university system

Research Question

1. Do researchers' perceptions of the importance of English as a language of publication vary across the disciplines?
2. What resources are available to researchers who need/want to publish in English?
3. What factors contribute to researchers' success in terms of publishing in English?

Questionnaire and interviews were used to answer these questions.***Questionnaire Results*** (Response rate = 10% of sample)

academic law (4)	business studies (1)	classics (2)
psychology (5)	health sciences (1)	physics (1)
sociology (2)	linguistics (3)	
education (2)	art history (2)	

Preliminary Findings

- English is the most important language of publication in all disciplines.
- Most researchers rated their competence in English as average or below average.
- Social sciences and humanities researchers used private translation and teaching services.

- Researchers with highest international publishing rates wrote with co-authors outside the Canary Islands and/or Spain.

The Interviews

- What is your academic status, research profile, knowledge of English?
- Are you preparing anything for publication at the moment and will the publication be in English?
- How do you go about preparing a paper for publication in English?
- How much of a hurdle is publishing in English for you?

The Case Studies

- Questionnaire respondents who agreed to be interviewed.
- Representives of points along a hard-soft disciplinary continuum.
- Differently positioned along a continuum in terms of publishing successThe Argentinian intermediaries
- Field: Atmospheric Physics
- Status: Tenured (Lecturer Grade 3 School of Sea Studies)
- Level of English: Upper-intermediate
- Language of publications: English
- Current project: poster and paper for conference proceedngs
- Preparation for publication: Write in Spanish; own translation into English
- Attitude to English: Positive

The mentor

- Field: Lexicography; English syntax and morphology
- Status: Tenured (Lecturer Grade 2, English Department)
- Level of English: Proficient user
- Language of publications: English and Spanish
- Current project: Chapter for monograph
- Preparation for publication: Writes in English; ESBs edit/proof-read
- Attitude to English: Neutral to negative

The invaders

- Field: Vulgar Latin (phonological change)
- Status: Non-tenured (lecturer grade 3, Classics)
- Level of English: Reading knowledge only
- Language of publications: Spanish (abstracts in English)
- Current project: Research article

- Preparation for publication: Colleague translates abstract
- Attitude to English: Negative

British colleagues and French rivals

- Field: Historiography/Social History
- Tenured (Lecturer Grade 2 Contemporary History)
- Level of English: Advanced
- Language of publications: Once Spanish; now English
- Current project: Book for British publisher
- Preparation for publications: Used to write in Spanish and pay translator; now writes in English and colleagues edit/proof read
- Attitude to English|: Positive

Intertextuality and the Spanish researcher in the international context

- '…the way in which a text or discourse allows for the instancing of another'
- the substantive subject v. the agential subject
- 'authorising discources' (Price, 2003)

Supporting the Spanish research writer

- Language support by means of collaborative approach using genre analysis (Cargill, 2004)
- Participating in the international discourse community: the role of intermediaries, mentors and counterparts

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SYMPOSIUM SESSION:
CONTRASTING COMMUNITIES OF PRACTICE: AN ISSUE FOR CHINESE RESEARCHERS PUBLISHING INTERNATIONALLY

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Abstract

I propose that many problems encountered by Chinese researchers in publishing internationally in English relate to a lack of familiarity with features of the communities of practice of a 'civil society' kind that are taken for granted and often hegemonised by editors and reviewers. In particular, Chinese researchers are often not aware of the relationships between an open and mobile social structure, the resultant egalitarian and contractual interpersonal relationships, and the explicit and evidence/logic-substantiated discourse required for publication in English. Rather, they transfer Chinese communication processes in the public sphere into their English discourse, without realizing that this assumed norm is underpinned by the Chinese community of practice characterized by their extended family or danwei (state-owned work unit). In this danwei community, reporting research findings mostly prioritises reinforcing the social rankings of the existing authorities. Ethical appeal is more appropriate than logical appeal among inner-group members, which results in a reader-responsible discourse that stresses the specific-to-general pattern and suggestive and implicit expression. This argument, based on my nearly twenty years of participant observation of a danwei university, will establish a crucial need for research writing educators from the international and the mainland China communities to collaborate in providing programs that raise awareness about socio-cultural communication norms from a contrastive perspective.

Chinese students' 'incompetence'

- Uncritical
- Implicit
- Vague and general
- Dependent

Chinese students' 'competence'

- Polite
- Modest
- Obedient
- Hard-working

Criteria for the in/competence judgment: instrumental vs affective?

Interpretative frameworks

- Are they not capable?—a linguistic or cognitive question
- Are they not willing?—a psychological or aesthetic question
- Are they not daring?—a nsociological question

Towards a theory of contrasting community of practices

- Contrastive rhetoric
- Community of practices

Civil society

- Individual's freedom in motion
- Egalitarian exchanges
- Contractual relationship

Civil society public communication

- Exchange of information
- Truth inquiry
- Individual claims

Presumptions for written communication in civil society

- Naive to prior knowledge
- Critical to claims/reasoning
- Evidence-based logical appeal
- Clear, brief, and straightforward
- Writer-responsible

Danwei*: A Chinese community of practices*

> A *danwei* was a lifetime social welfare system virtually from cradle to grave, and a network of relationships encompassing work, home, neighborhood, social existence, and political membership…As in a traditional family, the *danwei* acts as a patriarch who disciplines and sanctions his children, while at the same time serving as a maternal provider of care and daily necessities" (Lü & Perry, 1997, p. 8).
>
> The *danwei* system, in its mature form, was characterized by two distinct features: limited mobility or virtual immobility in the labor market and a high degree of dependence in a hierarchy of personal relationships at the workplace. Both conditions contributed to the development of patronage networks and the practice of favoritism. Because of the functioning of the work unit system, informal interactions came to play a much more prominent role in decision-making processes than formal procedures.
>
> Some scholars infer that these vertical links of dependency and control in Chinese society impeded the formation of horizontal alliances between professional peers and fellow workers. Urban politics in China, unlike in other modern societies, was thus notable not so much for its politics of protest and collective action as for the

personal dynamics of networking, dependence, coercion, and collusion. (Yeh, 1997, p. 61)

Key features of a danwei

- Immobility in work and residence
- Enclosed or 'Wall culture' community
- Lifelong rewards or punishment
- Paternalistic and materialistic leadership
- Hierarchical relationship
- Insiders circle and 'secrecy' of information flow
- Harmony oriented communication
- *Renqin* reciprocity as rules for interaction

A case of Guangwai (a Chinese university) as a danwei

Presumptions for (written) communication in *danwei*

- A hierarchically superior reader
- More knowledgeable
- Ready to understand and follow
- Ethical appeal
- Implicit and indirect approach
- Reader responsible
- Harmony or face centered
- Self deference for collectivism

Understanding the nature of learning to write a dissertation or paper in English

- A remaking of rhetoric
- A remaking of ideology/values
- A remaking of socialization
- A remaking of identity and face/power relations
- A remaking of community of practices

Implications

- Addressing 'will not' and 'dare not' before 'cannot' issues
- Towards a collaborative program of/by 'cultural bilinguals'

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SYMPOSIUM SESSION:
GETTING MORE CHINESE SCIENCE PUBLISHED INTERNATIONALLY: A ROLE FOR SKILL-DEVELOPMENT WORKSHOPS BASED ON INTERSECTING EXPERTISE SETS?

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Australia

Abstract

A collaborative teaching approach for developing publication skills is currently being developed at the University of Adelaide, based on genre analysis and the intersecting expertises of practising scientists and applied linguists. One aim of this approach is to help scientists in non-English-speaking countries (China in the first instance) to enhance their skills for writing, submitting and revising manuscripts in English to meet the requirements of English-speaking journal editors and referees. In this symposium I will present the outcomes of an evaluative study conducted 12 months after an 8-day publishing workshop in Lanzhou, western China. Data sources will be interviews with workshop participants on their experiences of submitting manuscripts since the workshop, manuscript drafts, referees' reports, and editors' letters. As well as considering ways in which the offshore workshops could be improved as a result of this feedback, I will draw implications for the development of the approach for use in English-speaking university contexts.

Introduction: Carrots and sticks in the context of Chinese science

- Need for more extensive publication recognised by both China and the international community.
- Salary supplementation policy in the Chinese Academy of Sciences.
- Publication requirement within PhD programs.
- English language teaching for 'non-English majors'.

The Case-study: an *ACIAR-funded 8-day workshop in Lanzhou, Gansu, China, November 2002[1]

Workshop outline and personnel

- 4 days teaching, 3 days for participants to write, 4 more days teaching.
- For content outline, see the author's poster at this conference.
- Participants (20) were members of 5 ACIAR projects in western China.
- Presenters were the author plus 3 Australian scientists from one of the ACIAR projects using a collaborating-colleague, genre-based approach.

Post-workshop evaluation and recommendations to ACIAR

- Participants rated the workshop extremely highly (mean satisfaction score 4.6/5).
- Increase in confidence to write for publication rated at 4.5/5.
- Participants and presenters recommended a second workshop 12 months later.

[1] Australian Centre for International Agricultural Research

- Presenters also recommended help with accessing relevant literature.
- Recommendations were not acted on.

The follow-up evaluation, November 2003

Scope and methods

- Conducted by the author and one scientist (experienced with the workshop approach but not part of 2002 team).
- Six of 11 Lanzhou-based participants of the 2002 workshop participated (plus others).
- Publication outcomes surveyed.
- Interviews conducted with 2 researchers and a range of relevant texts analysed.
- Current drafts of all participants read and discussed.

Results of survey

- Four papers had been published in international journals since the 2002 workshop, two by researchers who had previously published only in Chinese journals; two were part of PhD requirements.
- No information was collected on amounts and types of assistance obtained since the 2002 workshop.

Status of current drafts

- Two were close to submission standard (one for journal, one for Australian conference proceedings).
- Three showed substantial progress towards this goal.
- Two had problems with the science, so detailed language work was inappropriate—highlights strength of collaborative workshop approach

Summary of outcomes from document analysis and interviews

- Documents included submitted manuscripts, referees comments, authors' replies and final published versions (one US journal and one NZ journal).
- Referees' comments and changes between submitted and published versions both focused on scientific detail (statistical tests, justifying analysis methods, repeating data, etc).
- English had been corrected more vigorously in the US than the NZ journal (may relate to level of editorial staffing)
- Interview reflections:

  Responding to referees' comments much easier post-2002 workshop

  Structuring of a paper stands out as most memorable aspect of workshop

  Sentence-level English an ongoing constraint

The future in the Chinese context

How cost-effective are workshops by international presenters?

- What outcome measures should be used?
- If 'publication success', content issues must be addressed as an integral part of workshops.
- What is the most effective target audience?
- Individual researchers seeking to publish?
- Supervising researchers?
- Chinese editorial staff of English-language journals?
- A train-the-trainer approach?
- Can issues of scale *versus* effective pedagogy be resolved?

The full workshop approach requires completed analysis, but beginning PhD students are especially keen to attend.

How can the 'next-step' needs be met?

- Least successful aspect of current approach is focus on self-help and learning-to-learn strategies.
- Evaluation results highlight participants' desire for 'more models at the sentence level'.
- Work to develop new approaches needs to be located within the content disciplines, but funding bodies do not relate this work to their priorities.

Broader implications

For research programs offered in Australia to international students

- Is more emphasis needed on skill development and less on a single product?
- How could this be reconciled with shorter scholarship durations and restricted focus of funding bodies?

For professional development for local research students

- Programs developed for the international student cohort can provide valuable options—see Cargill, Margaret (2004), Transferable skills within research degrees: a collaborative genre-based approach to developing publication skills and its implications for research education. *Teaching in Higher Education* 9 (1), 83-98.

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SYMPOSIUM:
PRACTICAL STRATEGIES TO ENHANCE TIMELY COMPLETIONS

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Australia
with
Stella Clark, Jennifer Gilbert and Carey Denholm

Aim of the symposium

Universities have been concerned about the quality of their students' research education experience and about completion rates in research education for a considerable period of time. The Australian Government's recent national policy framework has given these concerns greater impetus.

Based on a series of related studies on issues relating to timely completions of research higher degrees (Brennan, James & Clark, 2002; Manathunga, 2002), this workshop seeks to demonstrate the creative responses the Universities of Queensland, Melbourne, and Tasmania have adopted to these issues.

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SYMPOSIUM SESSION: UNIVERSITY OF QUEENSLAND'S APPROACHES TO ACHIEVING TIMELY COMPLETIONS

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At the University of Queensland, research was conducted into how supervisors detected and dealt with early warning signs that their research students were experiencing difficulties (Manathunga, 2002). This study took a preventative, interventionist approach to improving timely completion rates by focusing on the strategies supervisors used to help students whose progress was being impeded by a range of factors.

A content analysis of these data revealed the types of warning signs students displayed when experiencing difficulties and the most effective strategies supervisors could use to support them (Ahern & Manathunga, in press). These strategies then formed the basis of a number of staff development sessions for postgraduate supervisors and research students. The other strategies adopted by the University of Queensland, including student evaluation of supervision, completion scholarships, and changes to annual reporting procedures, were developed as a result of quantitative and qualitative analyses of exit and withdrawal surveys.

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SYMPOSIUM SESSION:
UNIVERSITY OF MELBOURNE'S APPROACHES TO ACHIEVING TIMELY COMPLETIONS

Stella Clark and Jennifer Gilbert
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The study of 'Non-Completion of Research Higher Degree Candidature at the University of Melbourne' (Brennan et al., 2002) has generated several practical outcomes including *The PhD Calendar,* and improvements to the confirmation process. The *PhD Calendar* is a resource to assist students and supervisors in charting a course for the timely completion of a high quality PhD. The PhD Calendar (www.gradstudies.unimelb.edu.au/pgstudy/phd/calendar/) allows the student and supervisor(s) to see the whole three years of their project and to map out a path to achieve their goals. The Calendar outlines the key milestones and targets along the way, provides some tips and questions to be considered and some key references and resources. The PhD Calendar was launched in late 2002 and has been extremely well received by both academics and PhD candidates.

The confirmation process at the University has been made more rigorous and the requirements more specific. In addition, a new series of progress and completion report forms were developed to provide greater focus on the timelines and outcomes of PhD study. Included with every form is a checklist to ensure students and their supervisors have discussed a wide range of issues that affect progress. See: http://www.sgs.unimelb.edu.au/pgstudy/forms/

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SYMPOSIUM SESSION: UNIVERSITY OF TASMANIA'S APPROACHES TO ACHIEVING TIMELY COMPLETIONS

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At the University of Tasmania, the Board of Graduate Studies by Research over the past four years has implemented 52 strategies in relation to the supervision and management of RHD candidature. The Dean will describe seven of these strategies: (1) Provision of a developed book *Six Stages to the Completion of a Research Higher Degree"* for all candidates, (2) Case management of marginal candidates, (3) Revised annual review and preliminary plan (4) Registration and professional development of supervisors, (5) Training and recognition of postgraduate coordinators, (6) Extensive generic skills program for candidates, (7) Annual visits by the Dean to Schools.

Discussion topics:

- How effective would some of these strategies be in your university?
- What strategies have you developed in your university to enhance timely completions?
- What is the role of professional development for both supervisors and research students in enhancing timely completions?
- What role can School or Department postgraduate coordinators play in enhancing timely completions?

Participants were asked to bring any resources or details of strategies they have implemented to share with the symposium group.

The workshop presenters collected these examples and are preparing a comprehensive package of tools and strategies for distribution to participants and to the FIRST consortium (http://www.first.edu.au/) after the conference.

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SYMPOSIUM:
ACADEMIC AND RESEARCH SKILLS PROGRAMS FOR RESEARCH HIGHER DEGREE STUDENTS

Hugh Kearns
Flinders University
Australia
with
Wendy Bastalich, Sato Juniper, Teresa Tjia
and Fiona Zammit

Aim of the symposium

Traditionally the major teaching and learning component of doctoral programs in Australia has been research supervision by a single or panel of supervisors. This is increasingly supported by structured academic and research skills programs provided by central university organisational units. The research higher degree experience has expanded from a conventional research apprenticeship to encompass research education and professional development activities. This change acknowledges:

- government and industry needs regarding the desired attributes of graduates
- changing demands of the labour market, and
- the increasing range of graduate destinations.

This broader model of research education is expected to contribute to:

- improvement in completion rates and times
- development of a range of graduate attributes and transferable skills in research higher students, equipping them for careers across all sectors
- improvement in the postgraduate student experience and satisfaction, and
- support for supervisors given increasing workloads and student numbers.

However, little is known about the academic and research skills programs currently offered to research higher degree students across Australian universities. This session aims to maximise networking opportunities among conference participants, and to share information about some of the different programs currently being offered. The second aim is to begin a discussion about challenges and strategies in research education in order to inform future conferences, research, policy, and practice in this area.

The panel comprised the following speakers:

- Hugh Kearns (session facilitator) from the Staff Development and Training Unit at Flinders University, which runs a program now in its third year in collaboration with the University's Student Learning Centre.
- Teresa Tjia and Fiona Zammit, from the School of Graduate Studies at the University of Melbourne. The University of Melbourne's research education strategy, *Developing Tomorrow's Leaders,* is an established set of programs supporting the academic, professional, and leadership development of postgraduates from commencement to completion. It was a finalist in the 2003 Australian Awards for University Teaching (institutional category).

- Dr Wendy Bastalich is the Research Education specialist within Learning Connection at the University of South Australia. She has played a key role in developing and implementing the first comprehensive university-wide Research Education Program at UniSA.
- Dr Sato Juniper is Manager, Postgraduate Research and Scholarships Office at the University of Western Australia, where in 2004 a programme of skills development activities will be integrated, with a mix of generic and discipline-specific activities commissioned by the Graduate Research School and offered by a range of organisational areas within the University with specific expertise.

The first part of the session involved each institution's response to a set of questions about their program and institutional context. Their responses were represented in a matrix to give participants a general overview of the similarities and differences in each University's program. Each program has evolved independently of the others, and in response to institutional needs and demands, and the presentations will demonstrate the diversity in the structure and management of research education programs. The questions considered by the speakers include:

About the program

- Who coordinates and delivers the program? How is it funded?
- Is the program seen to be a single entity or a collection of events?
- Is there a logical progression of topics?
- Is the program reviewed/restructured?
- Is it compulsory for students to attend?
- How is the program received by the students and/or supervisors?
- Are students and/or supervisors involved in the design of the program?
- How is the program evaluated and how effective is this?

In the second part of the session, participants were split into discussion groups. Participants further explored the issues raised by the presenters, asked questions, shared their own experience of research education in their home institution, and began to raise questions / issues for further consideration as listed below:

Challenges and strategies

- What have been the main benefits of the program?
- What have been the main/continuing challenges?
- How do institutions deal with discipline-based approaches and issues?
- How do we integrate these programs with research supervision?
- How can we collaborate more within and across institutions, including at the national level?

These groups reported back to the main group at the conclusion of the program and developed the following matrix.

RESEARCH EDUCATION PROGRAMS MATRIX

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Primary contact person: *Position* *Phone number* *Email address*	Fran Banytis Project Officer 08 8201 3699 fran.banytis@flinders.edu.au	Teresa Tjia Manager, Academic Programs 03 8344 8468 t.tjia@unimelb.edu.au	Dr Wendy Bastalich Learning Adviser: Research Education 08 8302 2760 wendy.bastalich@unisa.edu.au	Dr Sato Juniper Manager, Graduate Research & Scholarships 08 6488 3034 sjuniper@admin.uwa.edu.au
Number of research students	830 RHD students (March 04)	13,086 postgraduate students, 4055 RHD students (Aug 03)	956 RHD students (March 04)	2115 postgraduate students; 1687 research students
Target audience	Research Higher Degree students only	All PGs. Some sessions designed for research PGs, others for coursework PGs. Some discipline specific sessions	Research students only (use DEST definition of 66% research loading and above)	Research Higher Degree students (PhD and Masters by Research)
Name of program	Research Higher Degree Professional Development Program	Preparing Tomorrow's Leaders	Research Education Program	Graduate Research Education Programme
Date first offered	2002	1995	2001	1998
Program information web address	http://www.flinders.edu.au/staffdev/rhds/home.html	http://www.gradstudies.unimelb.edu.au/services/	http://www.unisa.edu.au/resdegrees/current/REP.asp	http://www.postgraduate.uwa.edu.au/programme (currently under reconstruction, going live very soon)
Location of program (primary coordinator) *Faculty/Department, Unit or Service*	Staff Development and Training Unit (SD&TU)	School of Graduate Studies	Research Ed. Learning Connection in collaboration with Graduate Studies and Divisional research offices.	Graduate Education Officers resourced from Graduate Research School and located with Learning, Language and Research Skills Service within Student Services
Description of Program	Variety of events arranged in 4 streams: • Academic • Research • Computer Skills • Professional Development 'Off to a Good Start' program delivered into Faculties for commencing RHD students Large group forums e.g. • Applying for Ethics Approval • Examining a Thesis: what students need to know • Final Steps to Submission	A wide range of seminars, workshops courses in three stages: • Getting a flying start—orientation and induction • Adding breadth to depth—developing academic, research and professional skills • Heading for leadership—leadership and professional development Key programs include: • Academic Orientation for International Postgraduate Students (AOPIPS) • UpSkills Program • Advanced Leadership and Professional Skills (ALPS) • Supervisors' development	Comprehensive, multi-campus program for: • Commencing, continuing social science, continuing science, and completing candidates. Consists of approx. 100 workshops in 2004, in the areas of: research methodologies; methods (qualitative, survey, statistical analysis); research writing; professional development; research ethics; internationalisation; issues in applied research; and research management (supervision, candidature issues, IP, authorship, time management).	Range of workshops, seminars and courses including: Research Skills and strategies for commencing students (includes rights and responsibilities, project management, supervision, writing proposals, formulating the thesis); Thesis Writing; workshops on a range of topics including IT skills, safety, animal welfare and ethics, Intellectual Property. Key workshops delivered in two streams: Sciences & Applied Sciences and Arts, Humanities & Social Sciences

	Flinders University	**University of Melbourne**	**University of SA**	**University of WA**
Venues used (if applicable)	SD&TU, plus teaching rooms where available	Dedicated Graduate Centre and training facilities in library and university computer laboratories	Workshops are conducted in teaching rooms across the university.	Many delivered in teaching rooms co-located with Student Services; others in teaching rooms throughout campus
Duration and Timing: *Semester/Year/Short course* *Weekend/weekday /lunchtime*	Variety of options ranging from 1 hour lunch time demonstrations to 6 part intensive series	Wide range such as: ▪ 1 hour lunchtime sessions ▪ Weekly eg. 6 x 2 hours ▪ Weekend intensives ▪ 3-6 days courses ▪ After 5pm classes ▪ Online being piloted in 04	Workshops are organised into series of 3 to 9 sessions that run from March to November on weekdays and weeknights. Most are two to three hours in duration.	Variable, workshops of varying durations and offered throughout the year
Are other areas of the University involved in the program?	SD&TU and Student Learning Centre. Contributions from the Library, Office of Research, Careers Centre, Health and Counselling. Guided by the University Research Higher Degree Committee	▪ Research Consultant (librarian), Information Division ▪ Language & Learning Skills Unit ▪ Counselling Services ▪ Careers & Employment ▪ Research & Innovation Office ▪ Transition Unit ▪ Postgraduate Association (UMPA) ▪ International student service ▪ Faculties & academic departments	Academics from Schools across the University will contribute to Research Education content in 2004. Other units involved include: Counselling, Professional Development and ESL Learning Adviser teams within Learning Connection, Deans of Research, Research Ethics Committee, Students' Association, Library, and Marketing and Development.	Institute of Advanced Studies, Centre for Staff Development, Careers Service, Counselling Service, University Library, Research Ethics and Animal Care, Office of Industry and Innovation, International Centre, Safety and Health Office, Academic staff throughout the University
Who co-ordinates and plans the program?	Academic Advisor and Project Officer with administrative support from Staff (SD&TU)	Dedicated Programs Officer with support from Academic Programs Team	Learning Adviser: Research Education Learning Connection, Grad Studs Office and Divisional Research Offices.	Graduate Education Officers in conjunction with Manager, Graduate Research and Scholarships and Dean of Graduate Research School
Who delivers the sessions?	Staff from SD&TU, Student Learning Centre, Library, academic staff and external consultants	University student support units, academics and external consultants	Approx. 40 sessions by academic and other staff from the units named above, the remaining 60 by academic staff within Learning Connection, most by Research Ed. Learning Adviser.	Graduate Education Officers, Learning Skills Advisors, English Language Skills Advisor, other staff from participating central units, academic staff on request
How is it funded? *Do students pay?*	Funded by University No charge to students	Mostly university funds. Students pay small fee for short courses and intensives	University funds. Free for students	University funds. Most activities are free to students. Some have a small booking fee, and academic Schools usually pay on the student's behalf

	Flinders University	University of Melbourne	University of SA	University of WA
Aims of the program:	To create and refine a program specifically for the training and development of skilled researchers, periodically assessing and revising it over time. Assist with information dissemination through the wider RHD community and promote networking opportunities for students	Support the academic, professional and personal development of postgraduates, enrich their PG experience, assist career development, provide peer networking opportunities, meet needs of specific groups eg. international PGs. Support development of graduate attributes	Support development of research skills and knowledge at each stage of the research process, foster supportive peer networks and provide professional development.	Enrich the graduate research experience through networking and addressing specific needs; Support and enhance the development of generic and transferable skills that will assist progress at each stage of the candidature as well as in students' career development
Pedagogical strategy:	Mixture of learning opportunities provided: • large group information giving sessions • forums which invite participant in-put • small group interactive sessions • multi-part series • large group workshops. Notes for workshops available on request	Small interactive classes taught by academics and professionals, utilise student experience & encourage peer networking. Short courses enable practice and application of skills, seminars provide general introduction to topics utilising experienced academics, PGs, and professionals. Topics include: • Academic skills & thesis writing • Communication & presentation • Computer & IT skills • Critical thinking • Research skills • Grants & scholarships • Leadership & professional skills • Information skills • Career development Supported by written resources available in print & on web eg PhD calendar, supervision checklist, learning & academic guides	Most sessions are run as workshops – information provision is interspersed with regular interaction, small numbers (no more than 20), students discuss their research topics, conceptual frameworks and experiences with their peers and facilitators.	Most sessions are run as small, interactive workshops which draw on and use student experience and expertise. Academic and professional staff with particular expertise are invited to participate, and all are encouraged to interact and socialise. Printed handouts are supplied for most workshops
Proportions of students involved:	In 2003 about 2/3 of the University's RHD students attended at least one event	In 2003 student enrolments: • over 1700 in short courses • over 2400 in seminars • around 3000 in information/library skills. (Figures include coursework postgraduates)		Not available

	Flinders University	University of Melbourne	University of SA	University of WA
How is the program promoted?	Program mailed monthly, and by regular email advertising	Printed program booklet and events calendar mail out to all PGs each semester. Information also available on web and reminders sent by email	Regular emails, electronic newsletter, web site.	Regular email to students, School Research Coordinators and Heads of School, posters and calendar of events on Web
Is there a logical progression of topics?	Academic stream follows a logical progression. Other streams more ad hoc, and dependent on demand	Depends on topics. Specific programs are targeted for specific stages or student background	Yes. Commencing program: designed to support the completion of the research proposal. Continuing: composes methods and methodology. Completing: thesis writing, examination, careers, publishing.	Key workshops (Research Skills and Strategies and Thesis Writing) follow a logical progression; others depend on the topic and level of demand
Is it compulsory for students to attend?	No	No but some departments make it a formal requirement for some students and pay for them to attend	Not formally, but increasing expectation that students attend, particularly commencing students.	No, but some Schools require their students to attend, and most pay on students' behalf if there is a charge
Does the program cater to external students	Some events videotaped and handouts posted by request. Some materials available on web site	Yes - after hours and weekend intensives available for part-time and off campus students. On-line program being piloted. Assistance is available to organise on-site programs	Yes. Substantial online resources, and after hours workshops. Some video-taped sessions.	Not really, except for materials on the Web and hard copies sent to external students on request. Custom-designed activities are available on request
How is the program received by the students and/or supervisors?	Annual evaluation by students enthusiastic for first 2 years of program. Waiting lists kept for access to hands-on computer training courses	Very well - most courses oversubscribed, participants rating averaged over 4 out of 5. Very positive feedback from senior university officers, 100% satisfaction in 2003	So far so good – very positive feedback from students and the university community.	Feedback (both formal and informal) is excellent. Winner of a UWA Excellence in Teaching Award for Innovation
Are students and/or supervisors involved in the design of the program?	• Reference group includes student representatives and Post Graduate Student Association representative • Respond to requests to offer particular topics where possible	Not formally. Suggestions come from regular meetings with faculty Associate Deans (Research and Graduate Studies) and postgraduate coordinators. We regularly respond to requests and trends. Active networking with staff & students	Yes, student evaluations, university and divisional management structures, and informal networking with staff and students.	Yes, but informally through workshop participation, participant evaluations and other feedback, networking and through response to specific requests

	Flinders University	University of Melbourne	University of SA	University of WA
How is the program evaluated?	• Reviewed by stakeholders • Each event evaluated by participants • Self reporting questionnaire annually	Each activity evaluated via student evaluation form and feedback from presenters, informal review every semester based on feedback and participation. Dean of Graduate Studies reports to Faculty Deans annually on participation rates and feedback (quantitative & qualitative). Some programs evaluated for learning outcomes. Senior university staff formally surveyed as part of annual quality/evaluation cycle	Student evaluations of workshops, facilitator self-assessment, peer review, email feedback collected by divisions, formal feedback through divisional and university management structure.	Participant evaluations, surveys as part of normal cycles of review, postgraduate exit survey
Innovative features:	Focus on academic development. Sited in SD&TU so that students share many events with academic/general staff members. Innovative workshops on motivation, time management and defeating self-handicapping eg: • Defeating Self-Sabotage and Getting Your Thesis Finished • 7 Habits of Highly Effective PhD students • Emotional Roller Coaster to Completion • Goal Setting for RHD Students	• Integrated, coordinated university wide program supporting development of graduate attributes, timely & quality completions, and postgraduate student experience from commencement to graduation. • Evaluation of learning outcomes. • Acknowledgement of student participation via certificate and statement on testamur (conditions apply) • 2003 finalist in Australian Awards for University Teaching, Institutional Award for Student Support Services	• Significant academic content especially in the areas of research methods and methodology. • Comprehensive, university wide program, web site, and handbook and increasing links with Divisional and School offerings. • Integration of Graduate Qualities • Division of program into commencing, continuing, and completing needs. • Pedagogical strategy in which students develop written drafts of research proposals in successive sessions	Integration of academic and personal development topics and activities, in conscious recognition that the graduate research experience is a mix of intellectual and personal challenges and achievements. Winner of a UWA Excellence in Teaching Award for Innovation

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INTERNATIONAL POSTGRADUATE EDUCATION: WHO BENEFITS?

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Introduction

Australian institutions make claims based on their quality, integrity and reputation as decent providers of postgraduate education. If they are to remain competitive in the international arena, then they will need to pay more attention to the aims and goals of international student home countries to ensure mutual benefits.

What are the benefits for Australia and Asian countries from international education? Why does Australia remain popular among Asian students—high quality research education, sophisticated marketing techniques or the first step in the migration process? Is there a balance in the benefits received by Australia and student's home country? What are the outcomes—student satisfaction, employment opportunities and/or the ability to apply acquired knowledge and skills in the home environment? Full-fee payment policy international programs, are they confined to the wealthy elite? What can be done so that the poor do not miss out on international education?

International postgraduate training in Australia & Asian countries

Every year, Australia attracts increasing numbers of postgraduate students from all over the world. The number of students commencing their Doctorate and Master research/coursework degrees has risen by over 22%, from 42,485 in Semester 1, 2002 to 52,135 in Semester 1, 2003 (AEI, 2004).

The market is growing, wit the top six source countries being China, Malaysia, India, Indonesia, Singapore, Hong Kong (Market Indicator Data, AEI, 2004)

International *Education*

How have the international education rationales changed their priorities in Australia and Asian countries over a period of 50 years?

Rationales	***Stages of Development***
Political 	Post-Second World War (The Colombo Plan) (PWWII)
Academic 	Post-Cold War (PCW)
Socio-cultural 	Recent decades (Globalisation and IT) (RD)
Economic 	Future perspectives (Next 25 years) (FP)

Policy aims in Australia	Stage	Policy aims in Asian countries
• Educational aid to Asian countries • Need for power balance in the region (new independent nations, spread of communism, geographical proximity, no other developed countries) • The White Australia Policy is NOT racist	PWWII Colombo Plan	• Restoration of pre-war conditions (infrastructure, economy, social conditions) • Agricultural industrialised society • •Emergence of a large number of professionals educated overseas
'Educational aid' 'educational trade' Funding cuts to full fee-paying students • decreased aid obligations • marketisation policies • exporting education to other countries • offshore, distance & online education	PCW	Globalisation: • new form of colonialism? • threat to national & cultural identity? • English – 'a language of imperialism'? • emergence of transnational education
New emphasis on: • professional and continuing education • life-long learning • comparative and international dimension • attracting highly educated immigrants	RD Globalis-ation & IT	Globalisation: • new form of colonialism? • threat to national and cultural identify? • English—'a language of imperialism?' • emergence of transnational education
Nine-fold increase might cause change in Universities' physical capacity and academic profile	FP	Grand scale of transnational education

Conclusion

International postgraduate education has been placed on national agendas in Australia and Asian countries and has been driven by four rationales that can serve as indicators of the received benefits.

While quality remains the first priority, responsiveness of international programs to Asian countries' needs and expectations is the second in importance, and care should be taken to ensure mutual benefits.

The discussion over benefits is dominated by financial benefits to Australia, while the expectations of, and benefits for, the Asian countries are often overlooked. Benefits gained from international education are crucial for Asian countries. The impact of these benefits is a key to their further development and prosperity, and the way to cross-cultural understanding in a global world.

The internationalisation of postgraduate education requires honourable relationships with the emphasis on guaranteed and demonstrable mutual benefits.

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INTERNATIONALISING THE POSTGRADUATE EXPERIENCE

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This poster describes attempts to create an atmosphere with an international research focus within the field of Soil and Land Systems. The process involves strategies to attract and retain international students; to create an inclusive research culture within the group; to send all postgraduates to overseas conferences and/or to work with research groups overseas; and to boost publications by postgraduates with international groups. The poster identifies administrative and educational issues that need to be addressed and raises questions about how to improve further the international focus of research students.

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STUDYING ATTRITION: CHALLENGES AND OPPORTUNITIES

Helen Papaefthimiou and Robyn Barnacle
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The poster reports on a study being undertaken at RMIT University which is looking at attrition from the 1998 commencing cohort of research students. This is the first study of this type being undertaken at RMIT. The poster will present some initial findings and comment on some of the challenges and issues faced in designing and carrying out a study of this type.

In 1998, 429 candidates commenced a new research program at RMIT. By July 2003, 42% had withdrawn without completing a research degree [at RMIT], 34% had submitted for examination and 25% were still enrolled.

The discussion will cover the challenges in defining and identifying the population to be examined; locating file information, particularly for early attriters and especially where organisational restructures had occurred; and constructing these students' stories to identify the factors which led to their attrition.

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BENCHMARKING UNIVERSITY RESEARCH PERFORMANCE USING RRTMR DATA

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Abstract

The emphasis of recent government policy has been on universities specialising in their areas of research strength. A feature of this has been universities identifying research concentrations in their Research and Research Training Management Reports. This paper explores whether there is a relationship between the number of research concentrations and university research performance as measured by income, students, and publications. For the science-based discipline clusters income appears to be the prime determinant of concentrations, while for the social science discipline cluster, students appear to be the prime determinant.

Introduction

A major emphasis of government policy as it relates to university research in recent years has been the view that universities should specialise their research efforts in their areas of research strength, [for example, see Kemp (1999) and Nelson (2002)]. The government has monitored this need for greater specialisation by the requirement that universities report on their areas of research concentration in their annual Research and Research Training management reports (RRTMR). An overview analysis of the RRTMRs is provided by DEST (2002,2003).

A research concentration is a group of researchers in a broad research area who produce research output that can be benchmarked as being of national or international standing. A number of challenges exist for Australian Universities in the identification of their research concentrations. First they need to collect a range of data (research income, research students, publications, impact) on the performance of their research groups. Fortunately, most of this raw data is already collected to meet other legislative requirements. Second, they need to define a set of benchmarks against which they can compare their research performance. This is more problematic and, as DEST (2002, 2003) indicate, different universities have undertaken this task in different ways, from external audits to the setting of performance metrics.

The major challenge in the benchmarking exercise is that data on research performance at a discipline level is needed. While it is well known that a subset of universities are research intensive in the aggregate [see inter alia Marginson (1999), Nelson (2002)], it remains an open question as to whether the same patterns exist at a discipline level. In some disciplines, for instance economics and finance, detailed external benchmarking on publications by journal quality is undertaken. This analysis has been done with journals categorised into broad groups by measures of quality such as citation impacts or professional standing [see inter alia Towe and Wright (1995), Sinha and Macri (2002)], with wider comparisons of Australia in the Asia-Pacific region [see Chan, Chen and Steiner (2001)] and by comparison of paper downloads with publications and grant outcomes [see Brooks (2003)]. In the broad, this analysis reveals some differences in research intensity, particularly as the set of journal publications is widened. Of course it is likely that publication outcomes vary across disciplines, requiring a large number of detailed level studies.

A simpler way to proceed is to use the data provided in RRTMRs to make some general findings about how the universities have collectively dealt with benchmarking and the identification of research concentrations. For each university, the DEST (2002, 2003) overviews of the RRTMR

provide data on income students (total and the number in research concentrations) the number of staff who earned income, supervised students, and produced publications the number of research concentrations, and a breakdown of most of this data into one of three broad discipline research clusters, firstly, science and technology secondly, health and medical, and thirdly arts, humanities and social sciences. It is possible to use this data to produce per head and per concentration measures of research performance that can then be compared across universities and broad discipline clusters.

The plan of this paper is as follows. In section 2, an analysis of university level data is carried out around income, students, and publications per head and per concentration. This analysis also provides comparisons across broad groupings of universities in the Australian setting. Specifically, the analysis considers the research-intensive traditional Group of Eight (GO8) universities, as well as the newer universities created out of the old institutes of technology, that make up the Australian Technology Network (ATN). Section 3 then presents an analysis comparing the income and students per head (identified as active researchers in the RRTMR) and per concentration measures across the three broad discipline clusters. This provides some broad data comparing across disciplines. Section 4 then presents a regression analysis, trying to explain the number of research concentrations as a function of income, students, and publications. This analysis is carried out at the university level and at the level of the broad discipline clusters. Section 5 contains some concluding remarks.

University Level Data

There are four separate components to the analysis at the University level. First an analysis is conducted of income per head measures across universities. Second an analysis is conducted of students per head measures across universities. Third an analysis is conducted of publications per head across universities. Fourth an analysis of income, students, and publications measures per concentration is conducted.

Income

For each of the 40 universities, the income per head as identified in the RRTMR was calculated (income divided by the number of staff who generated research income). The national average income per head is $116,000 with a range of $20,000 to $221,000. The average income per head for the Go8 universities is $152,000, while for the ATN universities the average is $77,000. To test for differences across groups of universities, t-tests were conducted. The results indicate that Go8 universities have a significantly higher income per head than other universities (p-value=0.0002)1. In terms of comparisons for the non Go8 universities, the ATN universities income per head is not significantly different from the other non Go8 universities (p-value=0.9863).

Students

For each of the 40 universities, the students per head as identified in the RRTMR is calculated (total HDR students divided by the number of principal supervisors). The national average students per head is 2.194 students, with a range of 1.023 to 3.165. The average students per head for the Go8 universities is 2.392, while for the ATN universities the average is 2.324. To test for

1 The p-value measures the probability of observing a value of the statistic as extreme or more extreme than the calculated value given the null hypothesis is true. As such, a p-value of 0.05 tells the reader that the calculated value of the test is significant at the 5% level.

differences across groups of universities, t-tests were conducted. The Go8 universities are found to be significantly different from the other universities (p-value=0.0859), while the ATN universities are found not to be significantly different from the other non Go8 universities (p-value=0.2006).

Publications

The RRTMR data only includes details on the number of staff who produced publications. Thus data on the number of publications was sourced from AVCC (2002). For each of the 40 universities the average publications per head (calculated as total publications in all four DEST categories divided by number of staff who produced publications) was calculated. The national average publications per head is 1.357 with a range of 0.877 to 2.540.

The average publications per head for the Go8 universities is 1.486, while for the ATN universities the average is 1.233. To test for differences across groups of universities t-tests were conducted. The results indicate that Go8 Universities are not significantly different from the non Go8 universities (p-value = 0.2744), further the ATN universities are found to not be significantly different from other non Go8 universities (p-value = 0.4034).

Concentrations

The RRTMR also includes data on the number of research concentrations for each university. For students, the data also indicates the number in each research concentration. Thus, it is possible to identify the average number of students in research concentration. In contrast, the only data available for income and publications is the total number. If all income and publications were assumed to be in areas of concentration, it would be possible to identify average income and publications per concentration. To calculate some approximate numbers this assumption will be made, although it should be recognised that this will overstate the average income and publications per concentration.

The results in table 1 report the average income, students, and publication measures per concentration for the national average, Go8 and ATN.

Table 1: Average research output measures per concentration

	National	Go8	ATN
Income	$2,432,393	$6,428,879	$1,394,722
Students	46.497	104.759	41.523
Publications	57.823	128.212	44.088

The results in table 1 show that the Go8 universities are well above the national average on all research output measures, while the ATN universities are well below. To test for differences, a series of t-tests were conducted. These reveal that the Go8 universities are significantly above the national average on all three research output measures in income (p-value=0.00150, students (p-value=0.0115) and publications (p-value = 0.0019). This implies either that the Go8 universities have higher output levels per concentration and/or that they have higher research output levels outside their research concentrations. In contrast, a comparison of the ATN universities with the other nonGo8 universities reveals no significant differences in performance on any of the research output measures – income (p-value = 0.9805), students (p-value = 0.7561, and publications (p-value = 0.8533).

Discipline cluster data

The data in the RRTMR is also disaggregated into one of three broad discipline clusters—science and technology (S&T), health and medical (H&M), and arts, humanities, and social sciences (AHSS). Thus, it is possible to analyse whether measures of research intensity such as income per head and students per head vary across the broad discipline clusters. Unfortunately, publications are not disaggregated by broad discipline cluster.

An analysis of the income and students measures is reported in table 2.

Table 2: Income and Students per head by discipline cluster

	Income ($'000)	Students
Science & Technology (S&T)	$98.611	1.839
Health and medical (H&M)	$141.964	3.885
Arts, Humanities and Social Science (AHSS)	$55.105	1.524

The results in table 2 show a clear ordering of research activity levels by broad discipline cluster. Specifically, the ordering is health and medical (H&M), followed by science and technology (S&T), and then arts, humanities, and social sciences (AHSS) specified for, both the students and the income measures. To make a more formal comparison, t-tests for significant differences were carried out. As regards the students per head measures, the differences observed are not significantly different. The p-values for the t-tests are S&T vs. H&M (p-value = 0.2519), S&T vs. AHSS (p-value = 0.1264), and H&M vs. AHSS (p-value = 0.1877). In contrast for the income per head measures, the differences are statistically significantly. The H&M income per head of $148,000 is significantly greater than that of S&T (p-value = 0.0541) and AHSS (p-value = 0.0002). The S&T income per head of $98,000 is significantly greater than that of AHSS (p-value = 0.0000).

In a similar manner to that of the university level data, it is also possible to analyse income and student levels per concentration on a discipline cluster basis. For the analysis of income, the simplifying assumption is made that income is earned by research concentrations, again recognising that this leads to an overstatement of the average research income per concentration. For the analysis of students, data is again available on the number of students in areas of research concentration. An analysis of the income and students data is reported in table 3.

Table 3: Income and Students per concentration by discipline cluster

	Income ($'000)	Students
Science & Technology (S&T)	$2689.535	48.208
Health and medical (H&M)	$5804.930	120.827
AHSS	$845.928	51.183

The results in table 3 show the same clear ordering for the per concentration measures as for the per head measures. That is, the highest levels are obtained for H&M, followed by S&T, and then AHSS on both the student and income measures. To again make a more formal comparison, t-tests for significant difference were carried out. As regards the student measures the findings are again of no significant differences across the discipline clusters. The p-values for the t-tests are S&T vs. H&M (p-value = 0.2749), S&T vs. AHSS (p-value = 0.8140), and H&M vs. AHSS (p-value = 0.2939). In contrast for the income measures, the differences are again statistically significant, although not as strong when comparing the two science-based areas to the social sciences. The H&M income per concentration of $5.8 million is significantly greater than that of S&T (p-value =

0.0541) and AHSS (p-value = 0.0002). The S&T income per concentration of $2.7 million is significantly greater than that of AHSS (p-value = 0.0000). There are again two possible reasons for this difference in income across the concentration measures. First, the income needed for a research concentration is higher in the H&M and S&T discipline clusters. Second, H&M and S&T have more income outside concentration areas and by making the approximation of attributing all income to concentrations, the analysis is overstating their average level. In all likelihood, a combination of these two factors is at work.

Number of concentrations

As DEST (2002) makes clear, the number of identified concentrations per university varies from a low of 2 to a high of 54. The issue is whether there is any relationship between the number of research concentrations and research performance as measures by income, publications, and students. With respect to the performance measures one could use their overall level, or break that into its constituents, the per head measure and the number of staff producing the output. This suggests two possible regression models:

$$\text{Concentrations} = \alpha_0 + \alpha_1 \text{Income}_i + \alpha_2 \text{students}_i + \alpha_3 \text{publications}_i + u_1 \quad (1)$$

$$\text{Concentrations}_i = \beta_0 + \beta_1 \text{IPH}_i + \beta_2 \text{EARN}_i + \beta_3 \text{SPH}_i + \beta_4 \text{SUP}_i + \beta_5 \text{PPH}_i + \beta_6 \text{PUB}_i + v_i \quad (2)$$

Where IPH, SPH and PPH are income, students, and publications per head respectively, EARN is the number of staff who earned research income, SUP is the number of research student supervisors, and PUB is the number of staff who produced publications.

It is possible to estimate equations (1) and (2) at both the university level and the discipline cluster level, although it should be noted that for the discipline cluster regressions, publications data is not available. The results of estimating equation (1) are reported in table 4, while the results of estimating equation (2) are reported in table 5. The tables report conventional ordinary least squares (OLS) regression parameter estimates, p-values, R^2 (to measure goodness of fit) and—where the White test is significant—heteroscedasticity consistent p-values.

Table 4: Regression Estimates of equation (1)

	Income	Students	Publication	R^2	White
Overall	-0.00004 (0.6702)	0.00673 (0.3824)	0.00222 (0.7836)	0.1833	17.472 (0.042)
S&T	0.00008 (0.0000)	0.00247 (0.5133)		0.3249	9.195 (0.056)
H&M	0.00005 (0.0633)	-0.00069 (0.3817)		0.1184	7.046 (0.133)
AHSS	-0.00022 (0.4182)	0.00719 (0.0660)		0.1229	4.308 (0.065)

Table 5: Regression Estimates of equation (2)

	IPH	EARN	SPH	SUP	PPH	PUB	R^2	White
Overall	0.06222 (0.1746)	-0.01228 (0.5140)	2.70459 (0.4089)	0.04507 (0.0487)	5.74616 (0.1615)	-0.01654 (0.1100)	0.3994	35.482 (0.0127)
S&T	0.00666 (0.6104)	-0.00541 (0.6690)	-0.03181 (0.9548)	0.02229 (0.1464)			0.3881	15.984 (0.042)
H&M	0.00325 (0.5067)	-00435 (0.8192)	-0.02882 (0.5853)	0.01208 (0.5864)			0.1173	6.190 (0.626)
AHSS	-0.00193 (0.8957)	0.00806 (0.7777)	1.64942 (0.1825)	0.00185 (0.8439)			0.2171	14.247 (0.075)

The results in tables 4 and 5 show that at the overall level the research output measures do not provide a good explanation of the variation in the number of concentrations across the cross-section of Australian universities. The results in table 5 show that a slightly better explanation is provided in the regression that utilises the per head and number of contributors of measures. Despite this, the only variable found to be significant is the number of supervisors.

The discipline cluster regressions are analysed on less data because a number of Universities either do not report research concentrations in a discipline cluster (particularly so for H&M) or do not report disaggregated research performance measures at the discipline cluster level. Thus, for the S&T and AHSS there are observations for 37 universities, while for H&M there are observations for 31 universities.

In contrast to the overall level results the results, at discipline cluster level appear to show some relationship between the measures of research performance and the number of research concentrations for regression equation (1). The results in table 4 show a different importance to the different research performance measures in different clusters. For the two science-based clusters (S&T, H&M), income and not students is found to be significant. In contrast, for the social science and humanities based cluster (AHSS), students and not income is found to be significant. This suggests that differences in the research production mix across broad discipline groups have been captured, on average, in the different methods used to identify research concentrations in the different universities.

In contrast to the results in table 4 at the discipline cluster level, the results in table 5 are disappointing. There are no significant variables when the data is further disaggregated to numbers of research active staff and research activity per head measures.

It is possible to use the parameter estimates in table 4 together with the measured research performance of a given university to determine the point estimates from the model for the number of research concentrations. The example chosen is RMIT. According to DEST (2002) RMIT has 22 research concentrations distributed as 9 in S&T, 3 in H&M and 10 in AHSS. The fitted values for RMIT, using the individual equation estimates in table 4, are 5 in S&T, 2 in H&M and 7 in AHSS. As a robustness check, the equations were re-estimated with only the significant variables. This leaves the fitted values unchanged. As a further robustness check the fitted value for RMIT for the number of research concentrations in the overall regression was also determined. This fitted value

is 15.6. This is slightly more than the 14 concentrations arrived at from summing up the discipline cluster regressions. This is in part due to the fact that publications appear in the overall regression and not the discipline cluster regressions.

Conclusion

This paper has explored the relationships between university research performance and the number of research concentrations they identify in their RRTMR. A series of comparisons is conducted by both university type and discipline cluster. The results show that the Go8 universities have higher performance on a number of measures than the national average. At the discipline cluster level higher research intensity measures are obtained for the sciences-based discipline clusters, as compared to the social science-based discipline cluster. A regression analysis of the relationship between the research performance measures and the number of research concentrations reveals differences between the sciences and the social sciences. For the sciences, income is found to be the prime determinant of the number of research concentrations. In contrast, for the social sciences, income is not significant, and students are found to be the prime determinant

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EVALUATING SUPERVISION: CAN WE DO BETTER?

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Quality assurance principles would suggest that we evaluate supervision against clearly defined performance indicators (PIs). Attempts to do so, however, face several problems, including:

- the range of stakeholders involved, each of whom specify different PIs – the result is a very long list of PIs!
- discipline differences leading to differential emphasis on different PIs
- uncertainty among both academic staff and students about how evaluative information might be used
- serious concerns about the cost/benefit of the whole exercise.

Failure to engage in the development of an appropriate form of evaluation of supervision leaves us with a few, very crude, PIs – completion rate and completion time. However, an attempt at one Australian university to specify a useful and acceptable list of performance indicators raised the following questions:

- why are we evaluating supervision?
- should the focus of evaluation be on the individual supervisor or is this a collegial responsibility?
- should student evaluation of supervision be part of a developmental process or of a summative one – or can it do both?
- is a university-wide process possible in the light of disciplinary differences?

Progress in this area will only be possible if these questions can be addressed.

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SYMPOSIUM:
ASSESSMENT AND ITS IMPLICATIONS FOR RESEARCH EDUCATION

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with
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Miranda Lawry, Terry Lovat, Yanping Lu
Melissa Monfries and Jill Scevak

Aim of the symposium

A number of developments in recent years have directed attention to the cost, quality, and contribution of Research Higher Degree (RHD) study. These include the growth in RHD enrolments, changing enrolment patterns, the entry of new fields into the research arena, and the emergence of new modes of delivery. Concerns about student satisfaction, candidate completion rates, and the equivalence of doctorates across fields and institutions have shadowed these developments. There is a need to develop a robust theoretical base to inform research education, but in many respects this has been difficult because practices are so variable and, until recently processes have not been well-documented. The papers presented in this symposium specifically address assessment in RHD candidature—how it is used and understood. In a little explored field they contribute insights into the expectations that govern supervisory practices.

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SYMPOSIUM SESSION:
EVALUATING SOME FUNDAMENTAL FEATURES OF DOCTORAL ASSESSMENT

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This paper brings together three strands of findings from a large-scale project on PhD assessment that draws on the text of examiner reports and data on candidate history from a number of institutions and disciplines. The first explores the play of power in PhD examiner reports and what this reflects about examiner expectation. The second addresses the administrative framework for examination and how guidelines impact on the examination process. The third focuses on thesis quality, specifically what distinguishes the top doctoral theses from those that require resubmission, and how this calls into question our understanding of what a doctorate should be. The authors reflect on the implications for supervisor training and improving examiner guidelines.

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SYMPOSIUM SESSION:
SUPERVISOR CONCEPTIONS OF A DOCTORATE AND THEIR RELATIONSHIP TO A DEVELOPING ASSESSMENT FRAMEWORK

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Note that other authors have drawn attention to the paradox that there is little cross-institutional agreement as to what actually constitutes a doctorate, and, very few submitted doctorates fail to achieve the award. The authors argue that a major explanation of this paradox may lie in the implicit understandings of supervisors. They begin with the conceptions of the doctorate and the doctoral process expressed by supervisors during interviews and then address the issue of defining 'doctoral level' of outcome through the application of the SOLO Taxonomy. The analysis of the interview data indicated an implicit awareness on the part of supervisors, regardless of discipline, of the desired modality of thinking underlying doctoral research (an 'extended abstract' modality) and of the need for explicit coherence within the thesis (a 'relational' outcome within mode).

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SYMPOSIUM SESSION:
THE FINE ART HIGHER DEGREE EXAMINATION PROCESS

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In some fields, the understandings themselves are in the process of development. This work is concerned with doctorates in Fine Art. The introduction of doctoral research in this field has heightened debate around fundamental questions about the nature and scope of research in the creative arts, the outcomes of research as a contribution to Art, and how research that is practice-based can be equated or compared with research in other disciplines. The phase of the study reported here draws on 15 interviews with Fine Art examiners of masters and doctoral level students and explores how they approach the written and exhibition component of the examination, what they perceive their role to be and what qualities they look for in the various components of the examination (e.g. the exhibition, the accompanying program notes, and the exegesis).

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SYMPOSIUM SESSION:
IMPROVING THE PRACTICE OF POSTGRADUATE SUPERVISION THROUGH CONSTRUCTIVELY ALIGNED ASSESSMENT: THE VIEWS OF EXPERIENCED SUPERVISORS

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This paper addresses the problem of determining how postgraduate supervision can be improved through constructively aligned assessment at different stages of a postgraduate research project. Ten experienced supervisors from different disciplines and faculties were interviewed regarding assessment at different stages of the supervisory process. Five stages were in evidence (diagnostic, formative, summative, reflective and reflexive). Of the five, the diagnostic stage was regarded as being of vital importance, especially the diagnosis of research and writing skills. The informants indicated diagnosis should take place before registration and include an oral examination on selected reading material or an article that the student has to write (or read and summarize). The research proposal proved to be a valuable tool in assessing the candidate's preparedness for research.

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SYMPOSIUM SESSION:
SUPERVISOR EXPERIENCES OF EXTERNAL EXAMINATION OF APPLIED RESEARCH IN BUSINESS

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This paper looks at the examination process for 'new' forms of postgraduate research in Business, including professional doctorates and applied research projects. It reports how supervisors who have been particularly mindful of how to select appropriate examiners for this type of project may be surprised and dismayed by the reports, leading them to question their judgement. Examiners may appear to be inconsistent and to differ widely in their opinions. The author suggests that, while supervisors can be tempted to advise candidates to write for particular examiners in order to avoid negative feedback, choosing the most appropriate examiners closer to completion may be preferable. 'Diverse' feedback can be used to help candidates to learn how to respond to what may at first seem to be unfair criticism.

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A FINE PARTNERSHIP: LIBRARIANS PROVIDING A VITAL LINK IN SUPPORTING POSTGRADUATE STUDENTS WITH THEIR RESEARCH

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For too long, librarians have designed services and programs on their understanding of what is needed rather than working with academics and students in determining their information and skill needs. The literature now includes more critical reviews of effectiveness of faculty liaison. Recent articles provide snapshots of academic perceptions of librarians' skills and the academics' requirements for 'good library services'. The themes that emerge from these articles are that libraries need to be cognizant of the faculties changing needs; librarians should make concerted efforts to build strong relationships with faculty; and librarians who understand research agendas of academics are better able to provide services and resources that support research at their institution.

The poster session discussed the experiences of a librarian based in the School of Graduate Studies University of Melbourne; the changing information needs of postgraduates, and experience of working on the development of a web-based course, 'Postgraduate essentials: strategies for a successful start to your PhD'. This web-based program, to be piloted in late April 2004, is targeted to postgraduate students based in country campuses and teaching hospitals. It aims to equip research postgraduates with the research skills and management tools essential for the first six months of candidature. This program is jointly developed by School of Graduate Studies, Language and Learning Skills Unit, and the Information Division.

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PHD COMPLETION WITHIN FOUR YEARS

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Abstract

Our study contributes to the growing body of work examining the factors that may influence research students' timely completion by examining the profile of 94 students who were awarded PhD's during 2003. We calculate the average completion time for a PhD at one institution and discuss some factors that may have influenced time taken to complete.

Introduction

In recent years, Australian Universities' have increased their focus on ensuring timely completion of Research Higher Degree (RHD) students. This focus is in response to government formulaic funding models that reward timely completions.

Australia's Research Training Scheme, administered by DEST, offers domestic Doctor of Philosophy students' tuition costs for the equivalent of four years full time study. Complementing this, there are a range of scholarships that provide three years of full time funding to support domestic and international research students' living expenses. These funding arrangements are designed to encourage completion within 3-4 years.

Timely completions are a factor in a number of government policy initiatives seen around the world (OECD, 1987). A range of studies continue to try to define factors that may be influencing timely completion (Latona and Browne, 2001; Wright & Cochrane, 2000). The conclusion of many of these studies is that achieving timely completion is a complex business. A number of factors have been identified and a range of categories of factors identified. This study tries to go a step further by relating some of these factors to time taken to complete.

Factors influencing completion

Our first step was to determine factors to be examined. Because this study is focussed on completions of PhD students at only one University, it does not consider the elsewhere focussed category of factors under the OECD (1987) heading of Institutional factors. This is not to say that Institutional factors are not significant, only to acknowledge the limitations of this study.

In considering the student factors, the researchers considered the range of data available, as collected through candidature. The student factors presented in this study are:

- Length of candidature (excluding leave and accounting for study mode)
- Age of candidate
- Gender of candidate
- Discipline of research
- Scholarship status of candidate
- Study Mode of candidate
- Supervisor history of candidature

The next step was to identify a group of 94 PhD candidates who had completed candidature during the year 2003 at the Queensland University of Technology. The group selected had completed course requirements and been recommended as graduands between March and December 2003.

Length of Candidature

The length of each candidature was then calculated. This was determined by first subtracting the date of completion from the date of commencement. This gave a term of candidature in days. Any terms of leave were then subtracted from this term of candidature in days. This figure was then multiplied by a study mode factor (i.e., full time 1; part time .5). It should be noted that the study mode used was that at the time of lodgement of thesis for examination. (It was later identified that a number of students had change study mode during their term of candidature. These changes were not taken into account in the calculation. This would have required considerable additional calculations, and the researchers were not confident that this would significantly alter the data enough to justify time taken.) Finally, the days of candidature were converted into years by dividing the days taken by 365.25.

As a result of these calculations we were able to identify the longest candidature (7.5 years), the shortest candidature (2 years) and the average candidature (3.7 years). These results suggested that, on average, PhD students at QUT were completing within the 4 year maximum funded period, as defined by the Research Training Scheme in 2003.

Completion in the equivalent of two years was achieved by three students. All had been studying part time, without scholarship. (To verify that the completion times were correct, we reviewed the study mode of each candidate and confirmed that none had changed study mode during their term of candidature.) None had taken leave during their term of candidature. All three candidates were over 35 at the time of completion. One of the three had changed supervisor, and this had occurred 6 months prior to lodgement of the thesis for examination. Further work would be required to confirm if there is any significance to the relationship seen here between timely completion and mature age, part time, non scholarship holders.

The longest term of candidature involved one full time candidate who had been awarded a scholarship.

Scholarship

Having noted that the awarding of a scholarship had not been a factor in the fastest completions, it was decided to review the performance of scholarship holders in comparison to non scholarship holders. It was found that 40% of non scholarship holders completed in less than 3 years. Thirty percent of scholarship holders completed within 3 years. Comparing the same group, based on completion in 4 years, 60% of non scholarship holders completed in less than 4 years while slightly less than 50% of scholarship holders completed in less than 4 years. Further work would be required before confirming that the scholarship status alone affected completion time. For example, disciplines with slower completion times may have been more highly represented in the pool of scholarship holders. These results appear to deserve further consideration to establish the potential role of scholarships in achieving timely completion. A better understanding may inform policy guiding scholarship management.

Candidate Supervision

A brief examination of supervisor histories showed that 86% of candidates in the pool maintained the same principal supervisor for the term of their candidature. The majority of those who changed supervisor did so very early or very late in candidature. To test the seemingly strong correlation between completion and consistency of supervision, a review of the supervisor history of discontinuing students was undertaken. In the discontinuing pool it was found that more than 80% of candidates had maintained the same principal supervisor during the term of the incomplete candidature.

This outcome may signal that at the institutional level, change of supervision is not encouraged. It may also indicate that a level of trust and dependence develops between the candidate and supervisor during any candidature, regardless of outcome. No conclusion can be reached on the meaning of this finding without further investigation. It is suggested that this may involve interview, with students and supervisors to explore how the supervisory process informed the candidature. Again, it would be hoped that better understanding would inform policy and procedure in relation to supervision.

Candidate Profile

Other factors considered in building a profile of the candidates in the completing group were gender, study mode, and discipline. It was found that males and females were represented in equal numbers. Sixty eight percent of those who completed had been awarded a scholarship during the term of their candidature. Fifty nine percent of candidates were full time at the time of lodgement of their thesis for examination. Twenty four percent of completing students had taken leave during their candidature. Discipline-specific average completion time varied:

Discipline	**Time taken in Years**
Business	4.3
Creative Industries	2.83
Education	3.7
Engineering	4.3
Health	3.7
Humanities	3.75
Information Technology	3.72
Law	2
Science	3.8

It would be worthwhile comparing the profile of completing and commencing students as well as discontinuing students. Such an exercise would be seeking to identify factors favourable for timely completion. This may inform action by the universities or DEST to address factors that may be obstructing completion.

Discussion and Conclusion

This study explored the relationship between length of candidature (of completed PhD candidates in 2003 at one institution) and a number of student-related factors. The study identified some possible relationships between student-related factors (i.e., scholarship, age, study mode, and supervisory history) and completion, that require further investigation.

This study had a number of limitations. Firstly, it did not consider institutional factors, such as infrastructure support and admissions requirements. This was justified because the study focussed on only one institution where standards relating to infrastructure and admission were consistent for all PhD students. Secondly, interviews with candidates to establish levels of motivation, commitment, and completion outcomes were not conducted.

Finally, another important area ignored by this study was the quality of research outcomes of the candidature (i.e., examiners' reports on the theses and publications generated). Consideration of the relationship between the quality of the research and the researcher and length of candidature would be an interesting area to explore in the future. While these would have informed understandings about student factors and timely completion, they could not be undertaken given the limited resources and time available.

In conclusion, we have confirmed that on average students have completed their PhD's within 4 years at QUT during 2003. Early data has identified some potential relationships between student factors and timely completion that require further investigation. Some potential benefits of such investigation have been presented and will hopefully encourage further research.

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WHAT WOMEN WANT – MODELLING QUALITY EXPERIENCES FOR WOMEN IN RESEARCH HIGHER DEGREES

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In 2002, the Monash Postgraduate Association (MPA) commissioned Andrea Beel to examine issues for women undertaking higher research degrees at Monash University. In particular, the study aimed to identify and highlight some of the best practices that had been developed and adapted at Monash and elsewhere, so that women researchers across all faculties could be encouraged and supported through to successful completions.

The report identified a need for increased flexibility to meet individual needs, including options for part-time research, information on the availability of childcare and family support programs, realistic information on career options, an encouraging and supportive environment, and additional financial support. The summary report by Ferrier (published December 2003) and full data report by Beel are available online at: <http://www.monash.edu.au/students/mpa/publications>

This presentation focussed on the key issues identified by the report and the corresponding recommendations for best practice. Participants were invited to share examples of best practice from their own institutions, that address the issues identified by this study.

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BUILDING A SUPPORTIVE AND EFFECTIVE POSTGRADUATE RESEARCH COMMUNITY AT UNSW

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and Jacquelyn Cranney
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This poster describes research conducted across UNSW to determine the broad needs of the postgraduate research community. A combination of questionnaires, interviews, and focus groups was used to survey relevant stakeholders to gain an overview of existing knowledge of online resources, training opportunities, relevant guidelines, and current concerns. In general, use of online resources and knowledge of guidelines was relatively poor. Training within Schools focussed on research-related skills, and few opportunities were available for career development. A need for better support and training of coordinators and supervisors was identified. A number of initiatives to address such issues were introduced. In particular, a Postgraduate Research Interest Group was established to facilitate communication amongst interested stakeholders, such as co-ordinators, support staff, and student representatives. Working parties have since addressed orientation and induction of students and staff, coordination of support service delivery, and clarification of the role of postgraduate coordinator/ administrator roles.

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QUALITY AND THE PRESSURE TO COMPLETE: THE EXPERIENCES OF DOCTORAL SCHOLARSHIP HOLDERS – A SUMMARY

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Introduction

This research aimed to identify the main barriers or impediments to doctoral students' progress with a view to enhancing research education either by side-stepping those barriers or putting in place means by which they could be ameliorated. This could lead to more efficient research, without a reduction in quality or significance of the research problem. The research investigated the experiences of doctoral scholarship holders, those whom we might expect to be our most able students.

Method

This research focused on higher degree by research students who held centrally-administered scholarships at Curtin University of Technology and became eligible for an extension to their scholarships from 1996 to the end of 2003. The target population included 484 students whose full-time enrolment equivalent exceeded the initial expiry period of the scholarship, and those intending to apply for extensions would have done so.

The study was conducted in two stages. In Stage One, the records of the 484 students in the target population were examined to determine the outcome of the scholarship. Data collected included demographic information, requests for extension and the reasons given for them. In Stage Two, a random sample was drawn of 80 students who began their study between 1997 to 2000. Attempts were made to contact them personally by email torequest their response to a short survey.

Stage One Results

The Enrolment Patterns of Scholarship Holders

A description of the 221 females and 263 males in the sample of scholarship holders is given in Figure 1. Most students held either an APA or CUPS. Students are grouped into four discipline areas: Business; Engineering and Science, including Computing and Agriculture; Health Sciences, including Nursing, Pharmacy, Physiotherapy and Psychology; and Humanities, including Education, Languages, Arts and Architecture. There are strongly sex-stereotyped patterns of enrolments, with males predominant in Engineering and Science, and females predominant in Health Sciences.

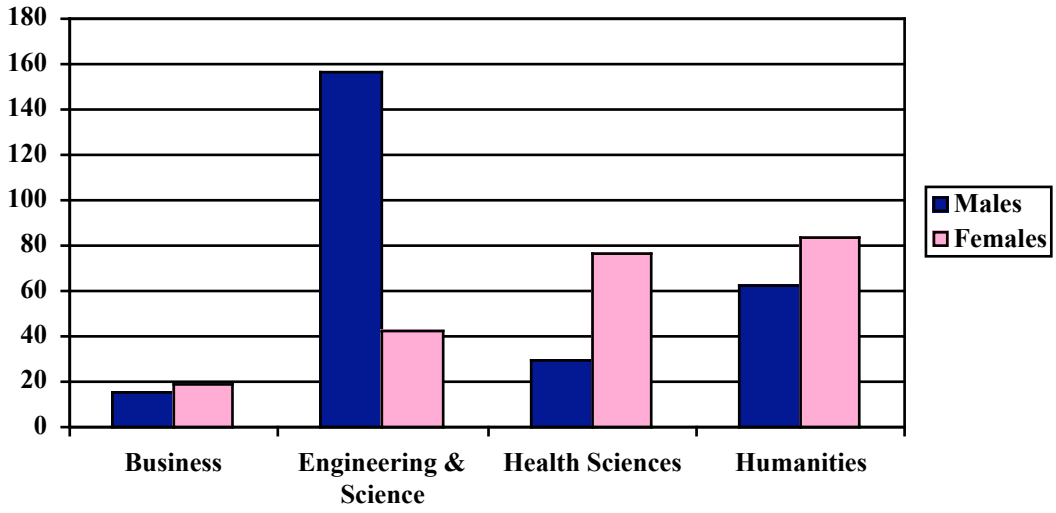

Figure 1 Number of Scholarships by Discipline and Sex of Student

Outcomes of Scholarships

The outcomes of the scholarships were divided into five categories and these are shown in Figure 2. The largest group, 278 of 484 students, received an extension to their scholarship. The next largest group of 110 students did not apply for an extension and 13 applied for an extension, that was not approved. The remaining 83 students did not complete their scholarship at Curtin, either transferring out of Curtin, relinquishing their scholarship, withdrawing, or having their scholarship terminated. In 66 cases, students either relinquished the scholarship (often to take full-time employment) or transferred with the scholarship (13 students with APAs) to another institution. Transfers usually occurred when students followed their supervisor, but some were for personal reasons.

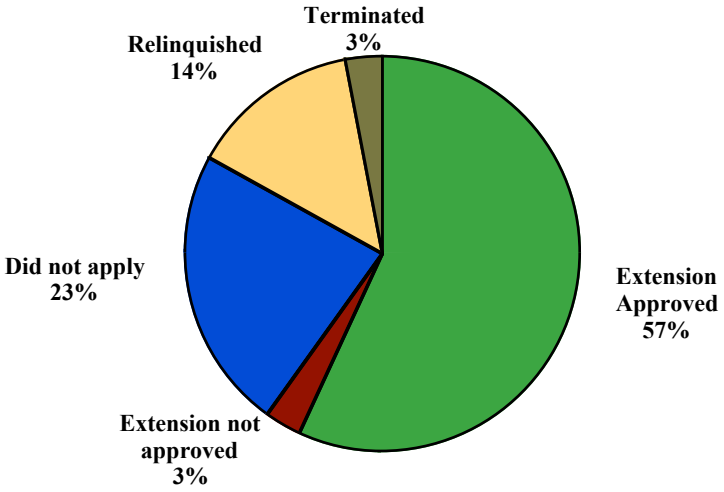

Figure 2 Outcomes of all Scholarships

Reasons Given for Scholarship Extensions

Scholarship extensions are allowable only for delays relating to the research, that are out of the control of the student. Illness or family problems are not legitimate reasons. and students unable to study for these reasons are expected to take sick leave (if available) or leave of absence. Of the 401 students who were still at Curtin when the scholarship reached its initial expiry date, 73% applied for an extension.

The reasons given for extension were very diverse, so to enable the data to be managed the reasons were coded into 14 clusters of acceptable reasons and 4 clusters of unacceptable reasons. An "Other" acceptable category was added for unusual reasons, often specific to a particular project. The final coding categories are shown in Table 1.

Table 1 Categorisation of Reasons Given for Extensions

Codes for Acceptable Reasons			
CS	Change of supervisor	IA	Industrial action – eg. teacher strike
SA	Supervisor's absence	ND	Natural disasters – eg. cyclones, etc
CT	Change of topic/focus	AD	Accidental damage or loss – eg. postal loss, theft
SE	Lack of special equipment/ chemicals/software, etc.	PU	Political unrest in other countries
LF	Lack of essential facilities – e.g. availability of computing equipment, network, laboratory space, and basic equipment	FE	Failed experiment, beyond control of student
		SA	Sample difficulties – e.g. insufficient subjects, difficulty collecting data
		RE	Relocation of school or facilities within Curtin
DA	Data analysis – eg. complications in analysis, depth of data	O	Other
OS	Outsourcing data analysis/ collection/entry		
BU	Bureaucracy external to Curtin – eg. quarantine laws		
Codes for Unacceptable Reasons			
WP	Writing papers/conference attendance	PR	Poor research design – sloppy technique
		I	Illness
F	Family care		

To illustrate how codes were applied, abbreviated examples are given for three students' reasons for extension:

Example 1. The entomology laboratory had extensive renovations taking 3.5 months, with no warning given to students who had to move (code RE). Experiments were damaged by the removalists (AD). A government authority delayed by 2 months the burn-off of a mine site essential to experiments (B). The spider fauna of the area was more complex than expected, so identification took much longer than the intended time frame (DA).

Example 2. A health sciences student who was unable to find sufficient participants locally was forced to seek participants from interstate (SA). The company providing the questionnaires sent them to the wrong address and replacement took six weeks (OS). There were delays of several weeks in gaining ethics approval from two state authorities, and three state authorities delayed distributing the questionnaires for two months (BU).

Example 3. An humanities student initially planned a comparative study on state-held data-bases, but this was abandoned due to discrepant and incomplete data. This necessitated a change of topic (CT), supervisor (CS), and school, and "going back to square one".

Students gave between 1 and 6 reasons for an extension and, on average, they gave just over two reasons. The numbers of the most common reasons given are shown in Figure 3. About 20% of them added an unacceptable reason. The list of acceptable reasons for extension and the percentages of students who gave them are reported in Table 2, according to discipline.

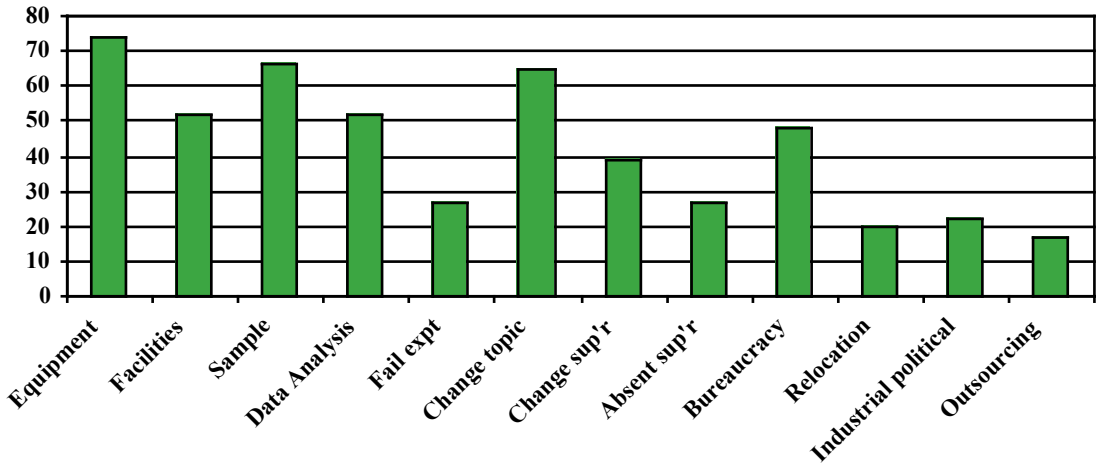

Figure 3 Number of Students Giving Common Reasons for Extension

Table 2 shows that four of the first five reasons concern equipment, facilities, sample difficulties and data analysis. Access to equipment and facilities was the major problem for students in Engineering and Science, with more than 60% of students mentioning one or other or both. Often delays were experienced because of breakdown or late delivery or installation of equipment. Access to special chemicals or reagents was a problem for some students. Most of these delays were out of Curtin's control and dependent on some external agency.

Difficulties relating to obtaining appropriate biological samples were fairly common to students in Health Sciences. In both Health Sciences and Humanities, difficulties in obtaining sufficient numbers of human subjects were often a problem. Sometimes this was an issue of access, in that potential subjects refused to be involved or were reluctant to provide the range of data required, or care-givers denied access.

Data analysis was a problem for some students. Usually this concerned more sophisticated analysis than anticipated, so the student required access to specialised equipment, advice with statistics or access to particular software. Sometimes this requiring outsourcing analysis. Other times, the complexity of the data was unexpected and analysis took much longer than envisaged.

A change of supervisor affected about 16% of students, and the supervisor's absence about 10% of students. Sometimes change of supervisor was associated with a change of topic or focus (which affected 24% of students), but not always. Change of topic affected 25% of students in

Engineering and Science and a third of students in Business and Humanities, and usually was concerned with problems obtaining data.

Bureaucracy was a major issue for a number of students. Delays were caused by the non-response of government agencies, lengthy periods waiting to gain permission to move samples interstate or internationally, difficulty in obtaining access to data or to gain ethics clearance from institutions external to Curtin.

Table 2 Acceptable Reasons Given for Scholarship Extensions by Discipline

		Discipline				
Code	Reason	Business	Engineering and Science	Health Sciences	Humanities	Total
SE	Special Equipment	-	43	24	6	27
SA	Sample Difficulties	25	14	43	26	24
CT	Change Topic	33	25	11	30	24
DA	Data Analysis	42	18	18	17	19
LF	Lack of Facilities	8	26	6	13	17
BU	Bureaucracy	25	15	19	18	17
CS	Change Supervisor	39	9	14	18	14
AS	Absence of Supervisor	17	8	18	8	10
FE	Failed Experiment	-	10	22	-	10
RE	Relocation	-	7	13	4	7
OS	Outsourcing	-	10	2	5	6
IA	Industrial Action	-	1	-	14	4
PU	Political Unrest	8	1	-	10	4
AD	Accidental Damage	-	6	2	1	3
ND	Natural Disaster	-	5	2	-	3
OT	Other	25	10	13	21	14
	Total Reasons	27	257	129	147	561

Note: Percentages are of students in each discipline. The percentage of reasons total more than 100%, as most students gave more than one reason.

In the laboratory-based areas, Engineering and Science and Health Sciences, failed experiments prolonged the research because of the need to repeat experiments. The reasons varied from contaminated reagents, failure of traditional techniques, unexplained death of organisms despite precautions taken, and so on.

A range of other problems affected a handful of students. Industrial action in the nature of a campaign by teachers over a lengthy period interrupted the data collection of some education students. Natural disasters, such as cyclone, floods or drought destroyed environments or delayed data collection for some Engineering and Science students. Similarly, accidental damage to experiments, equipment or field areas affected some of these students. The "other" acceptable reasons were varied and often combined with other reasons listed. These included loss of external funding for the project, internal issues at Curtin, and, for a few students, exceptional grounds.

Some students gave additional reasons for extension that were not acceptable under scholarship guidelines. Most of these (given by 30 students) related to writing papers and attending conferences. While laudable, these are not acceptable reasons for extension because they are not outside the student's control, and priority should be given to writing the thesis. Supervisors need to ensure that writing of conference papers is not taking student's time away from the main issues of the thesis. Family responsibilities and personal illness were mentioned by 17 and 15 students, respectively. As many students and their supervisors recognise these matters as unacceptable reasons for extension and therefore do not report them, these data are likely to under-report delays caused by these factors.

Stage Two Results

A total of 35 students (15 males and 20 females) responded positively to the email survey providing answers to the questions. Six other students indicated that they did not wish to participate. The remaining 39 students did not respond to attempts to contact them. Even though their email did not bounce, it is not possible to be sure that they received it. The survey emailed to students requested: first, whether or not they had requested a scholarship extension and why; second, the factors that facilitated or hindered progress in their studies and how the problems were overcome; third, what more could Curtin or their supervisor have done to help them; and, fourth, whether or not they experienced any difficulties that were attributable to gender.

Students' responses to the open-ended questions on the e-mail survey were analysed and coded into as many categories as required to account for the diversity of replies. Many of the codes were relevant to more than one question, and codes were clustered into a number of higher-level categories. For example, one category was termed 'quality of supervision' and included codes relating to effectiveness of feedback, time given to supervision, skill and knowledge in the discipline area, and support provided.

Of the 35 students, 24 applied for a scholarship. Not surprisingly, as legitimate reasons are those relating to the research and outside the control of the student, nearly all of the reasons concerned difficulties with data collection, equipment problems, and delays with external agencies in terms of bureaucracy and outsourcing. Change of topic and supervisor also affected about a third of students. Personal issues are not legitimate reasons for scholarship extensions, but were of concern for a third of students. It is worth noting that the reasons given were those that were remembered by the students, and did not in all cases match the reasons contained in their written application. For example, two students mentioned unsatisfactory supervision, but did not refer to this on the official application that had to be supported by their supervisor.

Seven students who had not finished their theses did not apply for scholarship extensions. The only male and one of the females felt that their reasons did not meet the criteria. Two students had to seek full-time work because of financial constraints, and one had sufficient industry funding to continue her stipend. One female was incorrectly advised that the application process was competitive, and another claimed not to know about the extension.

To synthesise the findings, Figures 4 and 5 have been prepared by combining data from the several questions and ensuring that there are no repeated codes for individual students, although the same student may have differently coded responses falling under the same category. Only factors mentioned by at least five students are included in the figures.

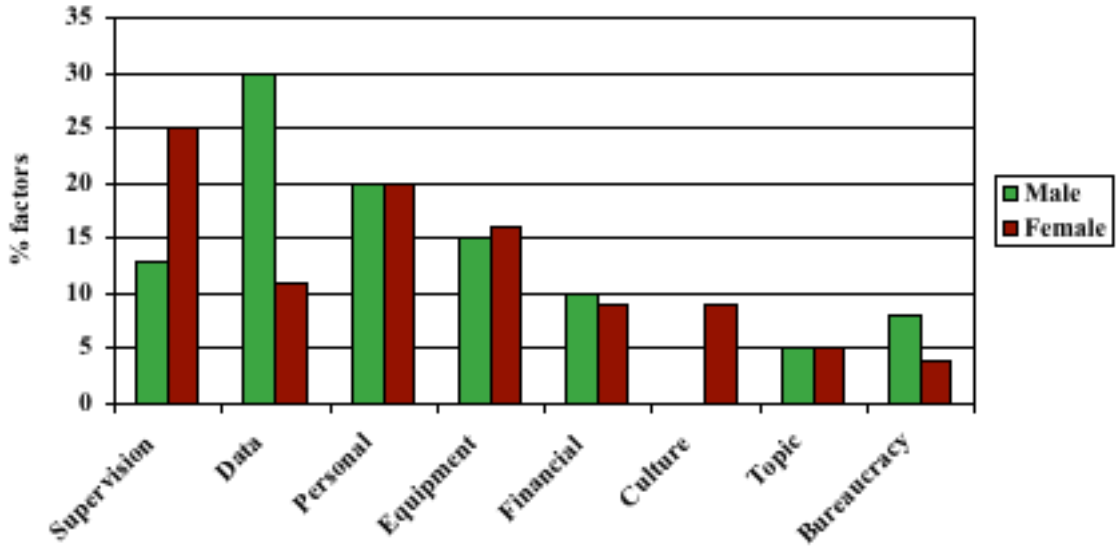

Figure 4 Summary of Hindering Factors

Figure 4 provides a summary of the factors hindering progress. For males, difficulties relating to fieldwork and obtaining their data were the major problems, accounting for 12 of the 40 comments provided. For females, the major issues related to supervision and the perception of a culture unsupportive to research students in their school. Personal issues and access to equipment were the next major barriers, followed by financial constraints.

The factors facilitating progress in Figure 5 reflect some of these same issues. Quality supervision and support from the school are paramount, especially for females. Financial security in terms of a scholarship or part-time work was also an issue of importance. Personal resources and determination are recognised as important in completing the work. Interestingly, fewer comments related to the availability of resources, further emphasising the significance of support from the student's supervisor and school culture. In answer to the final question: 'What difficulties did you experience in your progress that you could attribute to your gender?' most students responded none, but nearly half of the female students experienced a range of problems that could be categorised as gender bias. Most students resolved to 'grin and bear it'; for two of them there were severe disruptions to their progress.

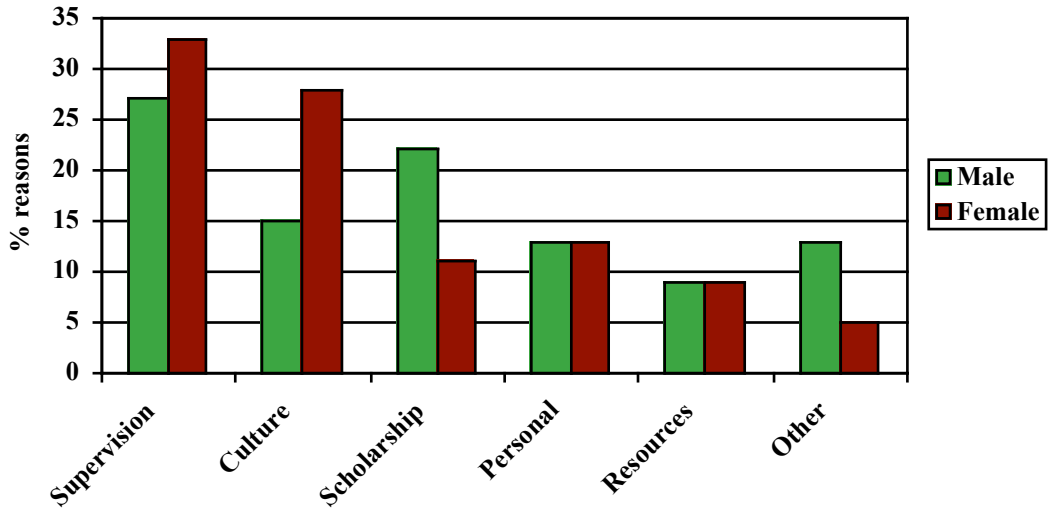

Figure 5 Summary of Facilitating Factors

Summary and Conclusions

The results from Stage Two of the study confirmed in broad terms the findings of Stage One, but provided considerably more information about the quality of the supervisory process and the facilities and support students perceived to be available to them. Further, the significance of personal factors was revealed. This suggests that many of the actual reasons for delays in progress are not captured by the scholarship guidelines, and a more complete understanding of barriers and delays is obtained from gathering data from students at a personal level. Altogether, the areas for improvement by Curtin were mainly concerned with providing better supervision or ensuring accountability of supervisors, and developing a more supportive research culture. Both of these factors were especially important to female students.

What can Curtin do to address these barriers and assist students to progress? Taken together, the two stages of the research provide a picture that is not always supportive of students. The quality of supervision is variable. Some supervisors are so busy that students feel they receive insufficient support. The school research culture has become an important feature, and clearly some students perceived that their schools have room to improve. Support from both supervisor and peers, in the context of a positive school culture, can assist students struggling with personal issues. Although equal proportions of males and females reported experiencing problems related to family matters, it seems that for some females, additional problems arise because of gender issues or stereotyping. Any discrimination based on gender is unacceptable at Curtin University of Technology.

Only two of the 35 students commented on the difficulty of their topic. Barriers were not usually inherent in the topic itself, rather in the gathering of the data. The findings of this study suggest that quality research, in terms of significant projects of reasonable size, are very possible in a 4-year time frame. Many of the problems faced by students are preventable by sensible and sensitive supervision and prudent planning. These matters should not be taken lightly. Although there are suggestions that pressure to complete may compromise the quality of the final output, and several recent students felt this pressure, good planning can minimise the kinds of delays that students

experience. While delays caused by the weather and external bureaucratic blockages cannot be controlled by a university, they can be expected and contingency plans drawn up to minimise their effect. Careful choice of the research problem, the research design, and realistic time frames pays dividends, and will enhance, rather than detract from, a quality research experience and outcome.

Overall, this study has provided empirical evidence for Curtin that should carry weight when discussed within the institution. Over the last few years, Curtin has established a comprehensive program of research training for supervisors and students, and these data will help to focus some of those sessions.

Acknowledgement

This is a summary of a paper prepared for the *International Conference Quality in Postgraduate Research: Re-imagining Research Education* held in Glenelg, South Australia, April, 2004. Copies are obtainable by contacting Léonie Rennie (L.Rennie@curtin.edu.au), I wish to thank Pat Downes, Leah Dowsett, Shanti Gelmi, Delia Giggins and Erin Smith for the painstaking extraction of data from students' files, Joan Gribble for assistance in collecting and collating the interview data, and Jenny Lalor for assistance in translating a complex spreadsheet into summary data.

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FACTORS ASSOCIATED WITH RESEARCH DEGREE STUDENT COMPLETIONS AND ATTRITION IN AN AUSTRALIAN UNIVERSITY

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This paper reports the main findings of an investigation into factors associated with research degree student completions and attrition at the University of South Australia. The study began with an initial analysis of demographic information to benchmark completion rates against national figures, and was followed by close analysis of archival records containing students' annual reviews of progress. The findings from the first stage indicated that field of study is an important factor associated with completion rates and times in the University. However, analysis of the information recorded in the annual reviews provided further insights into the complex interrelations between fields of study and other characteristics of candidature, suggesting that there is danger in uncritically attributing risk to disciplines per se, or to certain groups of students. The paper outlines those aspects of research degrees that were identified as potential risks for certain groups of students at different stages of candidature. It is argued that effective risk management is an institutional and pedagogical process of putting in place strategies to support all research students and, in particular, non-traditional research students.

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SYMPOSIUM:
RESEARCH WRITING OR HOW DID YOU WRITE YOUR THESIS, WHAT WRITING SUPPORT DID YOU GET, AND WHO SAID YOU PLAGIARISED?

Barbara Kamler
Deakin University
Australia
With
Claire Aitchison and Kate Cadman

Aim of the symposium

In Australian universities, doctoral writing is often treated as ancillary to the real work of research and overlooked as the invisible and taken for granted labour of the doctorate. Little systematic instruction in high level writing is offered to postgraduate research students, and very little research opens out the complexity of PhD writing practices (Kamler & Thomson 2001).

This symposium seeks to redress this absence by treating doctoral research as writing (Lee 1998, Richardson 1994). Collectively, the three papers address different aspects of the doctoral writing experience at different points of candidature (beginning, middle, end), with culturally diverse student populations writing across different disciplinary communities (education, science, business, politics, geographical and environmental studies, economics). We engage with controversial issues regarding plagiarism, publication, and the uses graduates actually make of their research writing. We examine recent innovative pedagogies that seek to support the production of doctoral writing and examine their effects on students.

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SYMPOSIUM SESSION:
BECOMING AUTHORISED: AN INVESTIGATION OF DOCTORAL WRITING IN EDUCATION AND SCIENCE

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This paper reports on a one-year pilot study which investigated the experience of doctoral writing and publication from the perspective of recent graduates in Education (typically mid-career part-time candidates) and Science (typically early career, full-time candidates). The aim of the research was better to understand the uses graduates make of doctoral writing and to examine the effects of writing on their professional identities and production of 'new knowledge.'

Findings from two interviews will be presented, one focusing on writing the PhD, the other on writing produced after the PhD. Writing practices in education and science disciplinary communities will be contrasted, in particular, the publication profiles of graduates; their engagement in collaborative versus individual approaches to knowledge construction; their use of metalanguage and metaphors to describe their writing experiences; the kind of writing assistance they actually receive from courses, supervisors, models; and the identity work achieved through writing and completing the PhD.

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SYMPOSIUM SESSION:
THESIS WRITING CIRCLES: SUPPORTING DOCTORAL WRITING

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Despite a growing numbers of texts on thesis writing, studies indicate that many candidates continue to find the task extremely challenging. Research into the experiences of doctoral students shows that students, supervisors, and examiners cite difficulties with thesis writing as one of the most problematic aspects of their study (Swales, 1990; Johnston, 1997; Lee, 1998; Cadman, 2000; Kiley & Mullins, 2002). While universities are increasingly concerned to improve research degree completion rates, rarely do they attempt to do so by seriously engaging with issues of thesis writing and cultural diversity.

This paper reviews an innovation by one large metropolitan Australian university to support the writing of doctoral students through a program that acknowledges the social and cultural dimensions as well as the learning and assessment dimensions of thesis writing. It outlines how a small number of Thesis Writing Circles were established and operated during 2002/3, and reports on key student evaluations that reflect the successes and challenges of peer-directed social learning. To date, the Thesis Writing Circles have shown themselves to be a popular means by which students can explore, debate, and practise their evolving participation in their respective discourse communities.

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SYMPOSIUM SESSION:
ON NOT NAMING PLAGIARISM: RETHINKING POSSIBILITIES FOR WRITING PRACTICES AMONG RESEARCH STUDENTS, SUPERVISORS, AND EXAMINERS

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Universities across Australia are currently revisiting their plagiarism policies and procedures with renewed vigour with the aim of 'tightening up' what they see as inappropriate academic writing practices, now in danger of getting out of control.

This paper reports on an investigation of research students' draft writing in supervision and examination contexts in order to focus on several issues: how 'plagiarism', as defined, may be seen to have occurred as writing practice; the extent to which students' 'intention' may be said to be relevant in interpreting such situations and responding to them; and how such instances play out in the reality of everyday research training practice.

The data are drawn from the personal experience of a language and professional development lecturer in an Australian research university. In particular, this work involves extensive interaction with research students and their supervisors in the writing of a literature review in the first year of candidature. The analysis will take a reflexive approach to the role of the lecturer and to the issues raised by so-called 'plagiarised' writing for both students and supervisors. The paper will also offer opportunities for supervisors to 're-imagine' what is potential in students' research writing practices and to consider some strategies for responding to 'transgressive' written drafts.

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ENCOURAGING OWNERSHIP: THE CHALLENGES OF ENGAGING DOCTORAL STUDENTS IN PERSONAL DEVELOPMENT

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UK universities will be required to provide a progress file for all students taking higher degrees, including research degrees. This will include a transcript recording student achievement and a personal development plan (PDPs).

PDP is 'a structured and supported process undertaken by an individual to reflect upon their own learning and performance and to plan for their personal, educational and career development'. Given the very nature of doctoral study, you would expect researchers, as a matter of course to reflect readily on the progress of their research and their capability as researchers.

The UK GRAD Programme has been running, a programme of national courses, for 35 years, that encourages participants to reflect on their skills and attributes, and gives them opportunity to improve their personal effectiveness in their research, team working skills, and career management skills. In common with institutional based courses, we have found it difficult to encourage doctoral researchers to attend these courses. No more than 40% of eligible students attend, even though they are highly rated by previous participants and free.

This interactive workshop will explore successful and unsuccessful approaches for encouraging researchers to engage proactively in their personal development.

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FIRST - WEB-BASED RESOURCES FOR IMPROVING RESEARCH SUPERVISION AND TRAINING

Jo McKenzie
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The fIRST website provides a series of online activities, workshop resources, tools, and references for supervision development. Most Australian universities have access through their membership of the fIRST consortium. This poster session offers members and non-members an opportunity to become aware of new resources on the website and ways of using these resources as part of institutional development of supervisors and supervision.

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