Quality in Postgraduate Research:

Knowledge Creation in Testing Times
Part 2-Proceedings

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Editorial

Margaret Kiley and
Gerry Mullins

The 2006 conference provided an opportunity for participants to engage in the double-barrelled meaning of the title.

The reference to 'knowledge creation' in the title reflected some of the more recent developments in research education where research candidates have been referred to as 'knowledge workers' in an environment where knowledge, and the creation of knowledge, is seen as critical to a knowledge economy.

The opening keynote speaker, Professor Maresi Nerad (Washington State University, USA) addressed many of the issues related to knowledge creation. For example she cited data that suggest that as a country becomes more financially comfortable/developed, there is an increase in the percentage of doctoral candidates under-taking Science and Engineering degrees compared with other disciplines.

The 'testing times' referred to the move by many governments to develop processes to assess the quality of Australian research; for example an RQF (UK) or PBRF (New Zealand). Of particular interest to many participants of the conference related to the Research Quality Framework that had been proposed for Australia. However, not long before the conference the 'roll-out' of the process had stalled with the appointment of a new Chair of the Expert Advisory panel and a re-think of the issues involved.

However, one of the keynote speakers at the conference, Professor Ian Chubb (Vice-Chancellor of the Australian National University and member of the original advisory panel), argued that:

> The Government appears committed to the development of a consistent and comprehensive approval to assess quality. I believe that it is our duty to help achieve the aim. We should expect in a well functioning university system that funding will indeed follow quality; and we therefore have an obligation to support a Minister moving in that direction and to work with them to achieve the aim, through helping develop a good process (Chubb2006.pdf)

The third, and summarising keynote speaker, Professor Raewyn Connell (University of Sydney, Australia) suggested that we should approach the topic of knowledge creation in testing times with a degree of caution and at the same time optimism.

> I've heard it said that in modern university systems about half of the total research is done by the graduate students. Whether or not that figure is strictly correct, what we are looking at, when we contemplate research higher degrees and their supervision and cultivation, is a very important social process. We are looking at a key

> part of the reproduction of our society's intelligentsia from generation to generation. We are looking at one of the key areas where our culture may grow and develop. That makes our discussions, in forums like this, matter much more widely than our own institutions, or than our technical problems and worries.

Papers presented at the conference suggested that the title of the conference had been interpreted widely. For example:

1. A Professional Doctorate in Health Sciences: Swimming against the tide to meet the workplace needs health professionals What counts as practice in doctoral education?
2. Developing a framework for determining the quality of research education in Australia
3. Quality Assurance and strategic strengthening of HDR performance
4. Assessing the industry-readiness of PhD graduates from Co-operative Research Centres
5. The impact of globalisation on researching research education
6. University risk management and Higher Degree Research
7. Testing knowledge? Doctoral candidates' perceptions of the oral examination
8. Benchmarking a graduate school: An opportunity to measure and learn.

Thinking back to the second conference in 1996 it would have been inconceivable that we would have had papers with titles such as these - yet another indicator of how research education has developed over the past 15 years.

In response to comments from participants from pervious conferences, we decided that this year we would offer authors the choice of a refereed publication, available prior to the conference, or for papers to be submitted to the proceedings only. We received 20 papers for refereeing, and, following blind-review, we published nine of them. Where papers have been published in the refereed document we have made reference to that in these proceedings. The refereed publication can be downloaded from the QPR web site i.e. http://qpr.edu.au.

During the conference there was also discussion regarding the future of the QPR conferences. At the conclusion of the conference it was suggested that the Adelaide organising committee work towards another conference in 2008. So, as they say, 'Watch this space'.

Margaret Kiley and Gerry Mullins
September 2006

Keynote Addresses

Globalization and its impact on research education: Trends and Emerging Best Practices for the Doctorate of the Future

Maresi Nerad
University of Washington

It is truly an honour to be here and I am delighted to have this opportunity to present my thinking and observations about the impact of globalization on research training and about the globalization trends in doctoral education—often called 'best practices' but I like to call them 'promising practices—for the doctorate of the future. These promising practices and trends were discussed at a conference, in September 2005 at the University of Washington in Seattle, organized by CIRGE, the Center for Innovation and Research in Graduate Education. The conference brought together experts from all six continents and fourteen countries including three Australian members, who I believe are present today.

In my talk today I will argue that: a) globalization has not only brought a number of common trends to doctoral education worldwide—we may speak of converging practices—but also has had differing effects on differing regions and on the more and more diverse doctoral student population worldwide; b) due to globalization, doctoral education is confronted with the tension between building a nation's infrastructure—which means preparing for the next generation of professionals and scholars inside and outside academia—and the necessity of educating domestic doctorate students for participation in the international scholarly community; and c) lastly I will argue that we need to prepare our doctoral students adequately for times of globalization and an increasing national interest in the role of doctoral education for the knowledge economy. We need to educate our students to BOTH think globally and act locally AND to act globally and think locally.

Today's doctoral education is precisely the place where we have the opportunity to look across national boundaries and learn and study how the effects of certain approaches benefit or harm people outside our hemisphere—it cannot be 'local' anymore. In the history of universities we have come full circle, from the universities being in the medieval age, centres of learning to becoming nation-state universities which pursued national interests, specifically in the nineteenth and twenties centuries and now once again emerging as international centres of learning and scholarship. We need to educate doctoral students who are **world citizens,** who cross national boundaries without seeking to assimilate and homogenise but instead accept differences and embrace diversity.

Following I will: define globalisation; talk about its effect on doctoral education worldwide; highlight two challenges the effects of globalization pose for doctoral education; name emerging promising practices which we can observe worldwide; and end with a few recommendations for future research.

Globalization—some definitions

I am using the definition of globalisation given by Freidman in his 1999 book *The Lexus and The Olive Tree,* where he describes globalisation as the 'inexorable integration of markets, nation states and technology to a degree never witnessed before—in a way that is enabling individuals, corporations and nation-states to reach round the world further, faster, deeper and

cheaper than ever before.'

Tony Gibbins and Manuel Castels (one British and the other Spanish, now living in US), a sociologist and an urban planner, argued that the process of globalisation is **a force;** it is more powerful than industrialisation, urbanisation and secularisation combined. In contrast, some groups of scholars and activists view globalisation, not as an inexorable process but rather as a deliberate ideological project of economic liberalisation that subjects states and individuals to more intense market forces (see John Douglas, 2005).

What we are actually seeing occur is the skill bias of recent technological advancement leading governments to strive for a competitive advantage in emerging knowledge-based industries. If a nation does not have sufficient numbers of adequately educated and trained workers, it will need to either: a) increase the PhD production of knowledge workers (as has happened in Europe, Asia, Australia and New Zealand), however, this is costly, and time consuming; or b) governments will need to liberalise short term immigration of highly skilled labourers—bringing skilled workers to capital and technology.

In the meantime, we have observed that political forces are unpredictable and may instead restrict immigration policies, as we have seen in the case of the US. Now, what is happening is that capital and technology is brought to the highly skilled workers, rather than the worker to capital or technology. Work has been "outsourced" to poorer countries, or rather to countries which have a lower salary scheme but who have a highly trained labour force. Multinational companies are setting up R&D companies in India and in China, rather than petition or lobby to have Indian programmers admitted to the US. Every three years I visit my parents-in-law in Bangalore and the last two times I could observe how US and European multinational companies, especially software and bio-tech companies, have set up operations there, hiring hundreds of PhDs, mostly Indian PhDs either trained abroad or trained at home, but also PhDs from other countries. Thus, I am arguing that we need to train our own domestic students to be citizens on the world stage. Today the international student, specifically those with degrees in science and engineering, have an advantage on the global PhD labor market.

Effects on Doctoral Education Worldwide

So what does this mean for higher education, particularly for doctoral education? One, it means an increase in PhD production because, as I explained, the post-industrial society needs knowledge workers for the new economies. Should there not be sufficient domestic students readily available, international students are recruited with the hope that they will remain in the country and join the national workforce. It also means education has become commercial and generates revenues.

When I invoke the term ***knowledge economy*** I am speaking of the concept that "future economic performance will be closely based on the skill and innovation level of the labor force, underpinned by effective research and R&D capacity" (Harmon). Universities are increasingly seen as significant knowledge producers and thus as agents for economic growth. Nations, such as China, Singapore, and the European member nations therefore developed a new interest in their universities and investment in knowledge. They translated this investment into a direct increase in PhD production. The European Union countries decided in the Bologna treaty to invest 3% of each country's gross national product in R&D by 2010.

Now let me give you some figures about the increase of PhD production: (I

use PhD here synonymously for doctoral degrees.)

- China, in 1991, granted 2,556 PhDs—half of those in science and engineering. In 2001, China granted 12,500 PhDs—two thirds of them in science and engineering
- Japan, in 1991, granted 10,758 PhDs—one third of them in science and engineering fields. In 2001 there were over 16,000 PhDs, and half of them were in science and engineering.
- Taiwan, in 1991, had only 466 PhDs, practically all (410) were in science and engineering fields. Now, in 2002, Taiwan had nearly 2000 PhDs and again practically every one is in science and engineering.
- Germany, in 2002, granted 23,000 PhDs, 60% of these were in science and engineering.
- France, in 2002, granted 10,000 PhDs, 60% in engineering.
- The UK, in 2003, granted 14,000 PhDs, 60% in science and engineering.
- The European Union altogether, in 2002, granted 76,500 PhDs of which 55% were in science and engineering.
- Central and Eastern Europe in 2002 granted 45,740 PhDs; interestingly only 40% were in science and engineering.
- Australia in 2002, granted 4,420 PhDs—half of them in science and engineering.
- New Zealand in 2002 awarded 510 PhDs—60% in science and engineering.
- And in the US in 2002, 40,710 PhDs were awarded, about 60% in science and engineering.

We see a drastic increase of PhD production, especially in Asian and European countries due to substantial financial investment by the governments in these countries.

Now let us examine the increase in the percentage of doctoral degrees earned by foreign students in selected countries in 2003:

- Germany—in 2003 of the 23,000 PhDs awarded, 10% went to foreign students. Of all the PhDs in Germany in science and engineering, 14% went to international students.
- In Japan, of all the PhDs awarded in 2003, 13% were international students; and again, of all the science and engineering PhDs, 13% went to their international students which are mainly from Asia, e.g. Malaysian etc.
- In the UK 39% of all its PhDs awarded went to international students; of all the science and engineering PhDs awarded 39% went to international students, mainly Asian.
- In the US, 30% of all PhDs were awarded to international students and 37% of all science and engineering PhDs went to international students.

A very clear picture emerges. We see an enormous increase in the production of science and engineering PhDs in Asian countries, and we see a large proportion of science and engineering PhDs being awarded in Western countries to Asian students.

Why do we see an increase in international students?

Why do universities like to have international students, Australia being one of them? Multiple reasons motivate the intake. Let me take the US as an example. In engineering, mathematics and economics, relatively few US

students studied for a doctorate, specifically in the eighties and early nineties, since with just an undergraduate degree in science or engineering one could earn a $70,000 starting salary in one of the high tech places such as the California Silicon Valley. However, since university departments do not like to shrink in size, international students filled the ranks. In such cases international students functioned as a 'reserved force' to keep up the numbers in departments.

In addition to wanting to avoid seize reduction, universities around the world also want a top quality pool of doctoral students. Many of the international students come from the very best undergraduate institutions of their home countries. Take India as an example. The Indian Institutes of Technology, from which many of the Indian students who go abroad come from, are very selective higher education institutions. The entrance exams are rigorous—only 2% of the applicants are admitted. These students are very smart and well trained and everybody loves to have them in their pool of doctoral students. The same is also true for Chinese students from top Chinese universities.

A third factor motivating universities today to actively recruit international students is economics. International students pay high out-of-state tuition, and thus bring in revenue, as in the case of the UK, and also in Australia. This direct economic motivation for increasing the number of international doctoral students does not apply to all countries. Generally speaking, it does not apply to the US institutions, although international doctoral students pay high out-of-state tuition. Admission to US doctoral programs is highly competitive. Increasingly, US universities are offering multiple-year funding for the doctoral students they admit. Further, public US universities have to pay out-of-states tuition for every international student they admit to the state. Private universities mostly waive the fees after one or two years in the program if the student is in good standing.

Also a number of European countries, Germany for example, do not (yet) charge tuition. Economics is not the motivation for this practice. Rather, many highly industrialized countries have become aware that having a diverse student body enriches the doctoral education experience. Further, nations have recognized that acquainting international doctoral students to one's culture is an investment in the future for social, political and economic reasons, as many current international students are likely to become future leaders. Attracting these students to their universities allows for the formation of international partnerships early on in the careers of these future leaders. Students who have a good educational experience abroad will be more inclined to look favourably on these countries after assuming leadership roles at home (and international students bring money to the universities in the form of fees and spending money at the local community as consumers).

What other trends of global nature affect doctoral education?

Besides an increase in PhD production and an increase in the international flow of doctoral students worldwide, we have observed an increased global communication spurred by technology innovations which make communication across vast spaces easier, faster and more wide-spread. Scholarly networks have formed rapidly. They have been actively and explicitly supported by the European Union and some international foundations. The global nature of pressing problems such as AIDS, bird flu, and the many issues connected to the environment have no national boundaries, and scholars around the world are coming together to address them.

All over the world we observe an increased request for accountability of

moneys that government and private funding agencies have invested into higher education. In terms of doctoral education accountability requests translate into documentations of educational outcomes such as time-to-doctoral degree, completion rates, and information of career outcomes. All of these trends are visible also in Australia. Your government has developed funding schemes that include some of these indicators. Your national association of graduate deans is working with a research center at the University of Queensland on a career outcome study. This may allow for a possible comparison between Australian and US PhD career outcomes.

And lastly, universities worldwide are entering a worldwide ranking competition. In September 2005 *The Economist* published a list of top international universities, resulting in one more goal on the list to achieve for university presidents; to have their institutions ranked among the best worldwide.

Challenges for doctoral education.

What are the particular challenges? One is clearly globalisation which has a different effect on different regions of the world and on the more and more diverse doctoral student population worldwide**.** Let me give you two examples of countries to illustrate this point. In South Africa, on the one hand you have some of the very best medical doctors worldwide heart specialists. The same is true in research connected to steel. Yet this country needs desperately to build up its own basic infrastructure; its overall people power. South Africa's population is young. The country needs to build up that young population. Training them at home is costly and not all higher education institutions are fully equipped to do this at a competitive standard. Sending their students abroad increases the risk they may not return. Should we receive students from South Africa we need to train them so that they are scholars who can collaborate with colleagues around the world and we need to train then to still think about their own country's needs. Not an easy task.

Besides the "brain-drain", there is also the issue of needing to prepare for national infrastructure building and the necessity of preparing domestic doctorate students for participation in the international scholarly community. This goal led a number of countries to move towards using English as a means of doctoral seminar instruction so that students become more fluent in using English; the current universally used language of scholarship. One of the key university roles is to pass on societal accumulated knowledge, which includes being a transmitter of certain cultural literature and knowledge. Teaching in a foreign language works counter to this role. For example, in the case of Norway, a small country with a language spoken by few people on the earth, concern is arising about preserving their literature and language heritage and passing it on to the next generation.

Common characteristics of doctoral education around the world

The following characteristics came from information gleaned from the presentations and discussions among the 14 countries present in Seattle 2005 at the Forces and Forms of Change in Doctoral Education Worldwide conference. They might tentatively be called a list of 18 promising (best) practices for future world doctoral education.

1. Students will be prepared for a variety of career possibilities, including research, teaching, government or industry.
2. There will eventually be a code of practice for departments and supervising faculty members.

3. Admissions will be competitive, not just a matter of a student asking a professor whether he or she will accept another doctoral candidate.

4. Students will be offered several years of funding—but with clear benchmarks and performance standards to be met at various stages of the degree process.

5. Students will have more than one supervisor.

6. Doctoral program will begin with a course or courses on epistemology, scientific method and research tools. Most scientific, technical and social problems we face have become too complicated and too large to be solved individually and from a single discipline perspective. Much of our research will need to be approached from a multidisciplinary perspective. Few scholars can master several disciplines, but we need to understand each other's disciplinary concepts and worldviews, and be able to communicate with each other. We need to make our students aware and introduce them to what we may call a general post secondary education course on epistemology: something like, 'How do we know what we know? What do we regard as evidence?'

7. Students will be expected to demonstrate a broad understanding of their core disciplines in some form of examination.

8. Within single disciplines, doctoral education will include some interdisciplinary or multidisciplinary component to prepare students to work in the multidisciplinary settings of contemporary research.

9. Students will receive training and experience in teamwork, project management, presentation skills, and communication skills.

10. Students will be able to choose between traditional dissertation studies or the publication of several articles based on their research. Universities will have policies to recognize articles with multiple authors.

11. Students will be expected to carry out some portion of their training or research in another nation. We have a small country, Denmark, where this is already the case. The Danish government pays every doctoral student to go for six months to another country to do their research. This is ideal.

12. International doctoral students and their cultural expertise and knowledge will need to be integrated into our curriculum. Not all countries have the money like Denmark to send their students abroad, so while we want to provide our (own) PhDs with international experience, we can do something less expensive at home and that is to integrate into the curriculum our international students. They are doctoral students, they are not undergraduate students: they are experts in their field and know much about their home country. We have global villages on our campuses we can use by assigning small research projects to our domestic doctoral students working together with international students. Thus students can learn without traveling to another country.

13. Future oriented doctoral education will have collaborative projects with other universities, research centers, or industrial research organizations. Entire doctoral programs—not just individual students—will collaborate.

14. Universities and national funding agencies will seek to create and utilize templates for the review of doctoral programs that synthesize the highest international standards for Ph.D. programs. They will reach out to international review teams for program review.

15. Doctoral education programs will use evaluation experts who are external to teams but use campus internal formative evaluation as an effort for ongoing improvement.

16. They will establish structured international collaborations with doctoral programs from other nations to develop research around some of the same global issues and problems.

17. Students will need to master more than just one language. Due to technology advances, English has become the dominant language. English speaking countries have dropped foreign language requirements for PhD education. This lack of foreign language skills has two negative consequences. First, is the fact that much is lost by not being able to communicate directly; and second, the fact that speaking English privileges some and disadvantages others. Having experienced how one is handicapped by not being able to express oneself sophisticatedly and quickly, is a humbling experience; one that is good to have gone through when acting on the world stage.

18. We need to initiate world citizenship education for domestic and international doctoral students.

You may think, 'It is nice to say, but how can this be done without extending time and additional resources?' Let me give you a concrete example: the School of Graduate Studies at the University of Melbourne and the Graduate School at the University of Washington are planning to bring together for two weeks a group of thirty doctoral students who will take part in an international leadership workshop. We intend to bring fifteen students from each university together, ideally from fields of studies that do not necessarily lead them to go abroad, who have their dissertations in common fields, and who have common interests, to learn and experience what new leadership means.

Our goals are to create a learning experience that not only includes leadership training, but also research collaboration in order to initiate interaction beyond a one-time meeting. This workshop will be structured so that the students understand that leadership skills have contextual components and are culturally influenced and that they become aware of national stereotyping. We also want to create an understanding of the effects of language and cultural dominance while practicing behavior of "new" leadership skills that are culturally sensitive. We are planning to provide opportunities in this workshop for indigenous Australian students to meet with indigenous Native American Indians. The universities will take turns in hosting and funding the workshop.

With this small, but concrete step, we hope to create opportunities to help postsecondary students become citizens who operate not only within a small sphere of elite intellectualism but, in the words of the educational theorist Henry Giroux, move them to become "critical public intellectuals [who define themselves] not merely as marginal figures, professionals, or academics acting alone, but as citizens whose collective knowledge and actions presuppose specific visions of public life, community, and moral accountability."

A few suggestions for needed research:

- We need more case studies on international entrepreneurship of universities
- More studies on the impact of globalization locally

- We need studies about the acculturation of domestic students to international students. We need to know what our domestic students learn from their international peers
- We need studies that look at the interconnection of family and career after PhD completion

Have a good conference. I am looking forward to listening to you and to learning.

Thank you.

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Launch of Doctorates Downunder

Natasha Stott Despoja
Senator for South Australia

I begin by acknowledging the Kaurna people and thank you for the invitation to speak briefly—don't worry I understand I've been told I'm standing between three hundred people, drinks and dinner so briefly—tonight. I'm very honoured to have been asked by Professors Evans and Denholm to officially launch *Doctorates Downunder* this evening. I would like to congratulate the editors of the book on their collections of essays; essays by people that they say have been there done that. Deans, doctoral supervisors and academics, all of them providing their advice and their guidance to doctoral candidates in Australia and New Zealand—but more about that later.

Welcome in particular to those of you who have travelled from interstate and I know that there are international participants here as well. Great to have you in Adelaide on such a warm and inviting day! It's a big day in Adelaide of course: the IKEA opening. This seventh bi-annual Quality in Postgraduate Research conference—with its theme 'Knowledge Creation in Testing Times'—is an important forum of course. Not only for supervisors and the students but for other members of the higher education sector and indeed policy makers, giving us an opportunity to discuss and debate the theories, the issues, the trends and issues in postgraduate study today.

I note that you've a wide range of symposia, forums, papers and it is certainly a timely event, particularly from a political perspective, a timely event in which to explore some of the current issues such as the proposed Research Quality Framework, something I'll touch on briefly. But I have to say, looking at the program, it's Geoff Hill's lunchtime showcase that has just leapt out at me: 'Supervision: a participatory cabaret'. I love this—encouraging people to share the supervision experiences through song. Now I'm sure this is going to be both entertaining and, I assume, constructive, reminding us that education can, and should be, entertaining, but it has given me some great ideas. I'm going back to Federal Parliament during budget week and I decided that debates in the Senate would be more palatable if set to music.

Of course, a key part of any conference like this is the social opportunities, the opportunities to network with contemporaries, with colleagues, to share ideas and advice and I note that your social program gives ample opportunities for those meetings and networking. I strongly recommend the half-day tour of Adelaide. It could go longer of course but it does feature a visit to Haighs so a very sweet start to your conference.

Recently I saw an article in the Higher Education Supplement of *The Australian* about postgraduate study and the headline was "Quitting Has It's Own Rewards", which expounded the theory that postgraduate study, even if unfinished, is of value. It asked, 'Could there be positives associated with abandoning a thesis?' 'Is it better to have a half finished thesis than to have never thesised at all?' Well undoubtedly, and you'll all attest to this I've no doubt, that the pursuit of knowledge and research are of fundamental, intrinsic value, even if some policy makers tend to regard such commitments as a cost and not an investment. As you would know, our total research budget is often less than that of which multinationals would invest in a single area of research. Universities are increasingly being encouraged to find more and more funding from business and I note that postgraduate research, as valuable as it is, is often about not just the search for truth but unfortunately

the search for funds. While there is no denying the potential commercial value of research, we need the creativity of breadth, the critical thinking and the generic skills that come with the pursuit of research. High quality education and research must not be reduced to simply procuring students for employment, being cogs in the economy, or valued simply in terms of commercial applicability. Universities are generative and creative power houses of our future, cultural, social, environmental and indeed economic prosperity.

As a nation, I do not think we can afford to squander talent or potential by imposing unreasonable barriers to successful participation in education at any level, be it postgraduate or primary school, but in recent years we've seen that happen. We have seen further deregulation of the postgraduate sector, we have seen FEE-Help, we have seen PELS, we have seen GST imposed on text books, we have seen income support denied to postgraduate students, we have still got taxation on part-time postgraduate scholarships—something I am still working hard to get rid of. As a society, a civil society, we can't afford to magnify growing divides in our community by permitting cleavages to be built and sustained through differential access to education, especially at the postgraduate level. That is one of the reasons I will maintain public funding of education because I believe the social dividend justifies that public investment.

So there is no doubt that postgraduate study is challenging and I commend you all for having the stamina to do something that I have not yet even begun to think of—except after today: Terry and I were chatting, we've got some ideas! The same Higher Education supplement article to which I referred actually identified a number of barriers to success. It said poor supervision, financial constraints, family commitments and a crushing sense of isolation—so I'm even more in awe of what you do. Now I know that these are all barriers and challenges that many of you here, in gatherings like this and, of course, postgraduate associations, and I take a moment to acknowledge Jason Hart from CAPA here this evening, you all try to ameliorate these particular challenges. These challenges are going to become more acute from July this year when Voluntary Student Unionism (VSU) kicks in.

I was asked to talk about VSU and I will, just to say that the dust has settled somewhat since that somewhat provocative debate in December last year. I like to think of it as Freaky Friday, December 9th, when we were all supposed to be home in our electorates. I get a call, 'Get down to the chamber straight away. They've done a deal with Fielding, they're going to ram the legislation through.' Two hours and seventeen minutes later we were gagged and guillotined and, of course, didn't get to deal with amendments. I said my last, closing words on the debate and sat down feeling absolutely appalled at what we've come to in terms of the Senate. We know the services it is going to threaten from child care to advocacy, from welfare to subsidised catering, from recreational and sporting facilities, the list goes on. But postgraduates have particular needs, unlike their fresher counterparts. The very nature of postgraduate work requires more discipline and more independence and, as *Doctorates Downunder* recognises, it can be a terribly isolating experience for many people. So those provisions from CAPA and postgraduate student organisations, whether it is IT support, whether it's advocacy, computer rooms, the list goes on. All of these are critical and are unlikely to survive in the current climate—advocacy in particular, which as we know is so important for those postgraduate students. I also note that this conference will look at the unique needs of international students in universities that have large number of international students, 90% of the advocacy work for

postgraduates is for those students. Once again, we risk our own economy and the welfare for our university sector by passing legislation such as this. But it is not the only issue affecting the sector.

I am sure you will discuss the RQF over the next few days and, indeed, the proposal to abolish the board of the Australian Research Council—Ministerial interference in recent times. It is extraordinary how we view critical and free thinking in our society today. The impact of RQF is hard to predict. I saw that Professor Ian Chubb has a plenary session tomorrow morning. Given his experience on the RQF Expert Panel, maybe he can provide you some insight that I can't. However, the delays with the implementation of the RQF may cause uncertainty in the sector. If the Government does proceed with the RQF, it must ensure that the model is appropriate. Given reports from the United Kingdom about the failings of its own research assessment, which we have recently seen dumped, they have to be very careful about what they implement. Any assessment of research must be judged on appropriate criteria and the diversity of research means obviously that some criteria are not appropriate at all; they're not applicable to all. I hope the Government is going to take this into account. For example, the RQF should not simply and only celebrate the benefits of short-term, high-impact research, to do so obviously will deny the impact of astounding and astonishing research in areas such bio-technology, for example. As the 2006 Australian of the Year Professor Ian Fraser pointed out (I note he has been recently been dubbed 'God's gift to women' according to the Australian magazine in view of his discovery of a vaccine in relation to cervical cancer) but as he pointed out, his discovery was hardly short-term research. It took twenty-five years. Only time will tell if we see the RQF and in what form we see it. However, I think you have an excellent opportunity at this conference to remind policy makers that the sector does have a proud and long tradition of celebrating and encouraging quality research.

Now it gives me great pleasure now to officially do some book launching. A book that is a 'how to' of navigating postgraduate study. The editors, Professors Denholm and Evans, along with twenty-nine contributing authors, have succeeded in producing an informative, humorous and accessible guide for postgraduates, offering practical and sensible advice. We should not really be surprised that these Professors would produce a book such as this. They both have a demonstrable commitment to education and have the awards and the grants to prove it. It is as written by friends, and that was the idea of the book. The editors said they wanted to showcase the best advice that experienced friends can offer to doctoral candidates and it's written in that way. Described as having an antipodean flavour, the chapters are relevant; they are almost conversational, friendly. It's 'Doctorate 101' if you like. It offers advice from the professional to the practical, even the personal work and life issues. From warning of the pitfalls of supervisor selection, like when you end up with a Professor Poobah or a Doctor Shuffles, right through to the personal obstacles for completion: a chapter which I note addresses issues such as inability, a sense of paralysis, more commonly known as writers block, exhaustion, fractured relationships, obsessions and more importantly distractions—because you know when you have got to clean that bathroom rather than do the research, we all clean the bathroom! Another distraction that I noticed, it was actually identified a couple of times in the book, was that multiple, unnecessary photocopying that people need to do: you know, delaying the inevitable.

The book covers everything: being strategic, support systems, the needs of students who are disabled, examination preparation, writing, research skills,

part-time versus full-time candidature and, indeed, after you've become a Doctor. I love the fact that there's a chapter on being an ethical researcher and I have actually photocopied that and given that to Parliamentary colleagues. Speaking of being the editors have explained they are not taking royalties for the book, they are giving them away. It is not a reflection on the book, it is just a really good book, they want people to have this guide because it is so important—and it is. They are spot on; it is time for a book such as this.

While examining the difficulties associated with doctoral research, *Doctorates Downunde*r also looks at the positives. The enormous benefits which the editors have described as being one of the most satisfying and enduring experiences of your life. However, the editors do issue a warning, airlines do not seem to upgrade Doctors like they used to and Terry does have the example of being woken up on a late night flight by a flight attendant asking if he could treat a sick patient. Congratulations, not only to Carey and to Terry, but also to the twenty-nine other authors who have contributed chapters to *Doctorates Downunder*.

Every two minutes in Australia and New Zealand a Doctorate is being awarded, so for the ten of thousands of Doctorates being awarded and for those aspiring to have Doctor next to their name and to do that critical thinking and wonderful research this is a marvellous, navigational and important tool. Congratulations on your efforts and it gives me great pleasure, ladies and gentleman, to declare *Doctorates Downunder* officially launched.

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The future of research education (In the research quality framework)

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I welcome this opportunity to discuss with you a number of important issues about research education (or as some more narrowly refer to as 'research training') in Australia. I have been asked to focus on research education in the context of a future Australian Research Quality Framework (RQF).

This is a timely conference, to the extent that there is a public (and at times not so public) policy debate about the allocation of resources for research education, which the RQF is primarily intended to influence, or at least was conceived of as a possible mechanism for influencing.

The Government through the former Minister aimed to move to a more diverse higher education system, with some universities specialising in teaching. The RQF could be part of this process in the hands of Minister Bishop, but there is much positioning at play on the part of different universities, and different groups of universities, and other interested parties.

At stake seems to be the annual allocation of (at least some of) the HECS-exempt places currently distributed through the ($540 million) Research Training Scheme (RTS), and (at least some of the $285 million) Institutional Grants Scheme (IGS) for related research infrastructure.

Anything one says publicly on the RQF at this moment is likely to be regarded by others as an institutionally self-serving argument. While that is understandable (Vice Chancellors after all are paid to work for their institutions) we still need to be having an open dialogue about the purposes, practices and results of research education, for which funding is a means not the end.

The Government appears committed to the development of a consistent and comprehensive approval to assess quality. I believe that it is our duty to help achieve the aim. We should expect in a well functioning university system that funding will indeed follow quality; and we therefore have an obligation to support a Minister moving in that direction and to work with them to achieve the aim, through helping develop a good process.

For Brendon Nelson, this objective was apparently part of an agenda for differentiation among Australia's universities, some of which might become (or be validated as being) 'teaching-only' institutions, while a few would have a better chance of achieving (and at least in one case, sustaining!) world-class status.

Contentious it undoubtedly is, but this is a debate we have to have.

Given the scale and pace of investment in leading universities and technical institutes in the northern hemisphere – especially in China, India, Europe and North America – and the intensifying international competition for intellectual talent, Australia is at serious risk of becoming a backwater.

We have to have the capability within the nation to play at the leading edge

on the world stage in important fields of knowledge advancement. We can't simply keep re-arranging the deck chairs when the iceberg looms ahead; we have actually to put our minds to growing our capacity while not spreading the available resources too thinly; we have to change course.

Even to sustain a quality national higher education system, we must have at least one and preferably a few pinnacles of performance that show the rest of the world what we are capable of doing.

I know what it involves just for one to try to stay with the pace. It means having capabilities that are regarded and valued by the best, and being what the best elsewhere will benefit from being associated with, will want to be associated with, and will want to have that association known.

It means being an elite performer, and as there are no cheap elite performers in the world of higher education and research, it means, therefore, intensifying investment in the best.

If Australia's best are not recognised world players, we will be in serious trouble as a nation.

A threshold question is whether we can, or even whether we should try, to bolster Australia's 'world-class' best by redistributing resources from those whose best is mediocre on the world scale.

It is always difficult to effect change without additional resources. In this case it will be impossible.

The serious questions are, how much more does Australia need to invest to sustain research of high international standard, and where should that future investment be made?

Another rationale given for the RQF is to validate the quality of the research that is being undertaken in universities.

How do we know, asked Brendon Nelson, how good the research is that we are funding? That is a good question.

We have tended to look inwards to answer such questions, and it can be a challenge to us that others outside want to know, and know how we know, and even see the evidence for our assertions. ANU has conducted a review of research using international experts in order to answer for ANU those questions. Needless to say, given that the outcome was good for us, a few chose to emphasise flaws in our process that were real, imagined and/or invented by outsiders unfamiliar with the work we did. Another example of the Australian problem? Anything of ours that is good (except for sporting teams) can't be, really good. There must be a fault in the reasoning, and in any case, don't they have tickets on themselves so let's bring them back to size. Our size.

After the discussion began, we heard that a purpose of the RQF is to demonstrate to taxpayers the benefits of their investment in university research.

That gave rise to discussion about research 'impact', extending beyond the impact on thinking and the development of a discipline, to the use and usefulness of new knowledge in the wider society.

Most recently, the new Minister Julie Bishop, picking up on this theme, while

prudently leaving policy and financing options open, suggests that the primary purpose is about demonstrating the value of the public investment in research.

"The Australian Government's initiative, to formulate a world's best practice RQF for evaluating research quality and impact, seeks to assure taxpayers that their money is being invested in research of the highest quality which delivers real benefits to the wider community."[1]

I agree that it is important for the Australian community to know they are getting the best possible research, and that the society is better off for it. That is a pre-condition for sustained public investment in research.

I am intrigued that the Government seeks to formulate "a world's best practice RQF for evaluating research quality and impact", and I will comment shortly about how well the currently proposed approach shapes up to that mark.

However, let us remember that the resources to be allocated from the RQF outcomes are those relating to HECS-exempt student places for research education (RTS) and associated infrastructure (IGS).

Curiously, the expressed objectives are to be achieved by changes to the allocation of places for research education. Yet there is no stated objective relating to the quality and, importantly, the standards of research education itself. What would help would be an endorsement of simple propositions such as the idea that the best research education can be provided through working with the best research groups.

Presumably, although this has not been made explicit, the main benefit for Australia, in getting right the allocation of resources for research education, is the production of higher degree research graduates whose understandings and skills contribute to Australia's knowledge capability, economic competitiveness and community wellbeing.

It is worth reflecting on the policy rationale for the introduction of the RTS and IGS in 2000. The establishment of those two schemes represented a deliberate de-coupling of funding for undergraduate education from graduate research education (with postgraduate coursework largely fee-paying).

One consequence was the extension of tuition price deregulation and the promotion of a market for private providers for coursework degrees at the undergraduate as well as the postgraduate level. I won't comment further on that today.

The other intention, although, importantly, it has **not** turned out to be a consequence, was the distribution of (HECS-exempt) places for research education students on the basis of university performance in winning research income, publishing research papers, and improving graduation rates.

These measures were regarded by those who designed the schemes as proxies for the quality of a research education environment.

I can only agree that it would be impossible to have a quality research education environment in an institution that is not performing research at high standards.

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[1] The Hon Julie Bishop MP, Minister for Education, Science and Training, "Research Quality Framework advice on preferred model", media release, 28 March 2006

Quality research activity is a necessary condition of a quality research education environment – although it is not a sufficient condition.

As you well appreciate, quality research education depends on a range of conditions: how students are selected; how well they are motivated; how well they are guided in topic selection; how well they are supervised; the quality of interaction and feedback they receive; the personal support they receive when they need it; the availability of coursework to broaden their skills; and how well they are examined.

The work that you do informs these areas of research education improvement, and it is important work.

However, nothing can compensate for the quality of the research culture of the institution providing research education. It is the essential ingredient.

So, the approach of looking to indicators of quality research performance as a basis for allocating places for research education is a sensible one, in-principle.

The problem is that, in practice, the measures used have been imperfect and prone to manipulation.

The emphasis has been placed on the volume of publications, and not their quality – we now have more publications but in lower quality outlets.

There has been an apparent increase in completion rates, and some acceleration of completion times, perhaps reflecting a more concerted effort in supervision. That may be an efficient result, though not necessarily a cost-effective one if standards have eroded. But who would know?

All we do know is that there has **not** been a redistribution of research education places away from those institutions that perform consistently poorly on all the available research performance indicators.

At this point one has also to ask, what difference does AUQA make?

AUQA puts universities through a compliance ritual, reports its commendations and recommendations, but avoids real scrutiny of quality – is it therefore better to be top of the fourth division, or not quite achieve the 'mission' of being top of the first.

Whatever, I think that we need to bite the bullet on standards. And while I can only call on long experience, I could tell you that a PhD from some Australian universities is not regarded overseas as a reputable qualification.

So we only know informally what our standards might be – and how they differ one university from another.

In his 1999 white paper, Knowledge and innovation, David Kemp outlined his intentions in respect of the RTS:

> The new arrangements will provide incentives to enhance the quality of research training provision in Australia, to improve the responsiveness of institutions to the needs of their students, to ensure the relevance of research degree programmes to labour market requirements and to improve the efficiency and effectiveness of research training. (Kemp, 1999, p. 18)

Interest in the RQF has arisen, at least in part, because of the apparent failure of the RTS to achieve the primary objective identified by Dr Kemp—to "enhance the quality of research training provision in Australia".

The current allocation of RTS funds among universities is, strangely, in **inverse** relation to the research performance of universities as measured by competitive grant winnings, total research income, RIBG funding, the Brennan Index, and citations of publications relative to citations for the rest of the world (for those disciplines where citations data are robust).

This means that the distribution of research degree candidates among universities is sub-optimal, given that it is impossible to have a quality research education experience in a university that is not performing quality research in the field, and is not imbued with a quality research culture.

Clearly, the allocations, and therefore future students, need to be redistributed on the basis of the quality of research performance. While that may be politically difficult it is necessary for sustaining internationally reputable research education.

Redistribution can be most readily achieved when there is growth in overall funding, and there is no actual income loss to those who benefit least from the additional dollars.

Redistribution of research education places away from poor research-performing institutions can be smoothed by substituting funding for other activities that are more consistent with the capabilities of the institution and what its mission might be.

Now let me take you back almost twenty years, to understand how we have come to where we are, and what is really at stake.

The Dawkins' vision in 1988 was **not** one that envisaged all universities, new as well as old, being active in research, and certainly **not** comprehensively active across all fields in which they offered educational programs.

To the contrary, the 1988 White Paper distinguished between research and scholarship,[2] and stated:

> The Government expects that all academic staff should be active in scholarship, funding for which is appropriately based primarily on student load. However, it expects that Commonwealth funding for research should be focused more effectively on those institutions and staff with a demonstrated capacity and record of research performance. (Dawkins, 1988. P. 92)

All universities were required to develop plans for developing their research. Funding for the operating purposes of institutions was based on 'profiles' of student enrolment by field and level of study, including Higher Degrees by Research.

The then Government intended that funds for research would be allocated on the basis of a university's research management plan, 'in which excellence

[2] "Research is taken to mean systematic and rigorous investigation aimed at the discovery of previously unknown phenomena, the development of explanatory theory and its application to new situations or problems, and the construction of original works of significant intellectual merit. Scholarship refers to the analysis and interpretation of existing knowledge aimed at improving, through teaching or by other means of communication, the depth of human understanding."

and the concentration of resources to best effect must be a high priority', validated by externally developed resource performance measures.

Ironically, an attack against 'central Government interference into the internal affairs of universities', specifically against 'truck-loads of data for DEET'—an attack led at the time by a prominent Vice-Chancellor—led to the disbandment of research management plans.

The development of research performance indicators was delayed and later discarded [until 2000 when they were re-introduced in the form of Research and Research Training Management Plans, along with the performance-based funding schemes for research education (RTS) and research infrastructure (IGS)].

Pretty quickly, the Dawkins' distinction between scholarship and research broke down, and lacked contemporary consent, in a (pre-1999) policy context itself lacking any explicit rationale for the funding of research education.

Not only was the mechanism weakened for concentrating resources for research, but signals were given to the new universities to intensify their research efforts - through concentration on volume, not quality, might I say.

Assistance was given to academic staff of the former colleges and institutes to gain PhDs.

And there was the controversial 'clawback' of funds for research from the established universities and the redistribution of those funds through funding "mechanisms" to the new institutions.

The RQF has the potential (via the IGS) not only to give back the clawback to those universities that were then and are now the most active in research, but also (via the RTS) to re-concentrate the allocation of Higher Degree by Research places in those universities that are doing the best research in the different fields.

So there is a lot at stake—for universities, for future HDR students, for the Government and, ultimately, for Australia.

That said, the RQF is the most divisive issue among Australian universities in the last fifteen years.

The RQF has the potential to unstitch part of the Dawkins' fabric of a 'unified national system', which was formed in part, through amalgamations of former institutes of technology and colleges of advanced education, with one another, or with then established universities, to form new universities.

With hindsight, the decision to close the 'binary divide' altogether may well be seen as a policy error; some mid-way model of selective incorporation of the stronger parts of the former advanced education system might have been a better approach.

The research performance stretch for the weaker members may not then have been so painful and unrewarding, the gap between the university and TAFE systems may not have been so wide, the available 'learning pathways' for students may not have been so limited, and the supply of graduates to the labour market may have been in better balance with demand, especially for technician and paraprofessional occupations, than it is now.

But the extent of amalgamation has not been the core problem. Rather, the

major problem has been the structure of Government incentives inducing all universities to seek to look alike.

The Dutch higher education analyst Frans van Vught, has suggested that the shape of higher education systems are subject to two laws:

1. 'the larger the uniformity of the environmental conditions of higher education organisations, the lower the level of diversity of the higher education system';
2. 'the larger the influence of academic norms and values in a higher education organisation, the lower the level of diversity in the higher education system'.

The second law has been expanded on by the American higher education analyst, Martin Trow:

> a central problem for higher education policy in every modern society is how to sustain the diversity of institutions, including many of which are primarily teaching institutions without a significant research capacity, against the pressure for institutional drift toward a common model of the research university – the effort alone shapes the character of an institution to be something other than what it is—a prescription for frustration and discontent.

The first law can be observed through Australia's experience of the 'national unified system'.

Publicly-funded places include, firstly, those domestic student places that attract a partial subsidy from the Government towards the costs of delivery—that is, domestic undergraduate students, not enrolled on a full-fee-paying basis, and secondly, domestic HDR students, not enrolled on a fee-paying basis or not cross-subsidised from internal university revenues (such as revenue from domestic undergraduate fee payers and international students).

It has all become very confusing since 1996, when hybrid HECS rates were introduced, and the Higher Education Support Act of 2003 locked in the residual of hybrid HECS rates in the form of 'Commonwealth contribution amounts' by 'funding cluster'.

The inelegance and atomisation of the Australian funding model, with all of the inflexibilities it imposes on universities, is one expression of its aberration from international practice, and a constant irritant for those of us who have to live with the reality of common sense and normal (understandable) student course and load selection behaviour.

But the main source of the aberration is the adherence to the notion of normative prices.

Universities get paid the same 'Commonwealth contribution amount' per 'full-time equivalent student", irrespective of any of the following factors:

- Differences in the intensity of use of facilities and services by full-time, part-time, and external and 'mixed-mode' students
- Regional differences in the costs of delivery

- Differences in the socio-economic background of the student
- Differences in the quality of students
- Differences in student progression rates
- Differences in the standards of educational attainment
- Differences in the quality of scholarship and research of academic staff.

The failure of policy settings to recognise these and other differences is at the core of Australia's higher education predicament, alongside the inadequacy of public investment.

There are simply no incentives for mission diversification.

And in that context, as van Vught and Trow suggest, pale imitations of the research university model proliferate.

Will the currently proposed RQF model help Australia out of its predicament?

By itself, the RQF will not dampen the pressures for emulation.

As has been the case with the British RAE, the RQF could impose large churning costs (of the order of tens of millions of dollars) on universities, for no net institutional benefit, and lead to perverse behaviours such as poaching of staff, for no net national benefit.

Unfortunately, 'the preferred RQF model' is flawed, both in design and operation.

How can it be like that, when I was a member of the group that proposed it, you might ask?

Well my views were outweighed, for all sorts of reasons - although to my surprise and strangely enough I at least still can't find a good one!

In my view, the preferred RQF model suffers four major deficiencies.

First, under that model, research output is not the direct object of quality assessment.

Instead, evidence portfolio statements (submissions) will be put to panels for assessment. The submissions will identify four 'best' research outputs per researcher along with a list of all research produced over the previous six years.

Panels will consider these submissions and make judgements where they can, and may refer particular works to 'specialist assessors'.

Second, the panels are too thin to do the job credibly.

There are to be twelve panels, each comprising 12-15 members, at least two of whom will be "end-users" of research.

When you consider the wide spread of very complex fields for each these twelve panels (for instance, "physical, chemical and earth sciences" and "humanities and law") it will be simply impossible for peer judgement to be exercised via the panel.

Which organic chemist will second-guess the theoretical physicist (if there is one on the panel) or the astronomer or the geologist?

It will become a lip-service exercise, and lack credibility in Australia and internationally.

Third, the assessments lack output volume measures.

While submissions will include a full list of research outputs, the assessments are to be calculated on the basis of some multiple of ratings by researcher numbers.

It will be of no consequence whether a researcher produces only the four works in six years or twenty-four high quality works in six years.

The failure to account for productivity could lead to maldistribution of resources on the basis of RQF assessments, and perverse behaviour from researchers and university administrators alike.

Yet I understand, from the 2004 quality review of ANU, that it is the high volume of high quality research outputs that makes ANU distinctive.

Fourth, the approach to the assessment of impact is too undeveloped to be included.

Don't get me wrong, of course—it would be useful to know how and how well research contributes to solving problems in public policy and for communities, and to generating new products, services, businesses and jobs.

However, this issue of 'impact' is a complex matter, involving multiple causal links, loops and interactions, and time lags. Nevertheless to the extent that wider understanding of the external impact of research lends public support to the research enterprise, without narrowing its scope, it would be a good thing.

Of course, there are many aspects of research impact, that call for dialogue, either extended dialogue and perhaps new forms of dialogue, between researchers and the wider community.

In the RQF context, the discussion of impact has been about the effect of research after it has been completed.

However, the community now expects dialogue about impact to occur before and during research, as well as after, especially research into matters that are vital to social and environmental sustainability, and that pose health and ethical risks.

The coarse assessments of impact envisaged in the preferred model are unlikely to address such issues.

A separate program to encourage community engagement would be a more sensible approach.

All in all, I fail to see the policy sense of risking a redistribution of HDR places away from the best research-performing universities through a compromised RQF.

It is a threshold question whether the RTS should continue as the basis for allocation of HDR places.

There are several alternative policy options; one is to provide HDR places only to universities that achieve benchmark standards of research quality in different fields of research.

So, for some universities, HDR places might be allocated for a limited range of fields; for others more comprehensively where they can demonstrate a capacity to sustain depth and breadth of quality research.

Let me conclude by affirming that it is imperative for Australia that the research performance of Australia's universities is rigorously evaluated for its quality.

One can argue that the national competitive grants processes, using peer review, are essentially qualitative. The corollary is that income from competitive grants is an indicator of quality of research performance.

The question arises as to the validation of these national outcomes against international standards of research quality.

The proposed RQF does not offer an internationally credible validation model in my opinion.

I believe it would be more fruitful to link funding for research education on the basis of institution-specific research capability and performance.

Rather than adopt a neo-Dawkins uniform approach, it would be better to evaluate quality on a devolved basis.

Each university should be held responsible for testifying to their performance standards in research and research education, including the quality of their research output and the quality of their research training environment.

Their performance should be validated by reference to the available, reputable research quality metrics, and by tailored processes of international peer review, as an element of periodic funding negotiations.

I think such an approach would take us a long way further than the proposed RQF.

But we must do something that changes our course from the present. The iceberg looms and it won't matter where the deck chairs are and whether or not they have been re-distributed many times if we hit it. We simply must grow capacity, capability and quality while we differentiate. It is not easy and will take courage – but we in our sector must engage with the process and work through the issues or what we need to do, change course away from the iceberg, will never happen.

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How to sabotage a PhD

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I am honoured to give this closing plenary address, at what I have found an interesting and informative conference. I was asked by the organisers to comment on the content of the conference, so I have floated around a little from session to session.

I won't comment on individual papers of course, but I do want to say that over the two days of the conference, like the philosophers describing an elephant, I have built up a composite picture of the Graduate Studies machine that we've created in Australia over the last couple of generations. This is a soft machine, because its working parts are human beings. It's a machine intended to give birth to knowledge; and most especially to give birth to knowledge producers.

The papers and presentations at the conference have illuminated parts of this machine, and given advice on how we might get some of its parts to work better, how we might convert its power from steam to electricity, and how we might measure some of its operations, because the plans seem to have got lost somewhere along the way.

Over the conference as a whole, I've seen a machine that has a certain Heath Robinson flavour but is nevertheless functioning well, actually doing what people hope it will do. I want to suggest, and I will return to this at the end of my comments, that our Graduate Studies machine is an important machine, one that matters in the world.

I've heard it said that in modern university systems about half of the total research is done by the graduate students. Whether or not that figure is strictly correct, what we are looking at, when we contemplate research higher degrees and their supervision and cultivation, is a very important social process. We are looking at a key part of the reproduction of our society's intelligentsia from generation to generation. We are looking at one of the key areas where our culture may grow and develop. That makes our discussions, in forums like this, matter much more widely than our own institutions, or than our technical problems and worries.

This machine, of course, has a specific history. It's a fairly new machine. If you look back at the colonial universities in Australia, as late as the 1940s, there was limited research capability, and very little research education capability. If an Australian wanted a research training in those days, the thing to do was to go to Britain or, if very adventurous, to the United States. In the 1940s the then Labor Government began to change this picture by creating, of all things, the ANU. This was intended to create not only a research capability in Australia but also a research education capability. It set about doing so.

But within ten years of the ANU beginning operations, the same thing was happening across the whole university system. The great university boom from the 1950s on saw the growth in Australia, for the first time, of a substantial research capability and research output. It was in those far-off days that I learnt to supervise, and wrote about how it should be done (Connell 1985).

Of course there have been changes since. There was the era of amalgamations, which produced the institutions we all work in. We're now in an era of re-stratification of the university system, something I'm by no means happy about. And we now have to think about what the next stage in the history of the machine is going to be.

I did my PhD back in the days of the boom, when the machine was smaller and looser. In the four years of my PhD candidature I wrote quite a lot of poetry; I joined a political party; I co-authored a book on a subject entirely different from my thesis; I helped to set up a student-directed Free University and convened some of the courses and research projects in it. I gave courses for the WEA; I went to a lot of peace demonstrations and got shoved about by the police, though not arrested. I fell in love, and got married, and decided to postpone the gender reassignment. So it was a busy four years; and I also wrote a PhD thesis.

In the PhD I made some very serious mistakes. I effectively wasted the first year because I set out on a problem that interested me and my supervisor, but wasn't actually well-formulated; it took about a year to work out that it was a false problem. However, behind it was another set of problems which really did need research. I had to borrow a method from another discipline, which meant a lot of new learning. Eventually I managed to produce a thesis. It can't have been too bad because the examiners let it through, and then someone published it, and it is still occasionally cited in the literature.

I also learnt in those four years to love the work of pursuing knowledge and to think that it might be something I could do in the long term. I look back on that period with a lot of pain, certainly, but also with a great deal of affection and joy. I'm always concerned that some of that kind of experience should be available to my students. And I think it is getting harder for that to happen.

The title of our conference mentions 'testing times', so I want to fast-forward to the age of re-stratification that we are currently in. We started the conference with a plenary address that raised the issue of globalisation. I think that is a very important and appropriate concern. I would add that the concept of globalisation is a contested one.

Many of the most influential writers on the subject offer an account of an inevitable, irreversible process which seems more like a tide in the ocean than a human process. I'm one of the people who criticise that view of globalisation. I want to suggest another way of understanding the issue which has been put very well by the Australian-American sociologist Philip McMichael (2000). McMichael argues that globalisation is not like a natural process, not like a tide. Rather it has to be understood as a project - something which is intended and accomplished by human and institutional effort in a particular form. Therefore it involves changes that can take other forms historically.

Now the dominant form of globalisation, the dominant project in our world, is the neo-liberal globalisation project. This is the version of globalization associated with the rise to power of transnational corporations in the world economy; the creation of global markets in capital, commodities and, increasingly, labour and services; with the wholesale privatisation of public assets and services; with the promotion of a market culture and the attempt by the dominant powers in this world to eliminate political cultures other than the neo-liberal.

Those of you who came to the book launch yesterday will recall Senator Natasha Stott-Despoja talking about a particular moment of this agenda, the

Howard Government's ramming through the legislation about voluntary student unionism. Some people read this as a personal aberration of Abbott and Costello, revenge for their own sad days in student politics. To my mind, VSU is a completely consistent part of the drive by neo-liberalism to eliminate all other political cultures from the scene. The student organisations have been a centre of dissident culture in Australia, in fact a very important one, for more than a generation. Of course they have to go!

The neo-liberal globalisation project has had a very strong impact across the public sector of the developed countries - and in a different way in the developing countries. We feel this impact in universities and often talk about it as if it was our problem alone. It's important to realise that we are not alone. Other public sector institutions and organisations experience the same pressures to thin their services, to turn citizens into customers, to adopt management techniques derived from profit-making businesses (which is regarded in neo-liberal culture as the only proper way to manage).

Across the public sector there is a drive to convert organisations which used to operate on the principle of a shared public interest into a set of entrepreneurial entities that are rivals for resources, i.e. competitors. The new thinking is to manage the whole box and dice through a system which we might think of as treasury-controlled. It works through sets of monetary incentives and punishments that oblige organisations themselves to take up the corporate agenda if they are to survive in financial terms.

That has occurred across the whole public sector, it is not unique to the universities. It is worth thinking about what the organisational consequences of those pressures are likely to be. One important consequence, especially of the advent of new forms of managerialism, is a distrust of workers' professionalism, a distrust of the occupational cultures of workers. (I use the word workers in a completely general sense which includes academics.) There is a systematic organisational distrust of the judgment of the people who are at the service delivery point.

Therefore we get a whole apparatus intended to constrain professional judgment and establish organisationally controlled, standard ways of doing things. This is a very significant development precisely for research higher degree training. I want to give some details from a kind of document that you will all know. I paraphrase this particular one simply because it comes from the institution in which I was once a PhD student. It's called 'Postgraduate Research Degree Completion Guidelines' and it sets out seven steps to completion.

> At three months the candidate and the supervisor must have done a review of the topic and methodology, and a review of the supervision relationship. At six months the candidate has to submit a full chapter or the equivalent. At twelve months he/she has to have completed required course work, done an annual review, including presentation of research to date, and have a decision made by a higher authority about probationary status of enrolment...

You know the kind of thing. What has to happen at twenty-four months, what has to happen at thirty-six months, thirty-nine months, forty-two months. Now if that document had been in force when I was going through, I would have been out on my ear at the end of the first year, without the slightest doubt. Such attempts at organizational control are now found in other areas

of academic work, but I think they are particularly striking in the case of higher degree supervision - the most complex and personal kind of teaching in our whole university system.

The second organisational consequence is the development in neo-liberal organisations of new systems of indirect control, in the guise of accountability and career development. I have in mind systems such as "performance management", and other reporting and surveillance mechanisms.

It is very important to realise that these are not just top-down impositions of an organisationally approved way of doing things, like the guidelines just quoted. The indirect control systems are mechanisms that invite the workforce of the organisation into the neo-liberal game. We are invited, in effect, to remake ourselves as neo-liberal subjects who will compete and perform in the manner set out by the new organisational logic. I want to refer you to some wonderful research done by Bronwyn Davies (2005), now at the University of Western Sydney. Davies has looked in fine detail at the experiences of Australian academics dealing with these kinds of mechanisms, and the different ways in which they adopt or resist the seductions and pressures of the system to become one of the new neo-liberal people.

One common consequence of this kind of system is increased hours of work, self-imposed. It is quite striking that, in a society as rich and potentially leisured as ours, average hours of work are rising not falling in this generation. It is largely through economic insecurity, combined with this kind of organizational pressure.

Very specific dilemmas are created for women in professional organisations by such pressures, because our society still assigns the main responsibility for housework and childcare to women rather than men. Indeed men have managed to resist change on this issue to a remarkable extent. Not only that, but we have now made women responsible for managing the resulting relationship between home and workplace, i.e. for managing the famous "work/life balance" problem (Connell 2005). With the growing numbers of women in higher degree programs and research careers, we may be unintentionally setting up increasingly severe problems of gender equity.

The final consequence of the neo-liberal takeover I want to mention is changes in organisational culture. I think we are seeing, very broadly, the development of a culture of concealment, evasion of responsibility, and selfishness - all of which has been on spectacular display in the Australian Wheat Board Inquiry. I hope everyone has been following this, it provides a magnificent window into the new organisational world that we are entering.

To bring that home I will tell a story out of school about a meeting at my institution a while back. A very senior administrator, with responsibilities in the research area, came around to talk to the troops. He set out to explain the university management's current strategies, which consisted, as far as we could see, of attempts to aggrandise the University of Sydney at the expense of all the other universities in the neighbourhood. We pointed this out, remarking that our professional and intellectual lives depended on the wellbeing of our disciplines in other universities, and that the University of Sydney was not alone in this world. To which he replied, that as far as he was concerned, those other universities could drop off the twig.

That is the kind of attitude that is created at very senior levels by the new environment. It is becoming institutionalised in the "G8" and we have seen one sample of the resulting arrogance during this conference.

The impact of these processes on higher degree work is, of course, very much debated. We've spent some time at this conference discussing how much the actual research and supervision process have been impacted. I have no better way of measuring the current impact than anyone else, but I think I can see where these pressures are pushing us.

We can now see, emerging from the haze, the ideal neo-liberal PhD. Here are its main features. Let us call the candidate, simply, John. John's PhD project will deal with a shallow or second-hand problem. It has to be shallow or second-hand, because under the rules, John is obliged to design the project right at the start of the candidature. There is simply no time for reflection, reconsideration, making of mistakes or development of genuinely innovative ideas,

As the ideal neo-liberal PhD student, John won't be at risk of arrest, and will probably never write poetry. This won't be possible, because all his free time is taken up in writing research proposals, ethics application forms, revised ethics application forms, revised ethics application forms, progress reports, and other essential documents. John will always turn up to every scheduled meeting with his supervisor, bringing neatly typed drafts from the first six months on. John will complete in minimum time, so the university gets full value from the funding system. And John's supervisor will get brownie points, and maybe real money, for pushing him through on time.

John won't publish any of the research until it has been checked by experts for its commercial patent possibilities for the university. Then there will be three joint-authored papers in the on-line Journal of *Forensic Xenobotany*, the *Antarctic Nanotechnology Review*, and the respected *Aeronautical Engineering & Macrobiotics Quarterly,* all of which are refereed journals that count for DEST points.

There will follow a smooth transition to a well-paid industry job, because naturally John's topic has already been certified as useful by the Confederation of Australian Industry, or, depending on the source of funding, the US Department of Defence.

Now I'm not opposed to having some PhDs like that—I'm all in favour of diversity! Maybe 5% of PhD's like John's would be a good thing. But we are being asked to have 95% of our PhD's on that model.

The economic and cultural regime that we now face in higher degree work is on track to destroy much of the cultural innovation that the higher degree process should represent. Whether it actually succeeds in destroying that capacity is very much up to us - because these things are contestable.

Some of these pressures have been contested in the past, and some of that contestation has been successful. We are not simply being steamrollered by globalisation, we are in a situation where we can offer other agendas.

This brings me to the issues that might be taken up in future QPR conferences, or by the research and practice communities that are represented here. What I mainly want to say is: Let's be bold! We have been reactive for far too long. Let's think of some of the harder, tougher and perhaps deeper questions, and generate discourses about them. I would suggest three in particular.

The first concerns the issue of equity, which is systematically sidelined by neo-liberal culture. The "testing times" we live in, include new demographics

in the higher degree world. We have more part-time research students, we have more women at the advanced levels, and we have more overseas students. In these circumstances, how do we sustain an agenda of social justice and access to advanced levels of work? How do we provide for the new populations of students, in all the new circumstances, a deep experience of intellectual life? Many of us in the older generation had such an experience in a looser graduate studies environment, and believe it is central to the cultural function of graduate study.

This is a practical as well as a conceptual question. I try to spend time with my graduate students in what I think of as 'off-program supervision', that is, sitting down over a cup of coffee and talking about anything from Freud to neo-liberalism rather than only about the topic of their thesis. Hopefully this expands the range of issues that become a part of a student's horizon, and I might learn something, too. But that's a very small contribution. I think this is a question we should be thinking about on an institutional and national scale.

The second issue we should think about is other ways of practising globalisation. It doesn't have to be all a matter of giant corporations with millionaire executives jetting round the globe, or the global outreach of Disney and McDonalds. There are other ways of making connections around the world, connecting cultures and projects.

Australia is a small player on the world stage, everyone is aware of that. We produce two or three percent of the world's research output, it varies a bit from field to field. A consequence of being a small player, as my colleagues and I have found in research on intellectual workers, is a strong tendency towards quasi-globalisation rather than full internationalism. Australian researchers are oriented, not to a global audience or a global culture, but mainly to the rich countries of North America and Western Europe (Connell, Wood and Crawford 2005). We may in fact be reproducing our own dependency over time.

But we have other possibilities, and we can learn. Debates about the same issues are occurring in other peripheral areas of the world. There's a fascinating debate going on in Africa about indigenous knowledge (Hountondji 1997). There's a debate going on in Latin America about questions of dependency in which the old economic arguments have now been enlivened by cultural studies (Canclini 2001). There is actually a global discussion going on around these issues in which Australia can take a part.

In particular we have, in the very presence of international students on such a scale in Australia, the possibility of new models of intellectual exchange. We can approach our work not as the simple transmission of Western intellectual culture to a group of people from other backgrounds. We can constitute high-level intellectual work as encounter between intellectual cultures, sharing resources in a much more substantial way than we currently do.

My third suggestion is that we might turn our attention to the very process of the production of knowledge. in this conference we have been mainly concerned with the circumstances in which that's done, with the institutional pressures, the policy debates and so forth. But we also need to think about changes in the knowledge production process itself

We should think, for instance, of the consequences of some areas of knowledge now being substantially organised around electronic databases, so much research is carried out remotely over the Internet. We need to think about the growth of institutionalised collective knowledge production, shifting

away from the model of the individual scholar. We should think about the very interesting possibilities opened up by the creation of international research teams where different intellectual cultures are built into the development and management of the research project.

There are examples of changes going on in the heart of the knowledge production process itself. They should feed back into our thinking about how to do research supervision. I was impressed by the suggestion in our opening plenary that we need to get more epistemology, more theory of knowledge, into our higher degree training. I think we need to get more sociology of knowledge into our students' thinking, so they have more understanding of the context of their own practices. We also need more history of knowledge, so that people can understand, whatever their discipline, where in the long story they themselves sit and what are the likely consequences of their work. Those are some issues that I suggest might be very fruitfully taken up in these forums. I want to come back, finally, to the theme of 'difficult times'. As I mentioned, I have been doing research on intellectual workers. One of the things that has struck me, in a variety of interviews, is a sense among intellectuals of being in a time of cultural crisis. The frameworks which gave meaning to their work are now in question—often as a result of the impact of commodification and neo-liberal globalisation.

I think there is reason to be concerned about such issues, but I do not, myself, believe that in higher degree education we are currently in a cultural crisis. We need not feel apologetic about the kind of work that we do. It's my belief that we are not doing too badly in this area of higher education. That belief is bolstered by a certain amount of informal field work in other countries, and not only in the global metropole.

I believe that we can have a certain confidence in our academic culture and feel that we are entitled to defend it. We are entitled to combat the pressure and sometimes intimidation to which we are being subject by other forces. I don't think we can afford to be either romantic about our past or complacent about our present. We do need to open ourselves to new influences, especially cross-cultural ones. We do need to learn, we do need to diversify our enterprise.

We should feel confident that we can make changes, and do so by critical thinking, not from a position of weakness but from a position of strength. The more we can do that, the more we, as academics and intellectuals, can reclaim the position in Australian life, the position of cultural leadership, that we should be aiming for and do have the capacity to exercise.

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Papers

A Professional Doctorate in Health Sciences: Swimming against the tide to meet the workplace needs health professionals

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Abstract

This paper presents a case study of a response to recent challenges to the viability and sustainability of professional doctorates. Many universities are reporting that professional doctorate programs are losing ground to PhD programs (Evans et al 2005). Professional doctorate programs were introduced in the Australian context to serve the needs of the professions and to develop close links between professions, workplaces and universities. The University of Sydney's Doctor of Health Science program, now in its 6th year, is relatively new compared to many of its counterparts in Australia and was specifically conceptualized with a workplace focus (Rothwell et al 2005). In its brief lifespan it has attracted a significant number of allied health professional students to the program (n=42 in 2006) with three students from the initial cohort graduating in 2005. We argue that the professional doctorate, compared with the Australian PhD, still provides an appropriate educational pathway for professionals in practice and policy environments in spite of government policy agendas since 2001 which have posed serious challenges to the feasibility of such programs. The case study uses course review data and subsequent curriculum developments to illustrate the continuing value of a professional doctorate to meet the professional development and workplace needs of allied health professionals seeking doctoral level qualifications. The significance of these developments for the long term survival of the program, however, are explored in the context of ongoing tensions between the evolving scope of the generic Australian PhD and the more explicitly framed professional doctorate.

Introduction

This is the continuing story of a work-place focused professional doctorate in the health sciences (Rothwell et al 2005). The Doctor of Health Science (HScD) program was established to respond to contemporary forces broadly challenging university education to be more industry focused (DEETYA 1998, Coaldrake & Stedman 1998), particularly in postgraduate education (Poole & Spear 1997) and research (Jacob & Hellström 2000). More specifically, it responds to the education and training needs of health professionals at an advanced postgraduate level, and to new demands in the health sector (Productivity Commission 2005). It aims to provide more highly skilled health professionals for practice, management and policy positions and more practice-based evidence to inform evidence-based practice (Green 2001). It is a program which, in spite of a trend against professional doctorates (Evans et al 2005), continues to be vigorous in the face of a rapidly evolving university context, yet faces particular challenges in its present and its future.

The case study program: Doctor of Health Science

Course purpose and aims

The HScD is premised on interdisciplinary and multidisciplinary approaches to the training of leaders in health care services. It targets practitioners who are typically in full time employment with at least three years of professional

practice. The course was designed to provide health professionals with the knowledge and skills required to assume leadership roles in areas such as health policy, program planning, clinical/program management and/or clinical education. During their studies students are expected to develop high level research and inquiry skills, enabling them to design, implement and evaluate health care programs and delivery and thus contribute to the improvement of clinical practice.

As with all professional doctorates, although the major orientation of the Doctor of Health Science is the extension of knowledge (and achievement of this is an important component of the program), improvement of professional practice, understood as a unity of theoretical and practical knowledge and clinical skills is the larger goal.

At the Faculty of Health Sciences, the Doctor of Health Science course normally differs from the Doctor of Philosophy course:

- In the interdisciplinary approach taken
- By the structured approach taken to develop research skills through compulsory coursework and sequential research training
- In the size of the thesis and its expected orientation towards health professional practice
- In the workplace driven research problems and desire to collect evidence to change workplace practice

Specifically, the course, through an integrated program of theory, practice and research seeks to:

- Produce health practitioners who are scholars, who have advanced knowledge in an area of health science and who are potential leaders in the field of health sciences.
- Develop graduates who can make original and significant contributions through research and scholarship in the fields of management, policy, planning, evaluation, or education.
- Produce practitioners who can meet the demands of and potentially influence the outcomes of a rapidly changing health care system.
- Open an avenue for specialisation and upgrading of qualifications that have direct relevance to health care delivery.
- Enable graduates to acquire an appreciation of the interdisciplinary approach to health care service delivery.
- Provide graduates with the skills to lead multidisciplinary teams in the health care system.
- Provide health practitioners with an opportunity for reflection on practice.
- Encourage links between research and the workplace.

Course structure

The HScD is designed on the now expected doctoral three years full-time-equivalent model for doctoral study and consists of two phases. Phase 1 is coursework (8 subjects for 48 credit points) comprising one-third of the three year program. Phase 2 comprises the student's research and is two-thirds of the program. The primary thrust of both phases is towards research culminating in production of a doctoral thesis (maximum 60,000 words).

The course is delivered in a multimodal approach, offering on- and off-campus

options, while treating all students in the program as one community. Supervision during the research phase makes use of appropriate in-person and information & communications technologies-mediated strategies.

The coursework component consists of three core compulsory units of study (each 6 credit points). These are:

- Theory in the Health Professions
- Foundations for Doctoral Studies
- Research and Inquiry in the Health Professions

Each candidate is expected to develop, in consultation with the supervisor and Academic Coordinator, a structured program of units of study which will ultimately satisfy the objectives of the program and will directly support the proposed research.

Students are thus able to elect any profession-specific or research methods units of study which are demonstrated to underpin their research topic. This coursework component totals 30 credit points.

Delivery modes

Within the multimodal framework there is a wide range of teaching delivery modes practiced by academic staff responsible for core and elective units of study. All acknowledge that local postgraduate students have primary commitments to their professional practice, family and community responsibilities. (For international students wishing to study in Australia as full-time, campus-based students with the expected concomitant university experience, this creates both student visa and university life difficulties.)

Flexibility to meet student needs for times and places that suit their busy lives is a key attribute. Core electives are available by distance and where the number of students enrolled in a core unit exceeds eight who can attend on campus, some on-campus classes are held. While some electives are only available by distance mode, others are only available in on-campus mode. Some elective units of study are totally web-based whilst others incorporate a more independent study distance education approach using a package of printed resources, often with the support of web based discussion groups based on email lists. An annual HScD student research colloquium has included presentations via telecommunications. The University of Sydney Library has committed to online services and offers extensive access to literature databases and full text materials. Associated with this service is the Course Online Reserve Service (also known as eReserve) which enables further materials to be made available via the Internet to students anywhere in the world. Developing a learning community which bridges the difference between the students' dominate community of the practitioner and supervisors' dominate community of the researcher and university academic (Wikeley & Muschamp 2004) and draws busy practitioners into the research community has, to date, only achieved partial success. Local initiatives to support research students (not specifically HScD students) have recently piloted new approaches (Hughes 2005, Mahony et al 2006) which may be extended in the HScD student community.

Caught in the policy undertow

Since the commencement of the course in 2000, there have been significant factors shaping the program (Table 1). Perhaps the most significant of these is the Australian Government's Research Training Scheme (RTS) imposed on all research higher degree programs in Australia in 2001 which represented

the Australian Government's changed expectations of universities from recruiting HDR students to graduating them (funding tied to completions).

Factors shaping the HScD course 2001-2005

2001	National. Commonwealth Government introduces RTS. Coursework allowable (24 credit points) in a PhD program
2003	Faculty. Faculty requires 500 word research proposal with HScD as with other RHDs
2004	University. Postgraduate Research Support Scheme (PRSS) same conditions and process as PhD
2004	University. Changes to the requirements of the Annual Progress Report (all RHDs treated similarly
2004	University. Applications for Scholarships, e.g. Australian Postgraduate Award/University Postgraduate Award under same conditions as for PhD
2004	University. University processes for Examination of HScD thesis same as for PhD
2004	University. Qualifications for Principal and Associate Supervisors for all doctoral degrees must be doctoral equivalent
2005	University. Guidelines for submission of PhD by portfolio of publications codified

Inspection of Table 1 indicates that many of the changes introduced after 2001 have swept doctoral programs closer together (e.g. candidature management, examination process, infrastructure support). Tensions surrounding standards with a professional doctorate were expected to be resolved by aligning the program with the PhD model. At the time, many staff in the Faculty of Health Sciences thought that the similarities between the programs were a strength, and would bring status to the HScD. In retrospect, the similarities between the programs may have highlighted the criticisms often leveled at professional doctorate programs that they are similar to but different from a PhD (Neumann 2005), begging the question how are they substantially different? The following are some of the challenges.

Inclusion of coursework in PhD programs

The RTS allows coursework units (24 credit points) to be included in a PhD program. The rationale for this inclusion is to allow students to acquire broad generic research skills and knowledge rather than knowledge and skills that are narrowly focused on a specific PhD topic. In effect, this Scheme has potentially brought the two types of doctoral programs (professional doctorate, PhD) and their course aims closer together. Thus, much of the scaffolding in terms of a structured approach to research introduced for professional doctorates is able to be adopted by PhD programs thereby changing the nature of the Australian PhD, though this has not occurred in our local context. Nonetheless, the RTS has had a considerable impact on shaping the development of the HScD in the Faculty of Health Sciences.

Stricter completion times expected

In order to achieve timely completions for all RHD students, certain changes initiated by the University's Graduate Studies Committee since 2001 have impacted on the HScD course as well as other factors agreed to within the Faculty of Health Sciences (Table 1). One of the changes is the evolution of applications for admission to candidature for both HScD and PhD to a more formalised process requiring the candidate to submit a 500 word research proposal (introduced in 2003 by the Faculty). While this is another example of both programs being swept together in the same way, the impact on the HScD program perhaps had unintended consequences. The research proposal requirement somewhat contradicts developing the project during the coursework, an original expectation of the HScD program. However, an advantage of requiring students to formulate their research proposal prior to Admission is that it has ensured that appropriately qualified supervisors are available to support the student's project and its development and this in fact appears to have enhanced throughput during candidature.

Portfolio as a thesis alternative

In recent consideration of elements which distinguish the HScD from the PhD, the potential of a portfolio has been explored. Some professional doctorates (Maxwell et al n.d.) include a portfolio as an alternative to a thesis or indeed as the only examinable output. While in theory a portfolio offers an examinable research product which may be more relevant to the research on professional practice ethos of the HScD, both defining and then planning the operationalisation of a portfolio option in the HScD has so far proven a point more for discussion than for change.

Defining the portfolio is the first dilemma. Thesis by portfolio of publications, an option available in the University of Sydney for the PhD, draws on the most conservative of the definitions and is being considered by some HScD candidates and their supervisors. A broader definition was suggested by Deakin University,

[A portfolio consists of a) selection of the products of research which best establish) the candidate's claim to have carried out research of a doctoral standard (Walker 1998, p.94)

which would enable the scope of inclusions to be wider than published papers, but what should the range of possible inclusions be for candidates concerned with health professional practice? Operationalising a portfolio option of wider scope than a portfolio of academic publications raises questions of supervision skills, standards, and examiner expectations.

The portfolio versus thesis discussion leads back to the purpose of the professional doctorate compared with the purpose of the PhD (Neumann 2005).

Swimming against the tide to meet the health profession's needs

There have been significant factors shaping the development of the HScD course over its six year life span, including the RTS and changing expectations in the broader university community and the Faculty in which the course resides. The program, however, continues strong with 42 students enrolled in 2006 (about half located beyond greater Sydney nationally and internationally, and representing a range of health professions).

While the HRD environment appears to be driving convergence of PhD and professional doctorate programs, the success to date of the HScD still supports for us a professional doctorate for health professionals.

Strengths and opportunities of the professional doctorate

- Broader focus that is usual in a PhD
- Easier fit within the argument for mode 2 knowledge production as well as mode 1 knowledge production
- More of an interprofessional context for the community of learners and for the research topics relevant to the aims of the course
- Opportunity to introduce some coursework options on topics beyond the scope of a purely research training course (e.g. health policy and practice issues, leadership and management)
- Perceptions in the workplace of accessibility – personal/professional self-conceptualisation is often not about being capable of completing a PhD, nor of wanting one, while the professional doctorate is more easily aligned with an allied health professional's self image
- Explicit and expected focus on the practice and practice environment of health professionals (including but not limited to clinical practice)
- Natural and comfortable progression for health professionals who have completed a coursework master's in their area of interest/expertise and through it identified a research interest

Weaknesses/threats

- Academic staff perceptions – status, quality, rigour in regard to what an HScD program is and their willingness to supervise students enrolled in it.
- Recognition in the workplace compared with PhD – unknown as the award is new to the health industry.
- Reward - currently neither increased status nor increased remuneration would be seen as a direct outcome for allied health professionals though it may be associated with subsequent career advancement.
- Traditional thesis requirement, which in at least some cases is seen as a research product irrelevant to the context of practice oriented research by practitioners usually embedded in that practice

Summary and conclusions

Our analysis of data collected during the five year review of the Doctor of Health Science Program suggests, on balance, that a professional doctorate does have a role to play in improving allied health practice, and perhaps the status of its practitioners.

A professional doctorate offers some attributes which we think are not possible in an Australian PhD program. Foremost is a pathway to doctoral study seen by allied health practitioners as accessible to them in terms of their professional and academic identities, and their academic achievements which are most often at the level of a one year full-time equivalent coursework master's degree. Along the way is the professional development of current practitioners which occurs as the students carry out their HScD studies. At present our evidence is anecdotal from the students themselves as they progress through the course. As graduates emerge investigation of the impact of achieving the HScD on their professional lives will be important.

Our metaphor of tides and storms, and change continues to reflect the environment of HRDs. There are challenges for universities, for professions and for employers. Which is more valuable and to be valued? A single doctoral qualification, the one size fits all degree defaulted to the PhD, or sibling qualifications with one foregrounding the research focus over broader

development at the doctoral level while the other foregrounds the broader development within a research intensive degree program? What do the professions want? What do they need? How should these questions be answered? For our Doctor of Health Science program, the strategy remains careful evolution.

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What counts as practice in doctoral education?

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Introduction

In a recent editorial of a special issue of a higher education journal dedicated to doctoral education research, the editors sum up the collection of papers in terms of the 'high level of scholarship … and a refusal to rely simply on practice-wisdom and to allow the contemporary agendas of government to dominate and dictate research, thinking and debate' (Evans & Kamler, 2005, p 116). What interests us for the purposes of this paper is the reference to 'practice' in relation to this laying-out of 'practice-wisdom' on one side, 'government' on another and 'scholarship' on a third. What oppositions and tensions are implicit in this formulation? How are we to understand 'practice' and what we might call the problem of practice?

While we would support the endorsement of serious scholarship in this editorial reflected in the whole issue of Higher Education Research and Development it prefaces, we seek to turn in this paper to an examination of the problem of practice, the implicit and explicit tensions and oppositions that are set up in accounts of practice and the general usage of the term within the field of research in doctoral education. We note that the question of practice appears in many forms and formats in a growing field of research and research-related publication in doctoral education. Indeed there is a liberal spread of the terms within recent published literature in the field. Yet to date there has been little conceptual analysis of the idea of practice itself in relation to the developing research field.

An informal and incomplete survey of recent published research (Quality in Postgraduate Research Conference Proceedings and recent journal publications) has been a useful starting point to begin to demonstrate both the widespread use of the term practice and the many and varied referents. Most commonly the term practice is co-located within the following groupings:

- practice/theory or practice/rhetoric (set up as an opposition, as is implied, we suggest, for example, in Evans & Kamler's comment above)
- good practice, best practice and effective practice (especially of supervision and especially in policy and quality assurance contexts)
- codes of practice (for supervisors, candidates)
- professional practice (referenced to the practice field that is the object of research, especially in professional doctorates)
- practice-based research (referenced to new and emerging forms of research, particularly within professional doctorate programs)
- communities of practice (invoking Wenger and colleagues [e.g. 2002] and usually referring to local groupings of students and researchers within departments or disciplines or research teams)

Each of these sets of terms refers in turn to a particular conception and usage of the term 'practice'. It is possible to see a broad direction in the usage of the

term within the above list. First, where 'practice' is set up in an all-too familiar binary distinction with one or the other pole being privileged in relation to the other. That is, 'practice' is either the 'real' against which is posited abstruse theory or empty rhetoric, or its daily logics and imperatives are invoked as subordinate to, and even a problem for, serious scholarship.

Second, practice is invoked in relation to the quality assurance discourses governing higher education of practice, through notions of best practice and the increasing codification of relations of accountability. Third, practice comes into visibility in relation to emerging object-domains for research ('professional practice') and attendant developments in epistemology and methodology for researching practice ('practice-based research'). Finally, in relation to the last-named item on the list, there is an emerging conversation using the ideas of 'communities of practice' to address questions of relationships within disciplines and other academic groupings [e.g. see QPR list, refs to come].

Despite this widely diverse variety of ways in which practice is used and taken up within doctoral education research, it is rare to find explicit reference to the frames through which the term is being construed. One distinction that needs to be made for the purposes of this paper, however, is the distinction between what we might term doctoral education for practice and the practices of doctoral education. The ideas of practice we are concerned with here are of the latter kind, since we take as our focus a concern with the educative work of doctoral education and the still under-theorised domains of practice within this complex field. It is clear that focused work is also needed to interrogate the meanings of practice and what it means to research practice within that former sense. Within the terms of this paper, however, we advance an argument that practice is a problematic idea with the literature on doctoral education, often invoked in opposition to theory or scholarship on the one hand or policy rhetoric on the other. Practice is in this sense either valorised or subordinated. It is also often advanced as an empty category, standing in for conceptual work rather than doing that work.

We ask the question: what counts as practice for research on doctoral education? Much of the available published research related to practices of doctoral education focuses on supervision as the primary site for practice, with a concomitant under-emphasis over time on other sites and arenas of practice, whether these be laboratory-based research training, program development, writing, governance and management, or indeed the practices of research itself. It would seem at this stage of the maturing of the field of research that it is desirable to create some more systematic mapping of some of the key dynamics, with due attention to the call for more globally relevant focus. In the remaining sections of this paper we set out the terms for our own developing thinking about of the idea of practice within doctoral education, arguing that a more sophisticated conception of practice is needed to develop discussion within the field and to ground policy development in relation to the material conditions in which doctoral work is done. Our aim is twofold: first, to bring to the field a stronger program for the analysis and researching of practice than is currently available and second, to begin to identify a range of sites and forms of practice that are salient in the current and emerging field of doctoral education research.

In doing this we seek to build resources for understanding and researching practice in and of doctoral education, to begin to address some of the limiting gaps noted by Pearson (2005), who has argued that the 'micro-level studies of educational practice and the doctoral experience have too often been decontextualised, with disciplinary differences assumed to be of most

significance in explaining variation of practice' (p130). To address this problem and address her concern to bring a more global perspective to research into doctoral education, Pearson calls for:

> more complementary macro- and micro- level studies, more critical analysis grounded in empirical data, more fine-grained analysis of local activity and agency and more recognition of the broad range of stakeholder interests. Such studies would provide richer and critical accounts of how changes and developments are enacted and choices made at many levels. (p130)

We argue in this paper that such a task involves new and better forms of theorising, with renewed emphasis, not just on the kinds of macro-level comparative methodologies exemplified in Pearson's article, but on methodologies that allow attention to the specificities and complexities of practice within doctoral education.

What is practice and how is it researched?

Anything can in principle be a practice. In its most literal sense, practice refers to the action of doing something. For the idea of practice to be a useful conceptual organiser for research and analysis of doctoral education, however, a necessary first step is to develop a more robust conceptual framework for focusing directly on the idea of practice itself.

In doing this we are drawing attention to a major shift in contemporary theorising about the organisation of social life. This shift has been characterised as the 'practice turn' in contemporary theory (Schatzki et al, 2001). The term refers here to a new focus on the idea of practice from within a wide range of theory from philosophy, sociology, cultural theory, history and anthropology to science and technology studies. What these disciplines all have in common in their contemporary manifestations is a conviction that practice is an idea that best names the 'primary generic social thing' (p1), thus bridging or sidestepping the major theoretical bifurcations that have troubled contemporary forms of social theorising since the Enlightenment: between the individual and the social, structure and agency, systems and lifeworlds, etc. Examples of this major shift in the second half of the twentieth century include a focus on 'non-propositional knowledge' within philosophy, a focus on the actions of individuals and groups as the building blocks of social organization within sociology, a focus on discourse as practice rather than structure (most notably in the work of Foucault), a focus on science as activity rather than representation and most recently a reconsideration of the assumed dichotomies between human and non-human entities (Schatzki, 2001).

Bringing all of this work together is a concern to attend to human activity as a primary building block of social life and meaning. Despite the diversity in the bodies of work that constitute this shift, what unites the work and its significance for doctoral education is that the phenomena of science, knowledge, meaning, power, institutions, change etc all occur within the field of practices, a term that refers to the 'total nexus of interconnected human practices' (Schatzki 2001, p 2). Practices, according to most accounts, are 'embodied, materially mediated arrays of human activity centrally organised round shared practical understanding' (p 2).

One of the important implications of attending focally to practice rather than, say, knowledge as the central conceptual organiser for understanding and researching doctoral education, are these notions of embodiment and practical

understanding. Foucault, for example, shows in his historical studies, how practices constitute intelligible forms of embodiment, in the sense of capacities and aptitudes as well as experiences and even physical properties.

Practice theorists have recently developed a range of tools for systematising approaches to the study of practice. In a recent publication on analysis and research into practice in education, Schwandt (2005) outlines two models that distil a range of complex and diverse approaches to the study of practice that serves well as a point of departure for an initial reading of the ways in which practice is currently being taken up in the research literature on doctoral education. While Schwandt's two-model account is a rather sweeping one, his work is helpful in its synthesis of the different discourses currently constituting such fundamental elements of social organization as knowledge, method, culture, work etc. These elements are manifest in the 'knowing' and the 'doing' of practice and hence are crucial to a rich empirical and conceptual inquiry.

Schwandt's Model1 includes a cluster of approaches to the study of practice based broadly in scientific knowledge traditions, while his Model2 is based in what he calls the practical knowledge traditions. The first is strongly present in much current educational inquiry promoting evidence-based practice and accountability measurement. The relation of practice to knowledge is instrumental and based on means-end rationalities. The goal of research of this kind is to find efficient means to an end—improvement in practice of one kind or another. Knowledge is always understood as being 'about something' (p 317) that is distinct from the knowing subject and can be 'applied' to the object. Practice is seen as an array of 'techniques ' that can be changed, improved, learned etc, independently of the 'contingent and temporal circumstances' (p 317) in which practices are embedded. The kind of knowledge generated about practice ought to be 'explicit, general, universal and systematic' (p 318). To achieve this, such knowledge must by definition eliminate the inherent complexity of the everyday thinking that actually occurs in practices.

Model2, in contrast, takes up the ideas about practice summarised by Schatzki (2001) above. Practice is 'human activity concerned with the conduct of one's life as a member of society'. Practice is a 'purposeful, variable engagement with the world' (p 321). Practices are fluid, changeable and dynamic, characterised by their 'alterability, indeterminacy and particularity' (p 322). What is important is the specific situation in which particular instances of practice occur and hence the context-relativity of practical knowledge. Knowledge must be a flexible concept, capable of attending to the important features of specific situations and so on. Practice is understood as 'situated action'.

What is useful from these ideas to take into the realm of doctoral education? The contrast in focus of approaches within these two models draws attention to the different concerns they each address. On the one hand there are the instrumental and technical concerns of policy, quality and institutional governance; on the other are the concerns of practitioners and theorists of practice, whether those be pedagogical practices or the practices of research or of writing, and so on. As a beginning to the process of understanding a research agenda of and for practice in doctoral education, it will be necessary to map the field of practice, a process that involves expanding and elaborating the domains of practice beyond those that are customarily the focus of research attention, taking particular note of the dominance of work on supervision that has served in part to downplay or even efface the array of sites or domains of practice. We begin this process of mapping in the next

section, then return to some key points of practice theory to explore the resulting agendas for research.

Naming domains of practice in doctoral education

We begin here to map doctoral education in terms of overlapping and intersecting but pragmatically distinguishable domains of practice. We attempt to identify what we regard as some of the key domains of practice in doctoral education to provide a basis for study and investigation. The domains of practices we have identified are, of course, provisional, and fruitful debate can focus around why these have been named and what has been left out through this naming. We also note in passing that the increasing visibility of doctoral education within the policy arena has produced a corresponding proliferation of practices and arenas of practice, as well as an increasing visibility and accountability of practices that hitherto have remained within the realm of the private, un-interrogated and even unspoken.

We have produced the following list from a combination of the existing literature and what we have observed, as academic managers and supervisors within doctoral programs, to be emerging practices. From the literature it is possible to see how each of these domains of practice has an impact on what has come to be measured as the 'quality' of doctoral education. From observation we can see how increasing investment is being made by universities in each of them, in response to policy pressures. Each of the domains we have named here has a pedagogical as well as a governmental function and we will see in the next section how research in these areas will focus on different aspects of the practice domain in question. We have named the following domains: Supervision, Governance and regulation, Assessment, Program provision, Establishment of working environment and research culture, Candidature, Research work and Writing—and elaborated them in some detail as follows:

Supervision includes designation of formal supervisory relations between a candidate and one or more supervisors or members of a supervisory panel. The practices of supervision include both formal elements, such as monitoring of progress and the giving of advice, and elements constructed within the relationships between candidates and designated staff members. Supervision is currently subjected to increasing interventions to regulate who can and cannot take on supervisory roles, what the formal obligations are of a supervisor to a candidate, reporting requirements of candidates and supervisors, training requirements and so on. What was once a practice engaged in privately between two people is turning into an activity subjected to monitoring and accountability expectations. This is necessarily changing practice, but the implications of these interventions for supervision are obviously potential subjects for investigation. Research attention has been being given to issues ranging from conceptual: what is supervision, how can its pedagogy be better understood—to technical and instrumental: who should be a supervisor, what constitutes good supervisory practice and how might supervisors be trained and accredited.

Governance and regulation has a number of different elements including regulation of candidature and increasing regulation of doctoral programs and the academics who practise within them. The former includes admissions, managing of progress, formalisation of absences and requirements for regular reporting. The latter involves increasingly visible accreditation procedures, maintenance of supervision registers and the like. New players in the practice of governance and regulation have appeared in the past ten to fifteen years with the rise of Graduate Schools and Offices that have taken on many

regulatory functions from local, discipline-based schools and faculties. Progress of candidature is subject to the gaze of the institution, in some ways parallel to the gaze of DEST on doctoral completions and exits, and through requirements for ethics approval. While this domain has been under-researched as a domain of practice, it has been subjected to primarily technical description and analysis.

Assessment has always been a practice of doctoral education through judgements made by external examiners on a substantial thesis, though there is considerable variation from country to country on the particularities of this process. The practice of assessment has been formally extended through the use of intermediate forms of assessment that act to confirm candidature or to move candidates from one status of enrolment to another. Assessment incorporates not only the formal requirements of the institution but the various forms of self-assessment in which candidates engage in order to prepare for these requirements and meet their own expectations of performance. There has been little research into the actual practices of assessment in these different domains.

Program provision includes formal courses and less formal provisions of resources and activities to cohorts of candidates, for example through seminar programs, research workshops and the like. The provision and requirements to complete various kinds of coursework has always been a key practice of doctoral education in some countries, such as those in North America, but it has come later to Australia and the UK. The practice of program provision may be tightly or loosely coupled with supervision, but it features strongly in regulation of candidature where it is required. Apart from a series of publications within the professional doctorates literature, there is as yet little research into program provision within doctoral education, though this is rapidly changing in response to policy pressures

Establishment of working environment and research culture includes relationships between candidates and research groups, accommodation and resourcing of candidates, links between candidates and researchers not formally designated as supervisors of program coordinators. Some elements of this practice are often not subject to the same level of scrutiny and regulation as other practices and it is sometimes not clear in any given case where responsibility lies for these elements. Where in earlier days a research student was left to make their way within the given environment, with radically different experiences depending on the organic nature of the relationship, contemporary policy pressure is engineering new purpose-built research environments to optimise completion and, more recently still, enhance focus and concentration.

Candidature includes not only the interaction of those enrolled in doctoral programs with formal provisions and regulations, but with the taking up of a wide range of possibilities that being a doctoral study offers. The practices of candidature are concerned with forming identity as a researcher, or novice academic, or some other desired self, with making choices of how to position and represent oneself in any given disciplinary area and with managing a complex array of tasks and expectations, many of them not explicitly formulated. Doctoral candidates, or students, are of course not just responsive to what is provided for them. They have their own volition, desires and strategies and processes associated with the act of being a candidate. This remains an under-researched and under-conceptualised domain, a matter that is perhaps not surprising and yet remains intensely problematic.

Research work varies according to the domain of research being pursued, the

various disciplinary and professional practices that accompany it and the locations (laboratories, libraries, field sites) in which it occurs. It involves the practices that occur in undertaking research independent of the candidature or status of the researcher. The doing of research work was once seen as the principal practice of doctoral education. The generation of knowledge through enquiry constituted a doctoral education. The other categories of practice we have identified have been produced in a sense adjacent to the practice of research and to some extent arguably replace a focus on research by a focus on institutional governance and quality improvement. There is a strong and continuing need for fine-grained studies of the practices of learning research through doing.

Writing includes those practices that involve production of reports and papers, documentation of processes and analyses and the production of final products such as theses. It could be said in many disciplines that writing is the principal research activity and there is increasing attention given to pedagogies of and for research writing. On the other hand, writing is often seen in technical terms as product rather than process or practice, and hence as overlapping with practices of assessment, or even encompassing it. Research on writing attempts to come to terms with both practice and production dynamics.

These domains of practice can be elaborated in various ways. They might include accounts of the publicly accepted purpose or roles of the practice, the ways in which they are construed by the various parties involved in them, unintended and unanticipated aspects of these practices and social and cultural effects and influences on them and of them. There are also of course other practices to be found in doctoral education, some of which share much in common with other practices in higher education within the contemporary policy environment. For example, quality assurance applies to doctoral studies in similar ways as to other programs. There are also practices that have yet to be named. In particular, the development of a practice-oriented view of doctoral education will involve the identification of as yet invisible practices as they are recognised as having an impact on formation.

Approaches to inquiry into doctoral practices

According to Schwandt:

In Model2, inquiry and research begin with consideration of the realities of practice itself, namely that practitioners are always facing contingencies, multiple demands on time and resources, competing conceptions of what is right to do, and so on as they make their decisions. Thus, a praxis-oriented approach to inquiry is concerned with the deliberations of values (judging the merit, worth or significance of various action planned or taken) in terms of the practical activity and practical knowledge of actual daily practices (Flyvbjerg, 2001, in Schwandt, 2005: 328)

Schwandt's models, together with other recent work synthesising a range of approaches to the study of practice (e.g. Schatzki, 2001, Kemmis, 2005), help us to focus a finer attention to the epistemological assumptions and bases upon which current research into doctoral education practices than has so far been the case. For our purposes in beginning to map a research agenda here, we will take Schwandt's two-model distinction as an initial schematic frame. Accordingly, we might consider mapping the field of research into practice in doctoral education within the following kind of grid, or a development of it:

Domains of practice	Model1—research on practice—knowledge is instrumental—focus on application and improvement	Model2—research into practice, where practice is dynamic, complex, emergent—focus on questioning and understanding the 'realities of daily practice'
Supervision		
Governance and regulation		
Assessment		
Program provision		
Establishment of environment & culture		
Candidature		
Research work		
Writing		

This is neither an exhaustive nor a definitive list but is intended rather as an illustrative starting point for the setting of a research agenda focusing on the analysis of practice. What the grid does allow, however, is the understanding that practice can be an over-arching organising term for mapping the field. It construes and produces spaces for asking new kinds of questions. Since anything can be a practice, what counts as practice is in part a matter of who attends to the question and how a field is construed. In addition, in principle, each of these domains can be subject to research and analysis within technical and instrumental or in practical and critical frames. In our descriptions of each of the domains of practice we have noted features that have been taken up within approaches that approximate to Schwandt's Model1 or Model2. For example, there are now many examples of attempts to systematise and regulate practices of doctoral education using Model1 conceptions (for example, in developing rules of conduct for supervision, measuring candidate satisfaction of their experience, determining more precise accountability requirements at each stage of progression, etc.) and very little documented with regard to a Model2 view of the same practices (i.e. with regard to the particularities of practice, how Model1 initiatives are taken up and interpreted, etc.). Rule-based approaches appear to be favoured over those that Schwandt refers to as 'wise judgment' (p. 325).

Schwandt takes up an explicit advocacy in his account for Model2, making a strong case for approaches to the study of embodied practice that resonate with Pearson's (2005) call for more 'fine-grained analyses of local activity' in doctoral education research. There is much more to be explored here. At stake is not simply the need to attend more carefully to the diversifying sites or domains of practice but also to what are in fact fundamental epistemological distinctions between different forms of reasoning about practice among technical, practical and critical reasoning about practice. Kemmis (2005) makes the practical consequences of these distinctions clear:

Technical, practical and critical reasoning are realised in different patterns of social relationship between the person doing the reasoning and the people—or social systems or institutions—reasoned about. While there is no smooth one-

to-one correspondence about this, in contemporary contexts where people are interested in developing, reforming, transforming or otherwise changing practices, instrumental (technical) approaches to practice presuppose what might be described as a 'third-person' relationship between the person thinking about the practice and the practitioners of the practice—and other people inhabiting the systems or settings to be changed; practical approaches presuppose a 'second-person' relationship; and critical … approaches presuppose a 'first-person' relationship.

Kemmis proceeds to discuss the benefits and tensions of attempting to reconcile the differences among these approaches in what he terms 'symposium research' in the study of practice. By this term he is referring to the idea of 'interrelated studies by researchers specialised in different traditions in the study of social practice, working together to investigate the formation and transformation of practices in particular historical circumstances and conditions' (p 424). While this presents a major challenge to the field of research into doctoral education, it offers many opportunities, if rigorously grasped: researchers skilled in different kinds of research methods and techniques could work together on common problems and topics; more complex understandings of practice may be developed in a range of fields; collaborative research on common problems and topics could create the conditions for dialogue across the divides; different kinds of research into practice might be used to throw light on different facets of the realities of practice in day-to-day settings.

We suggest that the domains of practice we have named, as well as other and emerging domains, require careful empirical attention through programs of research that build the capacity of the field to know and understand its practices. Problems of practice require complex and sophisticated understandings that reach beyond, and speak back to, instrumental agendas that reduce the complexity of lived experience. Doctoral education is a field of practice concerned with the formation of scholars and researchers. It is still the primary domain for the training of advanced knowledge makers and its current and future fortunes are intimately connected with the future of the university and its role in social life. Research into doctoral education needs to be able to grasp and address the importance of this task and the problems that confront it within a stressed higher education system and conditions of policy ambiguity in research education.

Conclusion

We have suggested in this paper that it is useful to view doctoral education through the conceptual lens of practice. This enables both a greater range of issues and concerns to be incorporated into research in doctoral education and points to different approaches to inquiry that will be needed. An advantage of this way of viewing doctoral education is that it opens up greater possibilities for it being treated in ways that its practitioners would recognise and it draws attention to its particular situated and social elements. While not underestimating the importance of outcomes, it enables serious attention to be given to those processes that influence what these outcomes might be.

It is tempting, within the present climate of justification and accountability, to solely engage in Model1 forms of research, or research that deploys technical and instrumental forms of reasoning that de-emphasise the complexity of practice as if all knowledge of them was equivalent or reportable in the same terms. This might satisfy the needs of Canberra, but at the expense of not doing justice to the central phenomena to which it attends.

Research on doctoral education needs to reflect the sophistication of practice and the ways in which it might be viewed. It is only through doing so that it might effectively inform that practice.

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The Ethics Centre of South Australia

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The Ethics Centre of South Australia (ECSA) was set up in late 2005 as a joint venture of the three South Australian universities and the State Government. Its major purpose has been defined as providing a research concentration in the field of ethics, which is of growing importance to contemporary Australian society. Why an Ethics Centre and why just now and why in South Australia?

It seems that ethics has become a popular pastime in social circles at the moment. Most people have their own ideas about what is right, what is wrong and how the difference between the right and wrong can be resolved and they feel comfortable about expressing their views. At any contemporary dinner table there can be a quick cut in the conversation to the abortion debate and the use of the RU486 drug, to the printing of the Danish cartoons that depict Muhammad, to euthanasia, and to the use of bribes in international trading.

With the issue of same-sex marriages there can be an added dimension. Even if ethically the dinner guest might be in favour of them, should they be legitimated in law? Should the state, in fact, allow anything that is ethically acceptable? That certainly raises the tone of mealtime conversation.

Meantime, Pope Benedict XV, in a recent pronouncement, claims to have sufficient control of ethical principles and their foundation to condemn modern societal values generally as the 'filth around us' and has asked God to 'free us from our decadent narcissism' (Sunday Mail, April 16, 2006).

Such Papal confidence in ethical theory and such a negative evaluation of society are not new. In the fourth century Plato had that same confidence, being a moral absolutist who was sure that valid moral knowledge was actually encoded into the universe, and he was able to condemn Athens as an immoral place because of the ethical scepticism of its Sophist philosophers (see Hare, 1984).

Down through the eras of human thought, ethical scholars have at certain times concluded that the community (however that term might be defined) provided a received tradition for ethical practice and at other times they have concluded that the individual was the source of ethical decision. All of these scholars wanted to provide some substantial foundation for ethical practice and theory.

The establishment of ECSA does not presuppose that the problems of ethical debate can be solved or that ready answers can be provided for the dilemmas that so readily occur in society over what is right and what is wrong. Far from it. It is intended that ECSA should glory in ethical diversity. I would see within ECSA Utilitarians, true to Jeremy Bentham's principle (as refined by John Stuart Mill) that so long as people do not interfere with the freedom and happiness of others they should be allowed to think and do as they like, standing beside followers of Immanuel Kant who doggedly see the need to obey compulsory moral laws or imperatives. Kantians struggle to do what duty demands as against what the human spirit wants to do.

From such theoretical confrontations there have developed arguments over the very language of ethics (what does the use of 'ought' actually mean? does the language of ethics actually have any meaning?), arguments spawned by

postmodernism's celebration of uncertainty and variety in human thinking. Ethical pluralism is a reality and ECSA rejoices in it.

Decisions still need to be made as to what is right and what is wrong and how to decide on the difference. Despite what might be happening here in the Australian tertiary sector in modern times, the locus of such debate should be the university. The universitas of medieval times was short for the universitas magistrorum et scholarium. It was an aggregate of persons, masters and scholars, with a common interest and independent legal status; it was a guild or corporation. (Pare et al, 1933; Rashdall, 1936; Lesne, 1940). At times it was the magistri who regulated the institution; less often it was the scholares. Participation in such a guild provided entry into the upper echelons of the church, state administration, medicine and the law.

Until the late fourteenth century these universitates were unendowed. They used rented accommodation or the premises of religious orders. They hired manuscript books or had parts cheaply transcribed. Thereby they acquired flexibility, they were able to move from place to place if circumstances required and able to eliminate less useful subjects from the curriculum without great expense. This chance characteristic of lack of endowment ensured their viability and established the permanency of the social invention.

It is within the university, with the vestiges of this guild tradition still pertaining to it, that debate over ethics should be taking place. But at this time an important distinction needs to be made. ECSA has been asked what relationship it will have to the Human Research Ethics Committees or HRECs, in vogue since the 1990s.

HRECs by definition claim to monitor research ethics. However, it has been contended that HRECs are not about ethics, or at least not primarily about ethics (Crotty, M. 1996). Ethics committees, it is claimed, are about the etiquette and research practice that the research community is determined to maintain. HRECs reject those research proposals formally put to them from which a research community would want to be dissociated. Why would a research community want to be disassociated? Not, it is claimed, because of ethical deviation.

This particular research proposal, under scrutiny by a HREC, might raise the spectre of litigation; it might bring criticism on the research community; it might not foster academic cooperation. It might be rejected for a number of such faults. The aims upheld by HRECs and used as parameters to accept or reject research proposals might be admirable; they are not primarily connected with ethics.

HRECs exist not to maintain the ethical health of researchers by discussion but to give advice on the practicalities of this particular research proposal, to measure risk management given legal and governmental legislation. Is the proposal in line with legislation and the direction of political decisions? In other words, HRECs require researchers to behave in a fashion that is accepted as proper by the research community. Their aim is to preclude pitfalls and avoid undesirable outcomes in line with the etiquette and practice of the research community and the political decisions of the government of the day.

On the other hand ECSA has been established precisely to be a forum of debate on ethical matters. There is a need in society for a forum where not only researchers, but all members of society, can claim an enlightened sense of responsibility for what they do and for the consequences of what they do.

Education programs need to be developed where people can discuss ethical values, identify ethical problems and dilemmas while recognising that there can be ambiguity and pluralism.

ECSA is never going to speak with one voice. It should be a faithful replica of society with its many approaches to ethics and morality. There will be ethicists within ECSA who are utilitarians, deontologists, virtue ethicists, postmodernist ethicists. There will be ethicists whose vantage point will be feminist ethics, indigenous ethics or environmental ethics. Within its fold genuine dialogue can hopefully take place which will promote ethical understanding and perhaps unearth new challenges. Its purpose is not to solve ethical problems but to raise ethical consciousness.

What advantages does ECSA offer the research community of South Australia and research education in South Australia? First of all, there are obvious advantages in having a cross-university venture of this kind. It means that expertise and resources in ethics can be concentrated, that there can be collaboration across the university sector in research activity, supervision and teaching in that field, that multi-disciplinary research activities can be undertaken that are more likely to attract funding and that collegial debate and community discussion can be undertaken with a common voice and under the visible brand of ECSA.

ECSA offers further advantages to the university sector; it aims to value-add. For example, it will add to the potential of those researchers in the three universities and in the State Government who are interested in particular ethical areas and issues. It will make the necessary links to foster collaborative research with other national and international ethics centres; it will concentrate already existing expertise and resources in ethical research so that such expertise can be geared towards research applications; it will facilitate multi-disciplinary research activity in ethics that would be otherwise unlikely in the separate universities; it will develop early career researchers in the field regardless of their particular university appointment and it will attract higher degree by research candidates who will be able to benefit from cross-institutional supervision. In these ways ECSA hopes to contribute to the research directions of the three universities and to increase benefits to all of them.

In conjunction with its research arm, ECSA will also support collaborative education and professional development activities in the field of ethics. ECSA's intention is to establish a nest of postgraduate coursework offerings in ethics as well as to offer workshops/seminars supporting professional development in ethics for government, business and the community generally and consultancies on particular ethical matters. Educational ventures of these kinds will be implemented across the three universities and will involve collaboration and interdisciplinarity.

ECSA's researchers, regardless of their university connection, will explore ethical issues in seven broad research areas:

- Public policy
- Professional practice
- Research ethics
- Science and technology
- Health care
- Indigenous ethics

- Ethical theory

Within these research themes ECSA academics will promote discussion and understanding of ethical issues in the South Australian community. ECSA will be available for comment on the ethical aspects of public policy and will contribute to academic and community debate on ethical issues. Research theme groups, directed by acknowledged leaders in the field, will also foster research projects and associated applications, will make contributions to postgraduate education options and will endeavour to attract research degree candidates.

ECSA intends to have three concentric circles of associates. The outer circle would identify those who are interested in ECSA activities and promotions. They would want to be kept informed about ECSA, but do not necessarily intend their commitment to go further. Likewise, ECSA would not take any responsibility for what these interested participants might say or write.

A second circle would identify the ECSA members. These would be nominated by the active leadership, the Research Theme and Education leaders. Nominations will be based on academic standing and willingness to contribute to the activities (such as research, teaching, speaking, writing) and other promotions of ECSA. Membership would be accorded to research degree students who take up ECSA supervision. While the members will largely derive from the tertiary sector, they need not necessarily do so although it would be expected that such members have a relevant academic background.

The inner circle would comprise the ECSA Office and the Research and Education Committee. Most of the initiative for activity will come from this inner core, but neither the initiative nor the activity itself will be confined to it.

To return to the opening question: why an Ethics Centre, why just now and why in South Australia? ECSA exists to provide a forum for ethical discussion within a pluralist society in South Australia. It has been established at a time when ethics has become an urgent issue in society and the need for a forum is being more and more appreciated. Why in SA? The three universities in this State, together with elements of the State Government, have acknowledged the initiative and its value and have agreed to set up a cross-institutional entity that, in many ways, breaks down existing barriers to cooperation. The future will prove whether the confidence in this venture has been well founded.

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Research Education Development (RED) programs and supervisors: Framing a quality research environment

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Abstract

Since the 1980s, universities have had to respond to a number of Government initiatives in relation to research student education in an environment of increasing student numbers and diminishing resources. This paper examines the impact of such policies on research training provision, with particular reference to generic capability development, Research Education Development (RED) programs and the role of supervisors. We argue that university-wide RED programs can play a significant role in alleviating the increased workload and demands on supervisors, and are well-placed to contribute to the development of generic capabilities. Examples from RED programs at James Cook and Griffith Universities are presented. While the success of these programs relied on individual supervisor/RED adviser collaboration to some extent. A major contributing factor was the support offered by the Deans. We claim that RED programs could be much more effective in their role if there were wide-spread acknowledgement of the place of RED programs within the university's research training environment.

In recent years, widespread funding cuts to universities have resulted in diminishing resources and an overall reduction in the traditional academic or research destinations available to postgraduates. At the same time, there has been a steady increase in postgraduate enrolments and PhD completions (OECD, 1998). This has led to a re-appraisal of the traditional research training available to research students. Several European countries have reformed their graduate training programs to provide graduates with additional skills that broaden the base of their research training experience to make them more employable (OECD, 1998). Similarly, the British Research Councils and the Arts and Humanities Research Boards issued a joint statement to all universities, outlining the skills training requirements that need to be incorporated into any research training program. These fell into the following broad categories: research skills and techniques, the research environment, research management, personal effectiveness, communication skills, networking and teamwork, and career management (BRC, AHRB 2001). The intention of this directive was to improve the acquisition of what are called 'generic' skills or capabilities in postgraduates and, thereby, increase graduate employability.

Similar trends have occurred in Australia. Following the West Report (1997)1, the Government instigated major policy changes in relation to research

[1] Broadly, the report claimed that postgraduate satisfaction was low, training was narrow, specialised and inadequate, and graduates lacked essential skills demanded by employers. This attitude was reiterated in a DEETYA funded report by Joanne Tyler, 'Research training for the 21st Century, *Higher Education Series*, no 33, Dec. 1998.

education and the allocation of research funding to address what it perceived were the following short-comings:

- Research degree graduates' inadequate preparation for employment.
- Unacceptable wastage of private and public resources associated with long completion times and low completion rates for research degree students. (Kemp, Dec. 1999, p. 2)

As a consequence, funding for research training through the Research Training Scheme (RTS) requires each university to submit a detailed Research and Research Training Management Plan (RRTMP), outlining how it will support research students through their candidature and develop the skills needed to make them attractive to employers (DEST, 2004). The RTS emphasis on graduates acquiring relevant transferable skills and attributes that fit labour market requirements is re-iterated in more recent Government publications such as Striving for Quality: Learning, Teaching and Scholarship (2002). Brendan Nelson clearly states that universities should be in the business of teaching skills 'relevant to employers as much as to society' and offering 'teaching of the highest quality.' This applies to all levels of university endeavour, from the undergraduate degree through to doctoral studies.

The extent to which universities should be deliberately developing generic capabilities in their research graduates has generated some debate amongst academics. Some claim it is not the role of the university to make graduates 'job ready' while others claim the research process already develops a broad range of skills. A detailed coverage of the issues, and suggestions for possible directions, is given by Borthwick and Wissler in Postgraduate Research Students and Generic Capabilities (2003). In a later document (2005), Wissler articulates a framework on how generic capabilities could be developed. According to Wissler, while it is understood that the development of generic capabilities need to be explicit in the RRTMP as an RTS requirement, it is likely that evidence of their development will inform any assessment of the quality of research training provided by the University. This means that universities should pay particular attention to the kinds of support they are currently offering in relation to generic capabilities development and how this is evaluated. The thrust of both documents is the need for universities to actively respond to the Government's push for all graduates to be able to enter the workforce with a set of characteristics desired by industry.

The shift in research training focus, from what is perceived to be the rather 'narrow' scope of the thesis towards the acquisition of broader, more generic skills also represents a shift in higher education policy towards greater levels of accountability. The development of the Research Quality Framework (RQF) is a case in point (DEST 2005a, b, c). The RQF is being designed to ensure that public resources are directed towards research excellence. Its purpose is to (develop acceptable metrics to) assess and measure the quality of research produced at each university, working from the assumption that quality research is most likely to emerge from a quality research environment. Research Higher Degree (RHD) students fit into the RQF as both contributors to the research output and as products of the research environment (DEST 2005a). This means the success or otherwise of RHD students would be one indicator of the quality of the research environment at that institution. Given this possibility, it would make sense for research institutions to carefully monitor and improve the environmental factors that impact on the productivity of research students.

What all this means is that universities need to not only provide assurances that they offer quality learning environments (as demanded by AUQA) but

that the quality is assessable as well. They need to demonstrate that they engage in quality teaching, offer quality supervision and that they produce high quality research. As Nelson (DEST, 2002) states, 'quality needs to be identified, recognised and rewarded.' At the implementation level, those involved in research training are expected to satisfy different agendas. They should develop a set of professional skills in RHD students to enhance their employability, ensure that the students have a high degree of satisfaction with their research experience and, the most important task of all, assist students to complete a high quality thesis ideally within the specified time-frame.

The Role of Supervisors

The concern that we have within this framework, is the potential increase in workload these changes could bring to those university staff involved in research training, particularly supervisors. The AVCC guidelines already stipulate that supervisors are responsible for career advice and mentoring of RHD students. Given that most supervisors already provide their students with opportunities to develop academic skills (by encouraging them to run tutorials, give lectures and present at conferences), it is extremely likely that any additional responsibility for developing generic capabilities in students will fall predominantly onto RHD supervisors.

In fact, Wissler suggests as much in his framework (2005). Although he posits the possibility of alternative support structures, it is still the supervisor who plays a central role. He suggests they move beyond providing students with narrow academically-focused experiences to ones that provide a much broader-based expertise. He also acknowledges the fact that not all supervisors would be willing or able to take on this expanded role and that there would be workload and training implications from his model.

At the same time, supervisors play a major contributing role in the quality of the research environment through their contribution to research training and the production of quality research. While they cannot guarantee outcomes, it is the supervisor's responsibility to oversee the development of the thesis and ensure it reflects the appropriate academic standards or quality. The supervisor also oversees, encourages and even contributes to publications arising from the student's research. If there are any changes or additional requirements in this area, it will have a direct impact on the supervisor's workload.

There is evidence that significant numbers of academics already view their current workload as onerous. In a study conducted by Neumann (p.77, 2003), academics blamed 'a reduction in academic staff numbers, inadequate recognition of workload formulas, and the competing demands of large undergraduate and fee-paying postgraduate courses' for insufficient time being allocated for supervision. The same study indicated that the perception of heavy workloads on supervisors had an adverse effect on student/supervisor accessibility. Some academics had decided against taking on the supervision of RHD students as a result, thereby potentially reducing the pool of qualified supervisors even more.

While generic capabilities training for research students can have a direct impact on timely and successful completions, it is well documented that a good quality supervisory relationship is the most crucial factor in the successful (and timely) completion of the thesis and has the greatest positive effect on student satisfaction levels (Seagram, Gould & Pyke, 1998: Latona & Browne, 2001). On the other hand, poor supervision is the most cited reason for extended completion times and dissatisfaction with the research

experience. Given that 50% of RTS funding is allocated according to research student completions (DEST, 2004), universities cannot afford the cost of poor or inadequate supervision, particularly if this is avoidable. Increasing supervisors' workloads is unlikely to improve the quantity and quality of theses completions. It would make more sense to closely examine the research training environment to see if and how other parties besides supervisors could carry any of the additional responsibilities resulting from the Government's directives. It is our contention that RED programs, as part of the research training environment, could carry some of that load.

Research training and the role of RED programs

In recent years, largely in response to RTS requirements, most universities have put in place a form of structured support for research students. The aim of this support is to provide students with the academic skills they might need to successfully complete their thesis or research project. The scope and content of the academic support varies widely between different universities, as does their location and the body responsible for the delivery. Nevertheless, at a minimum most include thesis-writing workshops, while others might include specific computer software skills seminars and a range of more generic skills workshops similar to the British model.

Although still evolving, these more structured or formal Research Education Development (RED) programs are an important part of the research training environment. They provide a range of supports for research students that were previously only available (if at all) through the school or discipline in which the student was enrolled. Given the well-documented disparity in research training provision between Faculties, and even between disciplines within the same Faculty (Latona & Browne, 2001; Neumann, 2003), RED programs can go some way towards alleviating traditional inequities, particularly if centrally located in a graduate school, learning centre or academic development unit.

More importantly, though, there are obvious links between what RED programs have been set up to do and the role of the supervisor. Traditionally, the supervisor was the sole advisor to the student in regard to the writing of the thesis, reflecting what is known as the master/apprenticeship model of research training. Now, within the RED program framework, qualified teaching staff work with RHD students on developing their generic capabilities. The focus might be on developing a research question, constructing research proposals or literature reviews, project management, structuring a thesis, writing for an audience or getting published. These are all tasks that were once left solely to the supervisor.

Thus, RED programs are ideally placed to support the supervisory process and thereby lighten the supervisory load. This can be accomplished through lessening the student reliance on the supervisor as a sole port of call. Anecdotal evidence from evaluations indicates that students learn to be more efficient and strategic in their use of time and are more directed in their approach to the supervisory process. At the very least, the quality of the supervisory process will be improved to the benefit of both parties. The following section illustrates how generic capability programs (such as the one offered at James Cook University) and innovative thesis writing workshops (such as the one at Griffith) are attempting to achieve this.

Enhancing personal communication between supervisors and students2

At James Cook University (JCU), a new approach to teaching communication skills in supervision settings (Curró and Ridgway, 2005) is being trailed using simulation exercises. The short-term goal is to improve the supervisor/student relationship, while the long term goal is to enhance graduate employability through enhancing communication skills and problem-solving techniques. Although the sessions are specifically designed for international students, the methodology is broadly applicable and useful for all RHD students.

The technique of simulation provides an ideal learning opportunity for direct observation and reflection of verbal and non-verbal behaviours. Communication practices that may not be clear from direct experience alone (supervision meetings) become more evident. For example, the effects of long pauses, reticence, not initiating topics, not presenting one's own ideas and opinions, never criticising another's work, and dependence or reliance upon the supervisor's word, can be identified and analysed in a simulated supervision meeting.

Intended to be as close to real life as possible, a simulation allows possible interpretations by students and supervisors to be witnessed. The student and supervisor engage in a face-to-face meeting before participants (audience) and receive feedback on their communication skills directly from the audience and the simulated student (or simulated supervisor). The student (or supervisor) then uses the feedback and suggestions from participants in a repeated simulation to improve the communication.

Although the workshops have yet to be fully evaluated, initial feedback has been encouraging, to the extent that the Dean of Graduate Studies has rendered participation mandatory for all international students. Both supervisors and students have found the process enlightening and claim it has revealed facets of their interaction they were unaware of. The majority of international students who participated said they felt more confident in dealing with their supervisors and other academics than previously. While it is too early to say what impact such workshops would have on supervisors' workload, any clarification of the role of the supervisor and an improvement in the working relationship must be beneficial.

Collaborating to enhance the research training environment

At Griffith University in 2005 a collaborative initiative between RED staff and supervisors emerged out of a desire to better serve research students' interests. At the time the Office of Graduate Studies (OGS) and Learning Services jointly sponsored a research skills program with four workshops devoted to the thesis writing process: Getting started on the writing, Self-editing your thesis, Beating writer's block, The writing habit.

The pilot project involved targeting thesis writing workshops to specific cohorts of students in broad disciplinary areas. The Dean of Graduate Studies invited experienced supervisors to participate in a proposed addition to the centralised generic skills workshops. The following workshop titles were suggested: Writing a thesis in the arts, Writing a thesis in the sciences and Writing a thesis in the social sciences.

Planning Meeting

At a planning meeting of interested parties including supervisors from a range

[2] All information on the James Cook project has been provided by Dr Gina Curro, who devised and facilitated the project.

of disciplines, the Dean circulated a draft template (Appendix 1), prepared by the RED adviser, of the proposed seminar structure. Having emphasised the need for a template, the Dean invited discussion of this particular model.

The template gave rise to considerable debate about disciplinary difference, with supervisors keen to emphasise the specific needs of students in their areas. However, as the discussion progressed participants began to notice commonalities among RHD students in their various disciplines. The process also revealed substantive differences among sub-disciplines within a larger discipline, not only in the sciences. These observations of differences among sub-disciplines led to the suggestion that supervisors collaborate to deliver workshops. Participants noted that this meeting presented a rare but welcome opportunity to discuss such matters with their peers in an inter-disciplinary context. Collaboration had not been on the Dean's agenda, but was an outcome generated by the supervisors themselves through discussion. Although the RED adviser pointed out the logistical challenges posed by the collaborative aspect, the collaborative approach was endorsed.

Given the need to provide a common structure for the workshops to ensure all key topics were covered, the group discussed the draft in terms of disciplinary specificities and endorsed it as a useful template. The RED adviser was asked to organise and co-facilitate the program. From this initial meeting, two seminars were organised, Writing a thesis in the sciences and Writing a thesis in the arts/social sciences. The Dean sent email invitations to all RHD students and the sessions were promoted in the postgraduate magazine and elsewhere. For the sake of expediency, the Dean nominated four supervisors to participate in the pilot project; all were associate professors experienced in thesis supervision and examination.

Outcomes

Given that participants are continuing students, outcomes in terms of completion rates could not be measured, however participants and presenters were surveyed to generate feedback to inform the model. Overall, there are four main outcomes of the pilot project. First, and this is a significant indicator of the supervisors' experience of the project, all presenters have volunteered for further duty. Second, five months after the workshops, all students reported positively on the transfer of ideas or information from the workshop to their thesis writing process. Third, in response to feedback, the number of workshops has doubled for 2006, and the preparatory meeting among supervisors to develop a shared understanding has been retained in the model. And fourth, the collaborative teaching model is being incorporated into the ongoing development of the RED program.

Benefits to supervisors

The supervisors reported three main benefits of the experience: it assisted their reflection on their supervisory practice; it was enjoyable and different (both interacting with so many bright new eager PhD students in one room, and working with a colleague across a disciplinary boundary); and it was an opportunity to contribute to and feel part of the larger university community.

In response to questions about workload, while supervisors did not think these workshops would directly decrease their individual supervisory workloads, they offered four key observations. First, because the workshop template provided a framework for discussion points, preparation time was minimal. Second, the two hours workload was not onerous, except where inter-campus travel pushed this figure up (this has been eradicated in the 2006 program). Third, they considered their time well spent and the

undertaking definitely worthwhile. Fourth, and most significant for our argument, they considered their individual supervision experiences with students would be enhanced by student participation in such workshops, due to students being better prepared.

The above initiative illustrates one way that RED program providers and supervisors can collaborate to produce better outcomes for RHD students. The discussion and development of a shared understanding was an important basis for the subsequent collaboration with each other and the RED adviser. It brought together people from across the university who would not normally be engaged in dialogue, despite the common purpose of their roles and interests. This enabled each to see the value of the other's contribution to the research environment.

Potential supervisor/RED program synergies

The success of RED initiatives like the ones at James Cook and Griffith Universities depend on the support and cooperation of supervisors. However, that support may be limited or even non-existent. Issues surrounding the relationship between supervisors and RED programs were discussed at a recent colloquium held at the University of Melbourne (July, 2005). Participants in the colloquium were academic and general staff directly involved in the design, coordination and delivery of their university's RED program. All up, twenty-four of the thirty-eight universities were represented. The aim of the colloquium was to explore how RED programs could be improved to enhance the quality of research training provision. A key issue in this debate was the relationship between RED programs and supervisors.

Participants at the colloquium acknowledged the key role of supervisors in research training and identified collaboration with supervisors as one way to enhance the effectiveness of their respective RED programs. However, obstacles to achieving this aim were identified. While supervisors appear to differ widely in their attitudes towards RED programs, there were three main concerns. First, some do not recognise or value the contribution that RED programs make to research training; in some cases this is due to ignorance of the existence of RED programs. Second, there was a perceived measure of hostility towards the existence of RED programs. Reportedly, some supervisors view RED programs as detracting from student time that should be spent on the thesis while diverting ever-decreasing funds from the supervisor's own core work. Third, there is some resistance and even antagonism among supervisors to the very idea of teaching generic capabilities separately. They argue that such skills can only be learned through the process of researching and writing the thesis. As a consequence, supervisors may not refer their students to relevant sessions or may actively discourage their students from attending. Anecdotal evidence indicated that this was a common occurrence at many universities. Such supervisors would presumably resist teaching into a RED program.

One of the difficulties facing any alternative perspective to research training is the dominance of the supervisor/student apprenticeship model. It's still perceived to be the real, indispensable core of research training. Moreover, as one experienced supervisor involved in the Griffith project observed 'it is in the nature of academics to resist any kind of centralised contribution to the development of their students'. Yet the apprenticeship model of Doctoral candidacy is under attack internationally for a number of reasons, some of which have resonance in the current Australian situation, as we outline below.

Recently, UNESCO-CEPES3 comprehensively reviewed the doctoral training systems of 13 European countries. In all countries studied, the 'growing attention to the employability of Doctoral holders outside academe' informs a trend towards greater codification and regulation of the research training environment. In general, European countries are looking to abolish 'the traditional "apprenticeship model", in favour of more structured research education and training' (Kehm 2004: 296, 283). There is a general aim to integrate Doctoral programs and research training into the Bologna Process, whereby a significant number of European countries are working towards greater consistency and portability across their higher education systems.

To some extent the revision of doctoral education in Europe has been fuelled by student dissatisfaction (Bjorck 2003; Cassasus 2001; Germano 2001; Pain 2004; Paterlini 2002). Response in Germany to the recent THESIS Report (on a national online survey of Doctoral students) has strongly supported the report's recommendations for a 'move away from the exclusive supervisor role [and] the "apprenticeship" model [to] graduate programmes [and] transparent structures' (Forde 2005). There is a growing insistence that 'an excellent doctoral education should not be left to chance' (Stark quoted in Forde 2005).

While Australia has yet to go down the path of formalised, structured programs, the introduction of RED programs does provide a variation on the master/apprentice model. However, such programs have yet to be formally acknowledged as part of the university's research training environment. Of the twenty-four universities represented at the RED colloquium, only six included their RED programs in their official research training plans. A key factor in their official recognition appeared to be their organisational location. For example, those programs located centrally in graduate schools were more likely to be acknowledged than those located in the Library or study skills centres. This is an important point, as a university's RED program is more likely to have the acceptance of supervisors if it is acknowledged as an integral part of the research training environment by the hierarchy. The degree of acknowledgement would indicate how seriously the university takes such programs and the development of generic capabilities in RHD students.

Concluding remarks

In the paper we have argued that it is increasingly difficult for supervisors to meet RHD students' educational needs and that some of this work can be carried by RED programs, which are ideally placed to facilitate the development of generic capabilities. In fact, many RED programs already offer training on such things as research management, thesis writing, communication, leadership and networking skills. While gaining recognition and support from supervisors is a major obstacle, one can already see a degree of collaboration between supervisors and the RED community in certain institutions and this is growing.

It could be argued that supervisor involvement in RED workshops actually increases their workload, rather than decreasing it. In actual fact, as shown by feedback from Griffith, the increase is minimal and is outweighed by the benefits. There is also evidence that reflection on their own supervisory practice improved their performance which has the potential to decrease future workload. And while a few individual supervisors may have a marginal increase in workload, supervisors overall should benefit from a reduction of demands from students and the subsequent improvement in their work.

[3] United Nations Educational, Scientific and Cultural Organisation (UNESCO); European Centre for Higher Education (CEPES)

However, the most benefit for supervisors comes from the supportive role that RED programs play in research training and generic capability development. If embraced and acknowledged, they have the potential to work in parallel with supervisors to supplement and even replace parts of the supervisory function. To this end, it is crucially important that staff delivering RED programs are well qualified and informed.

Most importantly, however, we have argued that there needs to be institutional recognition and integration of RED programs into the research training environment. At Griffith and James Cook University, it was important that the initiative had the imprimatur of the Dean of Graduate Studies, a person in high standing in the University community. Without overt institutional acknowledgement, it will be difficult to garner widespread and consistent support from supervisors. This means we will continue to rely on individual initiatives and individual good will. Neither of these is reliable or consistent.

To be of maximum benefit to RHD students, we need to be more systematic in our approach to research training. At the same time, it is important to acknowledge the central role that supervisors play in the research enterprise, the burden of responsibility they carry for the success of the student, and the amount of work involved in being a good supervisor. We argue for the adoption of a coherent approach to research education, where supervisors and RED personnel take collective responsibility for meeting the research training needs of RHD students. With institutional support, such a synergy would produce better results than the often uncoordinated and ad hoc process that is currently the norm. Our task now is to embed the holistic, collaborative approach to Research Education Development in our institutional structures.

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'Dirty' Discourses and Academic Supervision: A Reply to Manathunga

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Abstract

Recent commentary on supervision has argued that some current approaches to working with supervisors are constituted by oppressive liberal discourses. Manathunga (2005) sees the 'dirty, discourses of post colonialism and pos modernism as ways of subverting the oppressive rationalism of liberalism. She argues that current approaches to enhancing the quality and effectiveness of postgraduate supervision are linked to an oppressive liberal discourse and have 'colonial' underpinnings. She advocates sharing of personal narratives as a means of transforming supervisors, lives as part of an approach she calls 'compassionate rigor'. Personal transformation through story ['re'-] telling is, according to Manathunga, a prerequisite to non-subjugating supervision. We wish to provide an analysis of her work which sees it as a form of spiritual discipline linked to a particular philosophical stance or as an 'intellectual persona sustained by a certain discipline' (Hunter 2005:3).

In addition we argue that the analogy between colonial oppression of indigenous people and the 'oppression' of academic staff by university management trivialises the former to an unacceptable degree. We suggest that postgraduate supervision involves a choice between or a combination of three distinct personae, those of supervisor, mentor and friend. Only in the case of the latter, we suggest is personal transformation relevant to good supervision. We acknowledge that many supervisors combine the roles of supervisor, mentor and friend in their relationships with postgraduate students but argue that academic developers should restrict themselves to working with the practices that constituted the personae of supervisor and mentor.

Introduction

Recent commentary on postgraduate supervision has argued that current approaches to working with supervisors are constituted by oppressive liberal discourses. Manathunga (2005a) sees the 'dirty' discourses of post colonialism and post modernism as ways of subverting the oppressive rationalism of liberalism. She, together with a group of colleagues, advocates sharing of personal narratives as a means of transforming supervisors' lives[1]. Personal transformation through story telling is, according to Manathunga, a prerequisite to non-subjugating supervision. We wish to provide an analysis of her work which sees it as a form of spiritual discipline linked to a particular philosophical stance. We argue that the self-transformative work that characterises Manathunga's approach is unnecessary for excellent and exemplary performance of the duties and responsibilities which modern universities attach to the role of supervisor. In addition we argue that the analogy between colonial oppression of indigenous people and the "oppression" of academic staff by university management trivialises the former.

[1] See for example Manathunga, C., Peseta, T., McCormack, C. (2005). Abstract for 'Fiction and supervision pedagogies: Creative approaches to supervisors' professional development', 3-6 July, 2005 HERDSA Conference Symposium Session VI, Wednesday (6 July) 9.00 - 11.00 am, 359, available at http://conference.herdsa.org.au/2005/abstracts/abstract359.cfm (accessed 1 February 2006)

The paper begins with a brief outline of Manathunga's recent work. We then suggest that Manathunga's turn to postmodernism and post colonialism is characteristic of a "particular kind of intellectual persona sustained by a certain inner discipline" (Hunter, 2005a, p. 3). The paper then explores the history and nature of this intellectual persona. The second part of the paper introduces two personae which we see as central to the theatre of postgraduate supervision. The paper concludes with a discussion of the role of academic development in relation to these personae.

We do not wish to comment upon Manathunga's performance as an academic developer or indeed to reject her approach. We do not deny the usefulness or pleasure to be derived from the quasi-therapeutic experiences of the 'story-restory' technique[2]. We merely wish to historicise it and to deny critical and post-modern approaches any claim to provide access to a fully integrated humanity, which is morally superior to current programmes for postgraduate supervisors. We take Manathunga's view of exemplary supervision as an opportunity to set the critical and post-modern approaches to academic development in a wider conceptual framework which draws upon recent work in intellectual history.

We welcome Manathunga's attempt to apply a conceptual analysis to postgraduate supervision but we find the simple opposition between liberal, administrative and colonial on the one hand and critical and post-modern on the other, unconvincing. In addition we object to the trivialising of the colonial moment which while unintentional, is nonetheless evident. We think comparing the "oppression" of well paid, highly educated, at home in the English language academics with indigenous peoples' experience of occupation, loss of language and culture, and subsequent linguistic, educational and employment disadvantage trivialises the latter to an unacceptable degree.

Manathunga's critique of 'liberal' supervision: the divorce of intellect and feeling

Manathunga (2005a) argues that current approaches to enhancing the quality and effectiveness of postgraduate supervision are linked to an oppressive liberal discourse and have "colonial" underpinnings. In short, she claims they are too closely related to government agendas which focus on accountability. Despite the strong nature of her claims, her account of how current practices oppress supervisors and students remains frustratingly vague. Her chief criticism is that current approaches deal predominantly with the roles and responsibilities of supervisor and student and the communication and time management skills needed to complete a thesis in the equivalent of three and a half years of full time study. These seem inadequate grounds for rejecting current practice. At a more conceptual level, current approaches are rejected as "administrative" because they ignore power relations between supervisor and student.

The vagueness of Manathunga's critique of administrative or colonial approaches becomes understandable when she moves to a comparison with post-modern and critical ways of working with supervisors. It then becomes apparent that her objection to current approaches centres on what they exclude rather than what they include. Administrative discourses are rejected because they are one-sided and incomplete. They focus upon instrumental and rational aspects of supervision and fail to recognise the importance of the

[2] Manathunga, C. (2005), oral communication during Symposium Session VI, Wednesday (6 July), 'Fiction and supervision pedagogies: Creative approaches to supervisors' professional development', 3-6 July 2005 HERDSA Conference, University of Sydney.

affective domain. This lack creates a pressing need to deploy critical and post-modern discourses because they allow academic developers to explore the role of emotion, irrationality and the body in supervision programmes.

Manathunga's solution to the unbalanced nature of present supervision practices is 'compassionate rigour', an exemplary instance of a mode of intellectual existence which according to Hunter (1992, p. 350) first appeared in German philosophical and religious circles in the late eighteenth century. We now proceed to outline the major lineaments of this intellectual stance. Manathunga is the heir of a form of critique which was founded upon the assumption that the institutions of modern society are dehumanising because they fragment human beings' essential unity. Friedrich Schiller, the German poet and philosopher, blamed the loss of unity on the hegemony of instrumental and utilitarian thinking. "Jetzt aber herrscht das Bedürfnis und beugt die gesunkene Menschheit unter sein tyrannisches Joch" (Schiller, 1967, p. 6)[3]. Schiller saw the dominance of instrumental thinking and the preoccupation with material ends reflected in the growth of empirical knowledge and its increased specialisation.

Sobald auf der einen Seite die erweiterte Erfahrung und das bestimmtere Denken eine schärfere Scheidung der Wissenschaften, auf der andern das verwickeltere Uhrwerk der Staaten eine strengere Absonderung der Stände und Geschäfte notwendig machte, so zerriss auch der innere Bund der menschlichen Natur, und ein verderblicher Streit entzweite harmonische Kräfte (Schiller, 1967, p. 32)[4].

According to Schiller, the complexity of life in modern bureaucratic states leads to a lack of balance between the rational and the emotional in all but the most exceptional of human beings.

> Indem hier die luxurierende Einbildungskraft die mühsamen Pflanzungen des Verstandes verwüstet, verzehrt dort der Abstraktiongeist das Feuer, an dem das Herz sich hätte wärmen und die Phantasie sich entzünden sollen (Schiller, 1967, p. 34)[5].

The preponderance of rational thought over emotion and imagination is deadening.

> Nun muss aber das Übergewicht des analytischen Vermögens die Phantasie notwendig ihrer Kraft und ihres Feuers berauben … Der abstrakte Denker hat daher gar oft ein kaltes Herz…" (1967, p. 38)[6].

Schiller sees no possibility of redressing the balance through the agency of

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3 But at the present time, material needs reign supreme and bend a degraded humanity beneath their tyrannical joke. (Translated by Elizabeth Wilkinson and L.A. Willoughby, 1967)

4 Once the increase of empirical knowledge, and more exact modes of thought, made sharper divisions between the sciences inevitable, and once the increasingly complex machinery of State necessitated a more rigorous separation of ranks and occupations, then the inner unity of human nature was severed too, and a disastrous conflict set its harmonious powers at variance. (Translated by Elizabeth Wilkinson and L.A. Willoughby, 1967)

5 While in the one a riotous imagination ravages the hard-won fruits of the intellect, in another the spirit of abstraction stifles the fire as which the heart should have warmed itself and the imagination been kindled. (translated by Elizabeth Wilkinson and L.A. Willoughby, 1967)

6 The preponderance of the analytical faculty must, however, of necessity, deprive the imagination of its energy and warmth … Hence the abstract thinker very often has a cold heart. (translated by Elizabeth Wilkinson and L.A. Willoughby, 1967)

the state since complex forms of government are the cause of the malaise. Schiller's stance initiates a tradition of critique which blames the 'governmentalised' state7 for the dehumanising split in human beings' nature.

> Denn der Staat, wie er jetzt beschaffen ist, hat das Übel veranlasst, und der Staat, wie ihn die Vernunft in der Idee sich aufgibt, anstatt diese bessere Menscheit begründen zu können, müsste selbst erst darauf gegründet werden (1967, p. 44)[8].

Manathunga (2005a), likewise, tells us that the dominance of rational modes of supervision arises from the adoption of liberal discourses by university management acting as the agent of government. She claims that liberal discourses do not allow space for emotion and irrationality because they are driven by an "administrative" and "instrumental" logic concerned only with quality in a measurable sense.

Schiller's solution to the fragmentation of human personality and to the instrumental nature of modern government is to be found in the individual's cultivation of a finely tuned balance between the capacity for rational, analytical thought and the emotions. This too is Manathunga's solution. Critical to her programme is "the delicate pedagogical balancing of compassion and rigour" (Manathunga, 2005a, p. 24). It is the dialectical interplay of the cognitive with the emotional which constitutes effective supervision because it provides a "safe learning environment". But like Schiller, Manathunga sees only individuals in whom the intellectual drive dominates. The first step, therefore, in creating supervisors who are able to display the desired wholeness of being is to develop the capacity for feeling. According to Schiller (1967, p. 52), "… der Weg zu dem Kopf durch das Herz muss geöffnet werden. Ausbildung des Empfindungsvermögens ist also das dringendere Bedürfnis der Zeit."[9]

Fragmented humanity and administrative states

The positing of a harmful imbalance between emotion and rationality in postgraduate supervisors is not a reality of human personality but a conceptual device whose function is to engage individuals in the quest to recover their lost wholeness. Manathunga presents the recovery of the whole self as the prelude to a higher form of human functioning which transcends the governmentalised state and its ally, university management. In Manathunga's conceptual scheme, the mastery of compassionate rigour gives access to a fully realised humanity which the administrative discourses of the modern state have obscured or destroyed. It reconstitutes its practitioners as authentic human beings whose mastery of the dialectical interplay between compassion and cognition marks them as exemplary individuals.

Hunter (2005a, p. 7) argues that rather than seeing formulations such as compassionate rigour as a means to recover a lost wholeness or humanity, they are more accurately viewed as "a highly distinctive kind of spiritual exercise." They are pedagogical devices designed to induct individuals into a particular relationship to the self (Hunter, 2005b, p. 118). If we accept

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7 Foucault (1991) uses the term 'the governmentalised state' to refer to the development, in the late eighteenth and early nineteenth century, of administrative techniques and practices (government bureaucracies, social statistics, mass schooling, prisons and hospitals) through which governments in Western Europe sought to secure social peace and economic prosperity.

8 For the State as presently constituted has been the cause of the evil, while the State as Reason conceives it, far from being able to lay the foundations of this better humanity, would have itself have to be founded upon it. (translated by Elizabeth Wilkinson and L.A. Willoughby, 1967)

9 A way to the head through the heart has to be found. The current more urgent need is therefore the development of the capacity to feel. [translated by Erika Martens]

Hunter's diagnosis then compassionate rigour is:

> simply one of the exercises in philosophical self culture that, since classical antiquity, have provided intellectuals with the ethical means for such undertakings as controlling anger, conquering the fear of death, restraining the passions, purging the senses, ascending to a vision of God and so on (2005a, p. 8).

Rather than a means for restoring human beings to their true moral function in the face of the dehumanising practices of an administrative state, it is a "specific form of self discipline".

The impetus for individuals to engage in the spiritual exercise of self formation is their realisation that they have a deficient human nature. The lack may be suggested to them by a moral exemplar such as teacher or priest. Their acknowledgement that they are deficient in relation to true human nature begins a process of self problematisation and self transformation which, although its forms may be diverse, is dedicated to the fashioning of a more fully human self. In this way the individual is inducted into a never ending quest for self realisation which is presented as a universal obligation of humankind. In Manathunga's programme, supervisors, under the guidance of the enlightened academic developer, call themselves into question because they lack empathy and emotion in their dealings with postgraduate students. They are offered the opportunity to engage in a process of self transformation designed to heal the imbalance between cognition and emotion.

A central plank of Manathunga's argument is that current supervision practices are harmful because they have been permeated by the liberal or administrative discourses of the modern state. The complaint that administrative government is the cause of fragmented human nature is contemporaneous with the appearance of the modern territorial state and the exclusion of academic intellectuals from a place of power within it. According to Koselleck (1988) the separation of morality from politics, achieved through the voluntary withdrawal of the State from matters of private conscience, provided intellectuals with the freedom to mount a sustained critique of modern administrative government. These "spokesmen for universal morality" (Saunders, 1997, p. 8) and their latter-day heirs claim access to a sphere of intellectual activity which restores individuals' fractured humanity and simultaneously constitutes a moral community which is prior to and more fundamental than government.

Koselleck (1988) points out that contemporary critical intellectuals, and here we would include Manathunga, seek to reverse the separation of secular government and transcendental morality in much the same way as the Church sought to reunite spiritual discipline and politics in early modern Europe. For this reason he calls their critique of the administrative state "religion by other means" and points out that it ignores its own historical origins. The separation of politics and morality, which provided intellectuals with a free critical space, was the means by which early modern civic philosophers and jurists sought to end communal violence between factions claiming access to true morality on the basis of the dictates of private conscience. Saunders (1997, p. viii) takes up Koselleck's argument and sees in critical intellectuals' rejection of mundane administrative practices an attempt to "reshape government institutions … in accordance with a moral principle, typically some vision of individual autonomy or communitarian self determination."

Postgraduate supervision and multiple personae

We now return to our conceptualisation of postgraduate supervision as a university status characterised by the personae of supervisor and mentor. We argue that the personae of supervisor and mentor are characterised by institutional roles and responsibilities which form the basis for good supervision. These roles and responsibilities are cobbled together over time from institutional requirements, disciplinary norms and previous experience. In this sense they are "institutional and conventional rather then essence- or substance-like" (Hunter, 2005, p. 36). They can thus be contrasted with the ideal of a fully integrated personality which underpins programmes such as Manathunga's compassionate rigour.

We classify the idea of a fractured human nature in which feeling is divorced from intellect as a pedagogic device rather than a description of supervisors. Consequently, unlike Manathunga, we see no lack of affect in current supervision practices. On the contrary, we feel that many of the difficulties in supervision arise from excessive or inappropriate emotions on the part of student or supervisor. The conventional roles and responsibilities, which Manathunga dislikes because of their "administrative" nature, we see as guides to the appropriate exercise of the emotions and restraints on their inappropriate exercise. The conventional and accidental nature of the personae of supervisor and mentor requires only that academics conform their outward behaviour to meet the requirements of these roles and responsibilities. Inner transformation through participation in spiritual exercises of the kind represented by the story–re-story technique is not a prerequisite for quality research supervision.

The next section of the paper delineates the roles and responsibilities associated with the personae of supervisor and mentor. It then briefly outlines how Yeatman's work on new contractualism has been used to articulate these personae to postgraduate students and to encourage postgraduate students to articulate their understanding of the persona of the research student as it operates within the institutionalised context of the modern university.

Mentor and Supervisor: Personae, Roles and Responsibilities

The persona of mentor is constituted by (1) a high level of knowledge and experience in the discipline and (2) a working relationship with the candidate for the purpose of completing the project. The roles and responsibilities of a mentor are therefore: the provision of feedback; acting as a sounding board; providing information, professional contacts, and ideas; the provision of guidance and models of professional behaviour. A mentor, however, has no professional responsibility for the outcome of the mentoring process, even though the focus of all [inter]actions is professional. The persona of supervisor is constituted (1) by the professional responsibility for the successful completion of a thesis and (2) by the candidate's formal choice of or at least agreement to this arrangement. The role of a supervisor is therefore that of a professional teaching academic, albeit a high level one. The responsibilities are the execution of all intellectual, pedagogical, managerial, and administrative tasks that the institution and the project require for a successful outcome.

The articulation of these two personae is the focus of many books and articles which describe and recommend successful approaches to research supervision, postgraduate research and the professional development of supervisors (Nightingale, 2005; Brew & Peseta, 2004; Pearson & Brew, 2002; Heath, 2002; Gurr, 2001; Ryan & Zuber-Skerritt, 1999; Zuber-Skerritt, 1996; Cullen et al, 1994; Conrad, 1994; Zuber-Skerritt & Ryan, 1994; Zuber-Skerritt, 1992 etc).

Suzan Burton and Peter Steane in Surviving your thesis (2004) stress that tensions in the supervisor-candidate relationship should be expected as a normal part of the process (p. 44). They recommend a pro-active and realistic approach (p. 105) and stress that candidates must not expect their supervisors to be perfect (p. 45). They recommend that candidates manage the relationship with the supervisor so [they] can increase [their] chances of a successful and timely thesis completion (p. 30, 41), see their supervisor as a potential ally in the project and that the candidates treat the supervisor similar to a boss who [they] want to please. (p. 41).

Neither an examination of the attributes of prize winning supervisors nor recognition of changes in the traditional idea of supervision lead us to accept that a programme of self problematisation and self fashioning designed to help potential supervisors modify an excessive rationalism would produce better supervision. In Manathunga's (2005b) survey of prize winning supervisors from Queensland University important characteristics of exemplary supervision were: building students' confidence; supporting their integration into the discipline; using cooperative approaches to problem solving; providing realistic assessments of the problems likely to be encountered; and conscious adherence to administrative techniques such as regular meetings and six monthly reviews. All of which can be achieved through outward conformation to institutional regulations and requirements without the need for quasi-therapeutic engagement in programmes such as compassionate rigour. Similarly we find nothing in Kelly and Ling's (2001) description of the post-traditional supervisor-supervisee relationship which does not fall within the personae of the supervisor and mentor. They characterise the 'new' relationship as the product of multiple roles which they see as a consequence of changes in the higher education sector. They cite: 'resource provider, facilitator, guide, mentor, coach, and co-learner' (p. 74) as the range of roles now expected of or open to supervisors. We are confident that supervisors can meet the requirements of the 'new' relationship without the need to heal of the division between intellect and emotion, which is presupposed by Manathunga's approach.

Manathunga repeatedly draws attention to the oppressive nature of university management and to the liberal discourses which underpin it. Certainly since the 1980s the degree of accountability and the extent of quality assurance required by governments have increased. Like Manathunga, we feel that there has been a failure to develop methods of quality assurance and accountability appropriate to public institutions, which fulfill a range of functions related to both individual and social well-being. This does not lead us to the anti-statist position implicit in Manathunga's work. We reject the idea that universities are above the state, that they are ' places where our 'true' selves can be enjoyed, … governing ourselves through our natural reason and feeling no need of interference from a meddling state with its incessant desire to govern us' (Wickham, 2005, p. 2). From our perspective, the state is the only desirable instrument for providing higher education in Australia. Consequently we see 'knee-jerk opposition to just about all interventions by state officials' (Wickham, 2005, p. 5) as simplistic and unhelpful. This view is echoed by Nightingale in the HERDSA Green Guide Advising PhD Candidates. She warns:

> Often academics resent and resist new guidelines, rules, regulations and procedures, but they may help and protect advisors as well as candidates. Nevertheless, all of the procedures and threats to funding, etc. etc. may be meaningless when dismissed as bureaucratic nonsense and ignored. This can and does happen, all too often with disastrous results. (2005, p. 35)

Academic development to promote good supervision

We are left with the question of how best to promote successful outcomes for candidates and supervisors. Apart from the approaches and recommendations contained in the substantial literature on this topic most of which recommends variations on how to articulate the persona of mentor with that of supervisor, we favour an approach which pays more attention to the candidate's role and responsibilities. We argue that the persona of research student or candidate is now increasingly constituted by

1. the financial rewards to the institution of fast completion,
2. the professionalisation of candidature due to changes to fees, length of scholarships and levels of public accountability, and
3. the increasingly high standards which institutions apply in the selection of candidates and supervisors.

Successful articulation between the persona of research student and that of supervisor/mentor is the key to a suitable approach to professional development program. Kelly and Ling describe this articulation in the following manner:

Thus both supervisor and supervisee are called upon to assume the role of intellectual and manager simultaneously. … The management aspect is central to an effective relationship as it sets the structure, rules and resources for that relationship. (p. 77)

This manner of articulating the personae of supervisor with that of the candidate echoes parts of Bob Connell's approach in his now classic article How to supervise a PhD (1985) where he describes the necessity for an institutional framework for this high level teaching task. He also mentions the need to contain the ups and downs of the personal relationship within a 'context of respect and interest' (p.41).

The idea of formalising the roles and responsibilities which attach to the persona of the higher degree research student has been taken up by Anna Yeatman. Drawing upon her concept of new contractualism Yeatman has developed a process which combines rational accountability with non bureaucratic protocols for supervision (1995, p. 9). New contractualism recognises that parties to a contract are often unequal in status and the resources they bring to the contractual moment. Yeatman insists these differences in power need to be recognised and taken into account. Unlike the self transformative approach of Manathunga's compassionate rigour, new contractualism is a process of bargaining and negotiation which makes explicit the reciprocal expectations between the parties concerned (Yeatman, 1998, p. 229). This can only be done by drawing on existing policies, guidelines and procedures which are clearly set out, publicly available and understood by both parties. The process is non bureaucratic because it specifies negotiation and dialogue between the contracting parties. The persona of the research student, within the framework of new contractualism, is that of an informed party to a quasi-legal contract.

Yeatman, (1995) recommends a technology which manages this process of negotiation positively without administratively overloading the process. The candidate drives the process by keeping a simple log about supervisor-candidate discussion sessions which is given to the supervisor as soon as possible after each session. The supervisor then has the opportunity and responsibility to clarify any apparent misunderstandings immediately. Each entry summarises what happened during the session and ends with the

agreed upon date for the next meeting and by implication what the candidate and supervisor would do by then. The log entries serve as a basis for clarifying diverse perceptions and clearly set out what is achieved and agreed upon at each session. The next session can begin with a check on what was agreed and whether this has occurred and if not why not. The responsibility and momentum here lies with both partners as the progress of the project and each partner's contribution is charted clearly by these logs. This contractualist approach to supervision constructs the personae of research student and supervisor as partners in terms of responsibility, but leaves sufficient room for the details of the relationship to be fleshed out by the personalities of each individual. The contractualist model of supervision, in contrast to the older model, understates the personalised aspects of the relationship by keeping its [sic] task—and outcomes—focussed. Since an outcome – the submission of a passable research thesis—is the *raison d'etre* of the relationship, this seems appropriate (Yeatman, 1995, p. 11).

Finally we recommend a professional relationship between the academic developer and the supervisor which avoids the quasi-therapeutic elements used to induce compassionate rigour. Engagement of potential supervisors in a self-transformative process designed to heal the divorce between feeling and intellect, which Manathunga believes characterises modern universities, is unnecessary and moves beyond the professional boundaries of academic development. In Peggy Nightingale's (2005, p. 42) words, 'It is probably wise to remember that few of us have any training or qualifications as counsellors'.

Conclusion

How does the personal transformation of the supervisor contribute to better supervision? We suggest that personal transformation belongs to the non-professional part of supervisors' and candidates' lives and is therefore of no interest to academic developers. We acknowledge that many supervisors combine the roles of supervisor, mentor and friend in their relationships with postgraduate students. We also repeat the commonplace observation that power, desire and emotion exist in the realm of supervision, teaching and all professional and non-professional relationships. We have no difficulty in accepting that academic development—as most human endeavours—is 'not politically neutral'. However, we argue that academic developers should restrict themselves to working with the practices that constitute the personae of supervisor and mentor as they are instituted and sanctioned by the university.

Successful examples of postgraduate research supervision indicate the importance of conformity to the roles and responsibilities attached to the personae of supervisor and mentor. The realistic, historically aware but constructive attitude towards the shifting institutional environment taken in this paper contrasts with Manathunga's negative focus on higher accountability and her simple identification of the current relationship between governments and university academics with the colonial oppression of indigenous people. We join with Manathunga (2005a, p. 20) in rejecting shallow, 'frequent flyer' or transmission model approaches to academic development, but also query their ubiquity10. Unlike Manathunga we do not find the postgraduate supervisors we work with suffer from a debilitating split between intellect and emotion caused by the oppressive administrative regimes of the governmentalised state. Consequently engaging supervisors in a programme of self transformation and healing is not something we can

[10] McWilliam's (2002) outright rejection of professional development which Manathunga quotes repeatedly seems based on a few instances of badly organised and delivered programs.

accommodate within the boundaries of academic development for quality postgraduate research supervision.

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Using research candidate Annual Report data to examine supervision effectiveness

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Abstract

This paper draws on data from the detailed annual reports of progress by research masters and PhD students. Part of the report requires that research students and supervisors indicate the extent of progress on a number of specific aspects of their project and on a range of aspects relating to supervision. The data analysed are the responses for 633 students who were included in two consecutive annual reports.

For both students and supervisors, overall progress for each year and supervision were significantly related. The highest correlation of progress overall was with supervision leading to the development a satisfactory plan of work. There were, however, some differences between students and supervisors. For example, accessibility of the student was more important issue for supervisors than accessibility of the supervisor was for students. Among the strongest correlations with progress for students was amount of interaction with their supervisor, and for supervisors both the amount and productivity of their interaction were strongly related to progress.

The pattern of relationships was similar in both years of data collection, for all Faculties and for both PhD and masters' degree candidatures

Concern about the quality and effectiveness of supervision

By the mid 1980s the growth in postgraduate enrolments at universities began to draw the attention of government and higher education agencies in Western nations (Advisory Board 1992; Becher 1993; Kouptsov 1994; Williams, Bjarnason & Loder 1995, Kemp 1999), and by the end of the decade a raft of initiatives had been put into place to begin to investigate and monitor the quality of programs at this level in many countries including Australia (Burgess 1994, Wright & Cochrane 2000; Ainley 2001; DEST 2001). Research degrees pose particular challenges for universities because of the essentially personal and flexible nature of the interactions between supervisor and student. Early research showed that this interaction was not only a 'relationship', but a complex one (Hockey 1991; Johnston 1999).

Accessibility of supervisors when students 'need' them impacts on satisfaction with supervision (Burns, Lamm & Lewis 1999). Studies of supervisory relationships show that students who perceive the supervisor or advisory group members to be inaccessible or 'too busy' also experience high levels of dissatisfaction and frustration (Pole et al. 1997; Harman 2002; Manathunga 2005) and low levels of interaction can surely be taken as a 'key warning sign' even if the student is not able to explain the reason to their supervisor (Manathunga 2005, p.223). Research also indicates that the 'need' for accessibility is related to the phase of the student's project, and that in general such needs are highly individualistic (Heath 2002). Some studies point to the need for supervisors to pursue flexible approaches to supervision to meet individual needs (Haksever & Manisali 2000; Gurr 2001). While there is very little research on learning styles, a recent study showed that where the 'cognitive' style of supervisor and student were a good match, there was a strong positive relationship to progress and with perceived 'quality' of

supervision (Armstrong 2004). It might be expected that where there is a match in expectations about accessibility throughout the duration of candidature frustration and dissatisfaction will also be avoided.

Where quantitative studies of satisfaction have been undertaken (and this includes data from the Postgraduate Research Exit Questionnaire (PREQ)) in Australia results tend to differ. Some show a strong tendency toward satisfaction, suggesting that most students are satisfied with supervision (Cullen et al. 1994; Ainley 2001, Heath 2002) while others give a much more worrying picture. For example, the study by Harman (2002) drew on 1357 questionnaires and 100 interviews with PhD students from the Australian Group of Eight research intensive universities in 2000. The emphasis in the survey was course experience and while the simple majority of students were satisfied, some 43% were not and this was found to be linked strongly with student perceptions of the quality and effectiveness of supervision. It does not appear students were questioned about supervisor availability or accessibility in the questionnaire, but dissatisfied students in the interviews commonly complained supervisors were too busy to give them adequate time.

Some early studies into frequency of meetings between supervisor and student suggested a relationship between high frequency of meeting and good early progress (see Hockey 1991, p 327) and this tends to be supported in later work by Heath (2002). In Heath's (2002) study, of the 355 students who submitted their thesis at one university between 1997-1999, almost all (85%) expressed satisfaction with the expertise of their supervisor, and satisfaction were strongest when meetings were frequent (at least fortnightly). Nonetheless, there was considerable variation on the spectrum of interactions, and Heath regretted he had limited the question about frequency of interaction to formal interaction, because a discipline effect was evident. Students in the sciences (74 % of respondents including students from medicine and health sciences) met more frequently with their supervisors, published more papers, and included their supervisor as a co-author more often than students in humanities (10%) and social sciences (16%).

Satisfaction with supervision picks up 'quality' of supervision. Indeed, satisfaction measures have come to be regarded as direct indicators of quality, but in and of themselves, reported as percentages, and not related to outcomes data they constitute a blunt instrument in much the same way as simple reports of meeting frequency, and are of limited use in attending to issues in an actionable time-frame. Nonetheless, in connection with outcomes data they have proven explanatory power about quality of supervision. We need to be able to use satisfaction data with other outcome indicators – progress indicators – to be able to detect problems early enough to be useful to individuals and to determine whether there are patterns and commonalities underpinning levels of dissatisfaction with supervision that are common within institutions so they can be rapidly addressed to improve student experience and to complement equally important efforts at an individual student level.

Given the collection of annual progress report data is common, and usually contains items on satisfaction and progress, we were interested in what use could be made of this data to inform research training at an institutional level, as well as what it can tell us about satisfaction as an indicator of progress. As a result we collected data about both student and supervisor satisfaction with progress and supervision (including frequency of interaction), during candidature over two consecutive years from a progress report currently in use at one institution.

Method

Students:

We drew on recent (2002-3) annual progress report information for 633 research students from one research intensive university for two consecutive years (referred to as Years 1 and 2).

The 633 students did not constitute the entire population of research higher degree students undertaking research Masters and PhD studies in that institution, but were students who were enrolled in both years (a total of 1266 reports). This use of subjects for whom there are two discrete annual measures of each variable of interest afforded greater robustness than one year of data collection for the complete cohort in one year.

The breakdown in Year 1 is 434 PhD and 199 Masters students, and in Year 2 is 464 PhDs and 169 Masters students. The reason for the difference is that 30 students upgraded from a Masters to a PhD between progress reports. Table 1 gives a breakdown by year and faculty.

There were minor fluctuations between year 1 and year 2. Overall, the proportion of PhD students increased in year 2 (because of upgrades), and the proportion of full-time students decreased because some students switched to part-time.

Faculties are identified in Table 1 by their main doctoral disciplines.

While all faculties had a majority of PhD students, one (Engineering / Architecture), had a much lower proportion of PhD students than the others, because most of its research students commence at the masters level and upgrade after one year of satisfactory candidature. That same faculty also had the highest proportion of full-time students. About half of all students were enrolled part time. There were lower proportions of full-time students in Business/Economics, and Education/ Arts/Social Sciences.

Distribution of students by discipline group

Discipline group	PhD students (%) Year1 Year2	F/T students (%) Year1 Year2
Business/ Economics	83 83	46 44
Education/ Social Sciences/ Arts	67 71	42 38
Engineering / Architecture	49 60	79 74
Medicine / Health	83 85	54 53
Science / IT	70 74	56 51
TOTAL	69 73	54 50

Satisfaction and progress measures

The report structure adopted by this institution is designed to monitor progress by:

- Identifying degree of progress in such areas as literature review, proposal development and ethics and safety approvals, independent problem solving, data collection/creative activity, analysis and interpretation, drafting chapters, writing papers for publication and presentation

- Identifying whether or not expectations for progress were met (and maintained over time)
- Matching the above responses from the student with a separate set of responses from the supervisor to the same questions
- Interaction is determined by
- Identifying frequency of interaction
- Effectiveness of interaction (i.e., supervisor provides useful assistance)
- Productiveness of interaction (i.e., there is progress as a result)
- Planning is indicated by
- Asking students to present clearly articulated goals that are consistent with progress, interaction, and estimated completion date
- Identifying mismatch between student goals and supervisor expectations
- Identifying slippage in goals and progress over time

At the time the data was collected the process was that the report was sent directly to the student to complete their section, and then the supervisor(s) read it and consulted with the student particularly with respect to joint planning and recording of the following year's program. Students could opt for the supervisor not to see their section but few took this option. If there were more than one supervisor they would combine to produce their section of the report.

There are several areas of progress identified as separate items in the report for separate elements like the literature review, methods skills acquisition etc, but they are not the subject of this paper. In this paper the researchers are focussing on overall progress (a global measure) and all interaction/ supervision items. The progress measure asks students and supervisors to assess the amount of progress overall for the year (compared against the previous year's stated expectations) on four response categories (excellent, good, moderate, little or none). Hereafter, when the researchers collapse together the response categories 'moderate' and 'little or none', they will refer to progress as being 'less than good'.

For the interaction/supervision items students and supervisors are asked to respond to several statements about interaction (matched items). They are frequency of interaction and the following set of supervision items:

Student Items	Supervisor(s) items
My supervisor(s) is/are accessible	The candidate[1] is accessible
The interaction with my supervisor(s) assists my progress	I think the candidate will complete in the normal time
I am satisfied with the plan of work I developed with my supervisor(s)for this year	A satisfactory plan of work was developed with the candidate for this year
My supervisor(s) provides the support and advice I need	My interaction with the candidate has been productive
I am satisfied with the amount of interaction I have with my supervisor(s)	The amount of contact with the candidate is satisfactory

[1] The instrument refers to research students as candidate, but student will be used throughout the paper.

In some analyses all the supervision interaction items are combined in a supervision interaction process scale formed from the items above. The scale has 5 dimensions (see above) and five response categories (strongly disagree, disagree, agree strongly agree and uncertain).

Analyses

Given that there were no significant differences in responses between years, some of the analyses reported in the tables below are based on the means for the two years.

The analyses were undertaken using SPSS and comprise cross tabulations and correlations. The exact numbers of students differ slightly between tables below as a result of missing data.

Given that most of the variables involved in the correlational analyses were ordinal with distributions skewed towards one end of the scale, Spearman's rank order correlation coefficient was used in determining strengths of relationships.

Findings

Student and supervisor assessment of progress

Both students and supervisors were asked a range of questions about their assessment of progress in various areas (e.g., reading the research literature, project design, data collection, writing and problem solving), and one asking their level of satisfaction with progress overall. Only the overall satisfaction question is reported here. The percentages of students indicating that progress was 'excellent', 'good', 'moderate' or 'little or none' are shown by faculty in Table 2 for both years. Table 3 shows the same information for supervisors.

Students satisfaction with progress across discipline groups

Discipline group	Excellent (%) Year1 Year2	Good (%) Year1 Year2	Moderate (%) Year1 Year2	None (%) Year1 Year2
Business/Economics (n=45)	9 2	56 73	33 18	2 7
Education/ Social Sciences/ Arts (n=204)	12 13	61 58	26 27	1 2
Engineering/ Architecture (n=102)	8 7	63 64	28 26	1 3
Medicine/Health (n=104)	3 9	71 56	24 33	2 3
Science/IT (n=164)	10 6	60 58	27 33	2 3
TOTAL (n=619)	9 9	63 60	27 29	2 3

Supervisor satisfaction with progress across discipline groups

Discipline	Excellent (%) Year1	Year2	Good (%) Year1	Year2	Moderate (%) Year1	Year2	None (%) Year1	Year2
Business/Economics (n=44)	31	27	44	46	22	24	2	2
Education/Social Sciences/ Arts (n=206)	26	27	53	44	20	26	2	2
Engineering/ Architecture (n=100)	19	18	59	52	21	28	2	2
Medicine/Health (n=106)	28	27	55	51	16	20	1	2
Science/IT (n=157)	28	17	42	57	28	25	2	2
TOTAL (n=613)	26	23	51	50	22	25	2	2

The exact names of Faculties are not reported; instead they are represented by the main discipline groups. There were no significant faculty (i.e. discipline group) differences in student or supervisor satisfaction with progress. The results for both years were also very similar.

In general, both students and supervisors were satisfied with progress. However, supervisors were more inclined to rate progress as excellent. Students were more cautious and typically opted for "Good". It is worth pointing out here that students are drawing on their own experience and most supervisors have experience of more than one doctorate in progress and hence a stronger sense of what progress entails.

Overall, an average of 63 per cent of students rated their progress as excellent or good, and their supervisors agreed with this assessment. About a quarter of the students and supervisors responded that progress was less than good, and a small and consistent percentage (2-3%) were judged to have made no progress at all by both the student and supervisor. Clearly this group of students are the ones in need of attention. The proportion of students who believe they are making unsatisfactory progress (approaching 30 per cent) is similar to the non-completion rate, suggesting that this group warrants monitoring year by year.

There was a high correlation (Rs = 0.519, n = 586) between student and supervisor overall assessment of progress. There were discrepancies, for example, 9 per cent of students rated their progress as 'excellent', however, the supervisors of a small percentage of these (5%) rated their progress as less than good. Similarly, 62% of students rated their progress as 'good', and the supervisors of 13% rated their progress as less than good. So, in 18% of cases there was discrepancy between students and supervisors. This is also a sub-group that should be included in those that warrant attention on a year by year basis. Any significant growth in the group would be particularly alarming.

Student and supervisor satisfaction with supervision

As detailed above there were five items associated with various aspects of both student and supervisor satisfaction with the practice of supervision, and a scale was developed from these five items to provide an overall view of satisfaction with supervision process for both students and supervisors. The scale rates satisfaction from strong positive feelings (coded 1) to strong negative feelings (coded 4). A neutral feeling on this scale would be coded as 2.50. It is the results on this scale that are reported in this section.

In general, satisfaction levels were high (i.e. none of the mean scores for faculties exceeded 1.70 on the four-point scale).

There was an overall significant difference between faculties in student satisfaction with supervision in year 1 but not in year 2. However, a Scheffe test indicated that no single faculty was significantly different from any other faculty.

There were no significant differences between faculties in supervisor satisfaction with their supervision in either year.

When the mean scores (i.e. total group) for satisfaction were compared between the two years, it was found that overall there was little difference. That is, individual students included in both years of data collection responded similarly in years 1 and 2. However, there were two measures of student satisfaction where satisfaction declined by small but statistically significant amounts between year 1 and year 2. For students enrolled in both years, their satisfaction with supervisor accessibility and the extent to which they felt that the supervisor was assisting their progress were both lower one year later in candidature than in the preceding year.

Student levels of satisfaction averaged out to 1.45 for students and 1.58 for supervisors in Year 1. In Year 2 the averages were 1.47 and 1.59, so levels of satisfaction were similar and very slightly 'less positive' for supervisors.

Frequency of interaction between student and supervisor

Students and supervisors were asked how frequently they interacted with their supervisors. Responses offered ranged over daily, weekly, fortnightly, monthly or other, the latter presumably meaning less frequently or irregularly. They were not specifically asked if the interactions were formal and meeting-based.

There were significant differences between faculties in the frequency of student/supervisor interaction. In the main the difference was based on the laboratory and non-laboratory disciplines – see Table 4.

Overall there were significant differences between faculties in frequency of interaction between students and supervisors (χ 2 = 106.75, df = 16, $p < .001$). The largest differences are those between Engineering/Architecture (where between 53% and 62 % interact at least weekly) and Education/Social Sciences/ Arts (12% to 13% at least weekly). Science/IT is between these two extremes with between 35% and 37% of students interacting at least weekly.

Clearly there were differences between full and part-time students in interaction frequency, and differences between faculties remain even when full and part-time candidature is taken into account. Whereas only 9-16 % of Education/Social Sciences/Arts full-time students interacted with their supervisors at least weekly, 64-72% of Engineering /Architecture and 46-48%

of Science/IT students responded similarly. The corresponding faculty figures for part-time students are 10-13%, 20-21% and 21-27%. It was evident that the differences in interaction frequency between full and part-time students were greatest in the Faculty of Engineering/Architecture.

In a questionnaire based study of 28 education and 31 chemistry departments in the UK (1100 respondents) Kuang-Hsu Chiang (2003) found that on the whole Chemistry students felt more positively about supervision, but that in education supervisors were seen to be more available. Both Heath (2002) and Kuang-Hsu Chaing are alert to the nature of interaction, and that in the sciences it is often more informal (chance conversations in the lab etc.). The progress reports we used did not identify the formality of the interaction either, but such a measure could produce useful information to develop a more fine-grained understanding of satisfaction and progress. Certainly the fact that science based students tend to feel themselves more part of a team and students in arts and social sciences feel more alone and isolated on their projects is frequently raised in the literature and is borne out by the interaction data above that shows even when full time, weekly interaction with supervisors by Education Arts and Social Sciences students is reasonably rare (9-16% F/T and 10-13% P/T).

Interaction frequency by faculty

Discipline	Daily %	Weekly %	F'night %	Month %	Other %
Business/Economics	4	20	26	17	33
Year 1	2	29	16	20	33
Year 2					
Education/SS/Arts					
Year 1	1	12	22	38	27
Year 2	0	12	26	33	30
Engineering/Arch.					
Year 1	8	54	20	12	7
Year 2	6	47	21	16	11
Medicine/Health					
Year 1	7	29	23	26	15
Year 2	8	24	23	27	17
Science/ IT					
Year 1	4	33	29	20	13
Year 2	6	29	27	23	16
TOTAL					
Year 1	4	28	24	26	18
Year 2	4	25	24	26	21

Frequency of interaction and progress

Frequency of interaction was related to progress for students and supervisors (Table 5). As might be expected, there was a high level of correspondence between students and supervisors indicating their frequency of interaction. There was a strong and consistent relationship between interaction frequency and overall assessment of progress.

Progress was generally better when interaction was more frequent, and lower when interaction was less frequent, especially when interaction frequency was described as 'other', i.e. when more than 40% of both students and supervisors described progress as moderate, little or none. In Table 5 the last two columns show when interaction is moderate or none. Of those 4% of students and supervisors who report meeting weekly, 6% of students and 10% of supervisors report progress in the categories of 'moderate' or 'none'. For students and supervisors who report meeting monthly, the figures have grown to 35% and 28%.

Interaction between students and supervisors, related to assessment of progress

Interaction frequency			Assessment of overall progress as "moderate" or "none"	
	Students (%)	Supervisors (%)	Students (%)	Supervisors (%)
Daily	4	4	6	10
Weekly	27	27	22	17
Fortnightly	24	26	28	22
Monthly	26	26	35	28
Other	19	16	41	42
OVERALL	100	100	30	25

Relationships in student satisfaction: Progress and the supervision process

The correlation coefficients between the unitary measure of student assessment of progress and satisfaction with the different aspects of the supervision process and the supervision process scale are shown in Table 6. The first two columns of coefficients are for all students who were included in the data collections for both years. All coefficients in these two columns are statistically significant, indicating a consistent link between satisfaction with progress and the supervision process.

Given the differences found and described in the previous section of this paper for frequency of contact between students and supervisors, the correlations for students in contrasting faculties, namely Education/ Social Sciences/ Arts and Science/ IT, were also calculated separately and compared. In addition to differing in type of work involved, these are also the two largest faculties with 204 students in Education/ SS/ Arts and 158 in Science/ IT providing valid responses.

The correlations between frequency of student/supervisor contact and satisfaction with supervision for students in Education/ Social Sciences/ Arts were consistently higher than for the total group of students in both years. This result suggests that for students in this faculty frequency of supervision is more important for satisfaction with supervision than for students generally. This finding deserves serious attention because, as indicated above, it is in this faculty where actual amount of interaction is at the lower end of the scale. Where progress was less marked for students they were also tending toward dissatisfaction with key elements of supervision including advice and helping them develop a satisfactory plan of work.

Assessment of Progress and satisfaction with supervision

Supervision Item/ Scale	Assessment of progress by …					
	All Faculties		Educ/ SS/Arts		Science/IT	
	Yr1	Yr2	Yr1	Yr2	Yr1	Yr2
Supervisor is accessible	0.201	0.161	0.285	0.230	0.128	0.181
Supervisor assists progress	0.163	0.186	0.256	0.291	0.139	0.234
Supervisor assists development of a satisfactory plan of work	0.160	0.215	0.240	0.278	0.195	0.257
Supervisor provides adequate support and advice	0.147	0.214	0.258	0.293	0.116	0.348
Satisfied with amount of interaction with supervisor	0.220	0.290	0.316	0.326	0.260	0.336
Supervisory process satisfaction scale	0.245	0.190	0.318	0.278	0.211	0.248

The magnitudes of correlations between frequency of contact and satisfaction with supervision for students in Science/ IT were more variable. In most cases they were lower in year 1 while higher in year 2 than for the total group of students. Any meaning that might attach to this inconsistent result is unclear, although it might possibly be related to acclimatisation into the laboratory culture.

Relationships between supervision, progress and interaction frequency

These relationships were examined for both students and supervisors.

Students

The most important aspect of supervision for progress overall in the opinion of students was development of a satisfactory plan of work (see Table 7). Satisfaction with amount of interaction was the next most important. The scale developed from the five supervision items was also strongly related to progress overall. The lowest correlation found was for satisfaction with supervisor accessibility and progress overall, although this coefficient was also statistically significant. A probable explanation of the lower correlation here is that satisfaction with supervisor accessibility was quite uniformly high, and the relative lack of variance would have restricted the magnitude of the correlation.

Frequency of interaction between students and supervisors was then correlated with assessment of progress. Over the two year period, the average correlation for students (0.193) was somewhat less than for supervisors (0.203) (see Table 8).

The frequency of interaction was then correlated with each of the satisfaction with supervision variables. Although all correlations were significant, for students the correlation was highest for satisfaction with amount of interaction with supervisor, having a mean correlation of 0.231. Correlations with other supervision variables were all similar and exceeded 0.150.

The findings for students tend to bear out those of Burns, Lamm and Lewis (1999) for 370 continuing Masters and PhD students in Education in 1993. They found the most effective predictor of satisfaction for students was 'effective staff contact' (p. 60).

Relationships for satisfaction displayed by students

Supervision Item/ Scale	Rank Order Correlation Coefficients with …	
	Progress overall	Interaction frequency
Supervisor is accessible	0.116	0.164
Supervisor assists progress	0.197	0.158
Supervisor assists development of a satisfactory plan of work	0.291	0.163
Supervisor provides adequate support and advice	0.198	0.157
Satisfied with amount of interaction with supervisor	0.274	0.231
Supervisory process satisfaction scale	0.277	0.212
Interaction frequency	0.193	.

Supervisors

To facilitate comparisons, the correlations for supervisors have been shown in Table 8 in the same order as those for students. The wording of some items was identical, but differed for other items (note the second row).

The supervisory item that most strongly correlated with progress overall was that related to target completion time. However, satisfaction with the productive nature of supervision meetings and with the amount of interaction were almost equally strongly related to satisfaction with progress overall. In general, correlations between supervision items and progress overall were markedly higher for supervisors than for students for the equivalent items. In particular, for supervisors, the accessibility of the student was more important for progress, than accessibility of the supervisor(s) for students.

As noted for students the relationship between progress overall and interaction frequency was also quite strong for supervisors, to a somewhat greater extent than for students

The correlations between supervision items and interaction frequency were also higher for supervisors than for students. However, the correlations between supervision items and interaction frequency were generally smaller than those for the items with progress overall. The highest correlations with interaction frequency for supervisors were amount of interaction and accessibility of the student.

Relationships for satisfaction displayed by supervisors

Candidate Item/ Scale	Rank Order Correlation Coefficients with …	
	Progress overall	Interaction frequency
Candidate is accessible	0.356	0.256
Candidate completion on target (assists progress)	0.537	0.121
Supervision assists development of a satisfactory plan of work	0.291	0.164
Supervision productive	0.485	0.199
Satisfied with amount of interaction with candidate	0.471	0.315
Supervisory process satisfaction scale	0.547	0.253
Interaction frequency	0.203	.

Conclusion and discussion

Universities in Australia seek to achieve solid annual progress, strong student satisfaction, minimum attrition and timely completion among their research higher degree students. But how much progress has been made in understanding what leads to good outcomes for the individual student as well as the institution? Quality Assurance procedures require that institutions monitor progress and implement visible processes. This leads to the collection of annual progress report data as well as exit questionnaires. What are we learning from this data collection as a research community? This paper begins to address the question.

Summary of Findings

In general, both students and supervisors were satisfied with progress (63% said it was good or excellent). Supervisors were more inclined to rate progress as excellent. Students were more cautious and typically opted for good. There was a high correlation between student and supervisor assessments of progress

About a quarter of the students and supervisors responded that progress was less than good, including a small and consistent percentage (2-3%) judged to have made no progress at all by both the student and supervisor. There was some discrepancy however in 18% of cases where supervisors rated students as less than good whereas students rated progress as good or excellent

A scale was developed from five items associated with various aspects of both student and supervisor satisfaction to provide an overall view of satisfaction with supervision process for both students and supervisors. Overall satisfaction was high, with no significant differences for students or supervisors between years. Levels of satisfaction were similar and very slightly 'less positive' for supervisors

There were significant differences between faculties in the frequency of student/supervisor interaction. In the main the difference was based on the laboratory and non-laboratory disciplines, with the largest differences being between 2 Faculties – those representing the disciplines of Engineering/ Architecture and Education/ Social Sciences/ Arts. In the faculty of

Business/economics for one third of students frequency of interaction exceeded monthly

There were significant differences in interaction relating to enrolment type. Of full-time students: 9-16 % of Education/Social Sciences/Arts interacted with their supervisors at least weekly, 64-72 % of Engineering /Architecture and 46-48 % of Science/IT students responded similarly.

Of part-time students -the corresponding faculty figures are 10-13 %, 20-21 %, and 21-27 %.

There was a strong and consistent relationship between interaction frequency and overall assessment of progress. Progress was generally better when interaction was more frequent, and lower when interaction was less frequent, especially when interaction frequency was described as 'other', i.e. when more than 40 per cent of both students and supervisors described progress as moderate, little or none.

There is consistent link between satisfaction with progress and the supervision process. Moreover, the correlations between frequency of student/supervisor contact and satisfaction with supervision for students in Education/ Social Sciences/ Arts were consistently higher than for the total group of students in both years. This result suggests that for students in this faculty frequency of supervision is more important for satisfaction with supervision than for students generally.

In the final analysis relationships between supervision, progress and interaction frequency were examined for both students and supervisors.

For students the most important aspect of supervision for progress overall was development of a satisfactory plan of work. Satisfaction with amount of interaction was the next most important. The frequency of interaction was then correlated with each of the satisfaction with supervision variables. Although all correlations were significant, for students the correlation was highest for satisfaction with amount of interaction with supervisor so satisfaction and frequency of interaction are directly related.

For supervisors the supervisory item that most strongly correlated with progress overall was that related to target completion time. However, satisfaction with the productive nature of supervision meetings and with the amount of interaction were almost equally strongly related to satisfaction with progress overall. In general, correlations between supervision items and progress overall were markedly higher for supervisors than for students for the equivalent items. In particular, for supervisors, the accessibility of the student was more important for progress, than accessibility of the supervisor(s) for students.

Frequency of interaction between students and supervisors was then correlated with assessment of progress. Over the two year period, the average correlation for students was somewhat less than for supervisors. The highest correlations with interaction frequency for supervisors were amount of interaction and accessibility of the student.

Discussion

One type of data that most institutions collect is satisfaction with supervision and this type of information is also collected from exit students using PREQ. Much of the published information is collected after the student has completed their thesis or dissertation, but how credible and useful is such information during candidature? Universities are also currently collecting a vast amount of information from annual progress reports that can be utilised to advance our understanding of student and supervisor expectations, learning styles, effective supervision, supervision training, research higher degree project management and successful completion. It is important to use annual report information as completely and systematically as possible. For future students progress report data is a potentially powerful source of information about research candidature that can also be harnessed at a national level to enhance research training performance.

The study reinforces the logic of not looking at progress or satisfaction data for the entire cohort in any one year on its own. Such data should always be considered in the context of previous year(s). Similarly, consecutive years of data should not be combined unless differences are not significant. It also reinforces the need for progress reports to be robust instruments of measurement.

PREQ data and other published survey data show that feelings about, and perceptions of, supervision tend to be positive rather than negative. Moreover, there is a general understanding as well as empirical data to support the contention that students tend to be more satisfied with supervision if interaction is frequent. The annual report data reported here supports these contentions. To sum it up succinctly, frequent interaction matters to students, and if interaction is not frequent they are more likely to be dissatisfied with key elements of supervision and are more likely not to be making satisfactory progress. While disciplinary differences are evident in interaction frequency in this study and reported in others, the present study shows very clearly that interaction differences should not simply be dismissed as disciplinary in nature: students whatever the discipline are not making progress if interaction tends to extend past the fortnightly level.

Despite these associations, there are some inherent limitations both in the instrumentation and in the analyses that need to be borne in mind. The current study is based upon self-report instrumentation from both students and supervisors. In the first instance, as the report serves a formative as well as summative function, there is a necessary degree of collusion in generating the report. Supervisors and students typically are aware of each others' comments, and indeed may well have worked together in a planning process to complete the report. Secondly, as researchers in the field of student learning are increasingly demonstrating, there is often inconsistency between what individual's report of what they have done (or intend to do) and what has been actually done. This potential discrepancy may be overcome by triangulation with other methodologies (both quantitative and qualitative) that may, in representative samples, amplify or qualify the inferences drawn from the reporting. This may be particularly important in drawing out reasons for irregular supervisory meetings and for less productive supervisory interactions. There are potentially many significant 'within-student' factors that our current reporting does not address. As the actual correlations reported above, whilst consistently significant, were nonetheless quite moderate, it may be that use of adjunct methodologies might add significant power to our explanations of problematic progress.

Since the mid 1990s we have witnessed a growth in information about 'how to' supervise including a good many books on the topic. Methods of training supervisors and guides and support materials have now become typical on web-sites. Increasingly this information is based on empirical research, but rarely from studies of learning, mostly from studies of 'relationships' and the angle of research pedagogy and acquisition of disciplinary knowledge (see Green & Lee 1999). How Research students conceptualise the notion of 'doctoral study', and how they acquire and apply knowledge and skills – research cognition - is essentially unexplored (Cantwell & Scevak 2005). If we could ensure robust instruments are developed for annual reporting, and also add items that provide insights into learning and supervisory style and communication type, and link this with progress and satisfaction measures we could accelerate the development understanding of effective supervision manifold. It would move what is essentially a quality assurance process in a productive direction

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Examining Dissertations and Theses: Policy and Practice

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Abstract

In this paper, the author discusses the examination of dissertations or theses for a particular postgraduate programme. He describes how examiners are appointed, the guidelines they are given and the process followed after their reports are submitted. He then analyses the outcomes of the examination process in relation to the guidelines and regulations.

Introduction

Tertiary institutions offering postgraduate qualifications often make use of external examiners (Phillips and Pugh, 2000) and provide detailed guidelines covering the process and the criteria to be applied. Holbrook et al. (2004) studied examiners' reports and "data on candidate history from a number of institutions and disciplines." They discussed examiner expectations, examination guidelines and the examination process and drew conclusions about the need for supervisor training and improved examination guidelines. Holian (2004) noted that "examiners may appear to be inconsistent and to differ widely in their opinions" and suggested how supervisors might use "diverse feedback" to help candidates. Earlier Johnston (1997) noted wide variations in examiners' reports on doctoral theses and Mullins and Kiley (2000) interviewed experienced examiners to find out how they assess postgraduate research theses.

Master of Computing (MComp) students at Unitec must complete either a 60 credit dissertation or 120 credit thesis (out of a total of 240 credits). At the time of writing, 39 MComp students have completed dissertations or theses and 36 students are at various earlier stages: writing proposals, gathering and/or analysing data, working on first, second, third ... drafts, awaiting the examiners' reports. Each dissertation or thesis is initially assessed by two examiners, at least one of whom must be external and at most one of whom can be internal. A third examiner may be brought in if the recommendations of first two examiners cannot be reconciled (see section 4 below). So far we have called on 20 external examiners (two as third examiners) and eight internal examiners.

This paper begins by examining the criteria that Unitec uses to appoint examiners, the guidelines provided to examiners of masters dissertations/theses and the process to be followed when examiners' reports are received. It then analyses the outcomes of the 39 examinations conducted so far to see how (in)consistent examiners have been.

Examiners

Unitec's generic regulations for master's degrees set out the criteria for appointing examiners:

- The Board of Postgraduate Studies shall appoint all examiners, on the basis of recommendations made by the Programme Committee.
- Theses, dissertations and research projects shall be assessed by a minimum of two examiners, at least one of whom shall be an independent

external examiner who is not a member of the academic staff of Unitec and who has not acted previously as the candidate's supervisor or adviser.

- The examiners ... shall be appointed on the basis of postgraduate qualifications, experience in research or independent scholarship and practice in the general area of the candidate's study and, at least one examiner must have experience as a specialist in the area to be examined.
- At least one examiner for a thesis, dissertation or research project shall have substantial experience of examining postgraduate degree candidates.

Criteria

Examiners of MComp dissertations or theses are asked (Joyce, 2004) to provide the following:

- "An overall evaluation of the substance and quality
- Comments on particular strengths and weaknesses in presentation and reporting
- An indication of particular strengths and weaknesses of such features as design, methodology, literature review, theoretical rigour, argument, interpretation and practical application significance."

They are told that "the candidate should demonstrate achievement in all of the following criteria:

- Critical review of literature related to the topic
- Critical appraisal of methodology employed to address research questions/problems
- Capability in applying appropriate research techniques
- Capability in data analysis and interpretation
- Capability in drawing conclusions supported by data
- Capability in making recommendations supported by the implications of the research
- Sound analytical or original thinking
- Application of scholarly conventions for research reporting
- Quality of exposition and organization of material".

Other tertiary institutions apply similar criteria. For example, the examiners' guidelines used by RMIT University (2003) state that a masters candidate is "required to demonstrate competence in:

- Reviewing the literature relevant to the thesis
- Designing an investigation, and gathering and analyzing information
- Presenting information in a manner consistent with publication in the relevant discipline
- Critical appraisal of his/her own work relative to that of others
- The ability to carry out supervised research in the field"

We would expect that the common elements in the above criteria (literature review, design, methodology, analysis and presentation) would appear in examiners' guidelines at many institutions.

Process

Until recently a four point grading scale was used for grading masters' at Unitec:

- A for a "candidate who demonstrates excellent achievement"
- B for a "candidate who demonstrates very high achievement"
- C for a "candidate who demonstrates satisfactory achievement"
- D for a "candidate who does not demonstrate achievement".

After many examiners expressed frustration at having to use such a limited set of grades, grade modifiers (+ and -) were introduced for the A, B and C grades. Also an E grade was introduced for candidates who have done really badly and "normally will not be permitted to resubmit their work for re-examination" (candidates with D grades are allowed to resubmit once and can then receive only a C- grade or another D).

Examiners are asked to submit detailed reports and grade recommendations without consulting each other. Unitec's (2005) generic regulations for master's degrees set out the process to be followed when the examiners' recommendations are not consistent:

> the Board of Postgraduate Studies having read the examiners' reports and the supervisor's report and taken cognisance of information obtained from the Programme Committee as necessary, shall progress the following steps in sequence until a result is achieved.

1. in cases where the range in recommended grades is three grade levels, recommend that the work be awarded the middle grade and where the range in recommended grades is two grade levels recommend that the lower grade be awarded; or
2. seek to negotiate a consensus; or
3. in cases where more than two examiners initially were appointed, accept a majority recommendation, provided the majority recommendation includes at least one examiner who is external to Unitec; or
4. recommend the appointment of an independent adjudicator (normally external to Unitec), who will be provided with both the student's research work and anonymous copies of the previous examiners' reports and grade recommendations, and whose decision within the range of the recommended grades, will be final. The adjudicator will be an academic in a relevant field, and will be appointed on the basis of a recommendation from the Programme Committee and after careful consideration by the full Board of Postgraduate Studies.

Outcomes

When the four point grading scale was used, the internal examiners' initial grade recommendations differed from those of the external examiners in 12 cases out of 21. In seven cases the internal examiner was more generous than the external examiner and in the other five the internal examiner was less generous. The dean was able to negotiate a consensus in all but two cases where the external examiners were unhappy about the methodology. In both these cases a third examiner was appointed and recommended a D grade, so the students were required to resubmit.

When the 11 point grading scale was used, with three times as many passing grades available, it is not suprising that the internal examiners' initial grade recommendations differed from those of the external examiners in 16 cases out of 18. In seven cases the internal examiner was more generous than the external examiner and in the other nine the internal examiner was less generous. In the small number of cases where the range in recommended grades was more than three grade levels, the dean was always able to

negotiate appropriate outcomes. In one such case, where the external examiner recommended a D grade and the internal examiner recommended a pass, the student was required to resubmit.

If we combine the data from both tables we find that the internal examiners' initial grade recommendations differed from those of the external examiners in 28 cases out of 39. In 14 cases the internal examiner was more generous than the external examiner and in the other 14 the internal examiner was less generous (which is remarkably balanced, if nothing else).

Conclusion

The data in section 5 shows that examiners can arrive at quite different views of the quality of student's work, even when supplied with detailed criteria. For this reason, institutions offering postgraduate qualifications need to have explicit guidelines (or regulations) to deal with the very common situation where examiners' recommended grades differ. At Unitec this is usually simple but can sometimes involve a lengthy process of consensus-seeking and negotiation and occasionally the use of an adjudicator. In only one case out of the 39 reported in this paper has a student appealed against their grade, which may be taken to indicate that the process is seen as a fair one.

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Assessing the quality of the qualitative dissertation: Applying qualitative data analysis software methods

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Abstract

This paper presents a discussion of the criteria by which dissertation chairs, supervisors, committee members, and examiners assess post-graduate student qualitative research and the utility of qualitative data analysis software (QDAS) for promoting rigorous practice. Situating this discussion are three current trends in research: graduate program reforms, accelerating innovations in technology, and growing demand for mixed methods research. Singularly and collectively, these forces are redefining qualitative practice. The growing use of qualitative methodology in dissertation and thesis research complements an increased use of qualitative data analysis software. In contrast to the rise in QDAS use, literature related to QDAS assessment practices is lacking. With the approaching mainstream adoption of QDAS in research practice, the importance of examining the relationship of analysis software and assessment standards is paramount. Two important points emerge from this discussion: the qualitative research community must recognize and adapt to changes in qualitative research analysis as QDAS programs continue to evolve, and enlightenment is critically needed within the larger research community regarding the rapidly evolving role of QDAS as a methodological tool. The immediate implications involve systemic change in the alignment of qualitative research assessment practices with rapid changes occurring in the research field. As reform occurs, we must remain mindful of our ongoing responsibility to properly prepare qualitative researchers for the future and educate future qualitative researchers.

The Convergence of Three Trends

Increased acceptance of qualitative inquiry as a form of empirical research has resulted in numerous guidelines and frameworks for judging the quality of qualitative research. While the language used within these frameworks differs, the central themes have centered on quality and rigor. The main purpose of this article is to discuss the criteria used by dissertation chairs, supervisors, committee members, and examiners engaged in assessing the qualitative work of post-graduate students. In deference to international readers, the terms dissertation chair and supervisor will be used synonymously; as will the terms faculty and staff. This paper will direct particular attention to the use of qualitative data analysis software (QDAS) as a tool for staff engaged in assessing the quality of qualitative dissertations.

Three trends have shaped my position in this discussion of quality: (a) the political agenda of accountability, (b) the prevalence of digital convergence and (c) the increased prevalence of mixed methods research. Each of these trends has had a dramatic impact upon how we assess quality in qualitative research. After discussing the influence of each of the trends independently, I will discuss their convergent impact.

Trend 1. The political agenda of accountability has manifested itself through such issues as the call for common standards, quality indicators, evidenced-based research, and improved time-to-degree completion rates. Increasingly,

these issues have been raised in national and international forums such as the Bologna Agreement, which is a European Union initiative to establish commonly accepted Ph.D. credentials (The European Higher Education Area, 1999). In the United States, we have been relentlessly consumed with the political call for evidence-based research, which is reshaping social science research and practice (McCall, Groark, & Nelkin, 2004; Slavin, 2002). Australia is aggressively pursuing policies promoting a Research Quality Framework (RQF) to establish a competitive international edge (Department of Education, Science and Training [DEST], 2005). In response, universities are striving for assurances that their institutions and national standards of quality are internationally recognized as equal or superior. With the quest for quality there has been renewed emphasis on assessment practices and the application of standards.

Trend 2. Digital convergence represents the seamless integration of various communication technologies (Goldsborough, 2006; Mueller, 1999). Examples of the products of digital convergence include Internet telephony products, Internet conferencing tools, cellular phones that support multimedia, and other forms of digital media used to combine communication modalities. Among the driving forces that have contributed to the prevalence of digital convergence are advances in integrated circuitry and development of common standards (Mueller, 1999). Advances in integrated circuitry and related technologies have significantly increased the capacity of computing devices and expanded the vision of utility in technology. Coupled with the advances in technology, there has been a "coordinated adoption of compatible technology platforms by a critical mass of producers and consumers" (Mueller, 1999, p. 3). As technology tools have become more accessible, their utility has expanded across industries and applications.

Digital convergence has become a common phenomenon in our daily lives. We have grown complacent with technological innovations and the increasingly sophisticated integration of various forms of hardware and software. Although awareness of digital convergence and market demand is high in business and industry, the academic community has not recognized the impending educational impact of this trend upon doctoral research. Our attention has primarily focused upon instructional content delivery. We can see examples of change as the integration of technology continues to spread. International student collaboration, which has been growing in scale, is slowly redefining educational institution collaboration. Online research collaboration, blogs, and educational forums represent a new culture and are reshaping the learning community far beyond the physical walls of the institution. Countries attempt to control the import and export of flora, fauna, and artifacts across geographic borders; while on the contrary, the pursuit of new knowledge is rapidly transcending institutional and national barriers.

Trend 3. Mixed methods research is quickly becoming standard practice. With this blending of research methodologies comes a blend of tools. Consider how software such as SPSS and SAS is embedded within quantitative social science research. We now live with the unwritten assumption that numerical data reported in quantitative research studies is analyzed using software. The use of qualitative data analysis software (QDAS) has yet to attain the same level of mainstream adoption. Two groups of researchers are particularly well positioned to hasten mainstream adoption of QDAS: technologically savvy post-graduate students and quantitative researchers engaged in mixing methods research.

Post-graduate students are quickly adapting to and applying technology in increasingly creative ways and are becoming a driving force in the usage of

QDAS in dissertation research. An indicator of this growth is the increased international demand from graduate students in a diverse range of disciplines for technical training in QDAS. A very difficult situation emerges when a post-graduate student must work with a dissertation chair or supervisor who does not use QDAS and imposes traditional paper analysis or advises the post-graduate student improperly in the use of QDAS. In either case, the subsequent examination of the qualitative dissertation will fail to adequately assess the quality of the work.

Quantitative researchers who engage in mixed methods research but lack qualitative training present a different challenge to promoting quality in qualitative research. While the possibility of fully realizing mainstream adoption increases with rising interest in evidenced-based research and usage of mixed methods design, the age-old quantitative/qualitative paradigm war continues to surface. Efforts are underway within the research community to transcend the schism between quantitative and qualitative research in support of advancing mixed methods research as the third research paradigm. As Patton (2000) points out, though, "not everyone has adopted a stance of methodological enlightenment and tolerance" (p. 68). This lingering tension is further complicated by heightened interest in promoting mixed methods research. Johnson and Onwuegbuzie (2004) contend, "It is time that methodologists catch up with practicing researchers! It is now time that all researchers and research methodologists formally recognize the third research paradigm and begin systematically writing about it and using it" (p. 22). While it is relatively common for quantitative researchers to adopt a blended approach, qualitative studies conducted by quantitative researchers will continue to be an exception, rather than the norm. Given this course of events, it is reasonable to propose that increased utilization of QDAS will likely be driven by quantitative researchers conducting blended studies using either a dominant quantitative design or a balanced design.

Regardless of whether the crossover originates in the quantitative or qualitative domain, though, the concern remains that the software has the potential to support low-quality research. This concern suggests a significant methodological implication for research analysis. Quantitative researchers who are attempting to apply qualitative research methodology by using QDAS need to consider larger conceptual framework issues. QDAS is a highly useful tool that supports a wide range of analysis tasks, including building and constructing multiple meanings. Can the researcher use this tool while maintaining a quantitative orientation? The answer is most definitely, yes. What we must perceive fully is that a researcher's mere use of a qualitative tool does not necessarily make the inquiry qualitative. The software is a tool that requires proper use by the researcher. QDAS cannot make bad research good; nor can the software convert a quantitative orientation into rigorous qualitative methodology (Kaczynski, 2004).

Converging trends.

As these three trends converge upon qualitative research practices, we are faced with several interesting thoughts. The totally digital qualitative dissertation is a reality. Development and submission of the prospectus, doctoral assessment, literature review, data collection, data analysis, submission, dissertation defense, examination, and publication can now be performed in a virtual, paperless manner. An even more significant matter is that the entire process can be performed without the doctoral candidate physically meeting or interacting face-to-face with participants. These conditions necessitate radical changes in traditional doctoral supervision practices. The ensuing change process includes proactively defining new

standards of quality before standards are imposed from entities outside of the academic community. Related to these changes is the sophisticated integration of QDAS within mainstream qualitative practice. It is the author's contention that educators and practitioners who train future qualitative researchers need to assume a proactive role in defining and implementing quality standards for qualitative research practice.

Literature on Judging Quality in Qualitative Research

What are the determinants of quality in qualitative research? The process of judging quality involves the ability to establish distinctions between bad, good, and brilliant work. Piantanida and Garman (1999) posit that the soundness of qualitative dissertations is shaped by the knowledge-generating process: "Credibility rests upon the researcher's ability to articulate this logic of justification in a clear and cogent manner." (p. 147). We know from our training and experience that conceptual flaws in the researcher's design plan will produce unacceptable results. The logic and reasoning underlying the study design is at the heart of how we judge quality.

The process of judging the truth and logic of a study draws upon two intermingling approaches—philosophical and procedural. Philosophical criteria (Lincoln, 1995; Lincoln & Guba, 1985) address indicators of credibility, transferability, dependability, and confirmability. These indicators include our perceptions that a work seems true and our trust that the study is authentic. Procedural criteria, on the other hand, are more mechanical. Several authors (see Bromley et al., 2002; Cobb & Hagemaster, 1987; Creswell, 1998) have published checklists that summarize key ingredients of what is considered sound qualitative research. Although instructors and educators may consider the checklists to be helpful, this approach to assessment is problematic due, in part, to the limited prescriptive nature of the assessment process.

Silverman (2004) suggests the blending of philosophical and procedural approaches by drawing upon the earlier work of Sacks, who focused upon three issues: "the quality of our methods, the quality of our data and the quality of our data analysis" (p. 360). This three-dimensional approach provides a philosophical grounding while addressing the key ingredients of methods, data, and analysis in procedural terms. Reid and Gough (2000) point out that alternatives to assessment guidelines must address the complexity of the wide variety of qualitative research forms and the challenge of establishing a defining view of what research should be. Clearly, merging these two approaches represents a worthy challenge.

Determining if a work is true is a daunting task. Patton (2002) offers that trustworthiness has become a popular concept for judging the quality, credibility, and inherent rigor of qualitative research. Morrow (2005) proposes additional trustworthiness criteria that can be applied to the assessment of a wide variety of qualitative studies. These criteria include examining: (a) the study's social validity; (b) the degree to which the researcher's subjectivity has been explicated to the audience; (c) the degree of self-reflection, or reflexivity, evident in the analysis; (d) the data's adequacy with respect to the purposeful sampling's information-richness and whether collection continued to the point of data redundancy; and (e) adequacy of interpretation, as evident by the researcher's data immersion producing a profound understanding of the data and its interrelationships.

Drisko (1997) presented six criteria for evaluating qualitative research. These criteria encompass elements of both philosophical and procedural approaches: (a) specifying the philosophical framework, (b) specifying the goals and

audience, (c) specifying the methodology, (d) identifying biases, (e) maintaining the ethics of the discipline, and (f) consistency of conclusions with study philosophy and data. The first criterion is the identification of the philosophical framework of the study. Because the philosophical orientation frames the inquiry, it is important to apply standards based on the appropriate research paradigm. Within the qualitative research arena, there are myriad paradigms and approaches that differ on such bases as theoretical orientation and utilization (Drisko, 1997; Patton 2002). As noted by Patton, typically there is not one correct framework; there are multiple selections that are grounded in one's views of reality and truth, as well as beliefs about what could be studied and known in the world. Since the researcher's epistemological beliefs and theoretical orientation help provide a context for the study, it is important for the researcher to align his or her research methodology with the selected framework.

Every researcher and student of research needs to be able to articulate thoughtfully what they think is the goal of their research project, the relationship between the researcher and their research topic, how their scholarship can be verified or appreciated, the role of values, and the like. (Kezar, 2004, p. 46)

In examining the quality of qualitative research in terms of goodness, Arminio and Hultgren (2002) propose that "goodness requires that epistemological and theoretical underpinnings be explained and examined" (p. 451).

Drisko's (1997) second criterion involves the intended audience for the research findings. The importance of using this standard is that the research paradigm used in the inquiry may have been shaped by the intended audience or goals of the study. Patton (2002) has placed particular importance on standards guided by utilization.

The third criteria focuses on standards for assessing how well methodological decisions align with the philosophical and theoretical orientations of the study (Creswell, 2002; Drisko, 1997). For example, the types of purposeful sampling used in the study should be disclosed as well as the rationale underlying their selection (Drisko, 1997; Patton, 2002). In addition, the means of data collection, as well as the conditions in which data was collected, needs to be fully disclosed (Anfara, Brown, & Mangione, 2002; Drisko, 1997). As with the criteria proposed by Silverman (2004) and Morrow (2005), data collection strategies should be consistent with the philosophical and theoretical framework of the study.

Just as data collection strategies differ depending on the orientation and framework of the study, so do analysis processes. Drisko (1997) identifies four widely used approaches to assess data analysis. The first of these approaches examines credibility or truthfulness by indicating whether data and interpretations accurately convey participants' experiences. According to Patton (2002), credibility is based on methodological rigor, the credibility of the researcher, and "philosophical belief in the value of qualitative inquiry" (p. 553). Researchers have also associated the notion of credibility with internal validity (Anfara et al., 2002; McMillan & Wergin, 2002). Strategies proposed by Anfara et al. (2002, p. 30) to enhance credibility include (a) "prolonged engagement in field", (b) "use of peer debriefing", (c) "triangulation", (d) "member checks", and "time sampling". Triangulation has also been recommended by Patton (2002) and McMillan and Wergin (2002) as a means of enhancing credibility. Denzin (1978) identifies four types of triangulation; (a) data, (b) investigator, (c) theory, and (d) methodological. These types may be used individually or in any combination to illuminate deeper meaning

within a study.

Drisko's (1997) second interpretive approach, placing meanings in context, involves linking the data to the local context and exploring how the context fits within a larger perspective. As Drisko states, "Linking data to context and providing a sense of the wholeness of the situation, event, or environment is central to the coherence and credibility of a qualitative report" (p. 192). The third interpretive approach addresses confirmability. Describing and explaining actions taken by the researcher allows the reader to better understand the nature of interpretations. Anfara et al. (2002) discuss triangulation and reflexivity as strategies to enhance confirmability. To further enhance quality and rigor, they recommend audit trails, coding and recoding, triangulation, and peer examination as strategies directed at strengthening dependability of the data and analyses. Drisko's fourth interpretive approach is completeness of data collection and analysis. The data needs to be rich and descriptive (Drisko, 1997; Patton, 2002), and the data needs to be comprehensive (Drisko, 1997). Anfara et al. (2002) and Creswell (2002) recommend multiple levels of analysis to aid with interpretations and to show the complexities of issues being addressed, respectively.

Drisko's (1997) fourth criterion for assessing quality relates to the notion of the researcher as the research instrument. The researcher must reflect upon his or her biases and document them as part of the research process. Drisko and Patton (2002) emphasize the need to disclose conditions or situations that may influence data collection, analysis, or other aspects of the research process.

Ethical considerations are identified by Drisko (1997) as the fifth criterion for assessing quality. It is recognized internationally that researchers adhere to a high standard of ethical conduct in maintaining human subject's protections. Adherence to ethical standards should be incorporated into initial planning and maintained throughout a study. The Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) emphasizes the researcher's obligation to protect research participants and minimize harm to them.

The obligations of beneficence affect both individual investigators and society at large, because they extend both to particular research projects and to the entire enterprise of research. In the case of particular projects, investigators and members of their institutions are obliged to give forethought to the maximization of benefits and the reduction of risk that might occur from the research investigation. (Part B.2.)

Giving forethought to protecting human participants is a shared responsibility in the doctoral dissertation process. Post-graduate researchers are expected to work closely with participants while constructing data, as well working with their doctoral supervisors throughout the dissertation process. Accessibility to digitized raw data represents a growing concern which requires heightened levels of diligence.

The sixth criterion discussed by Drisko (1997), consistency of conclusions with study philosophy and data, incorporates many elements from the previous five criteria. Not only should the study demonstrate integration of the various criteria, but the conclusions and recommendations should be consistent with the presented data. Eisenhart and Howe (1992, as cited in Anfara, et. al., 2002) emphasize the importance of "a fit between research questions, data collection procedures, and analytic techniques" and "the effective application of specific data collection and analytic techniques" (p. 30). By deliberately,

visibly, and repeatedly integrating the design, execution, analysis, and interpretive elements with the purpose and focus, the researcher satisfies these criteria, thereby enhancing the qualitative study's inherent trustworthiness and overall quality.

Recommendations for Conducting the Assessment

It is our role as dissertation supervisors to hold doctoral candidates accountable for the technical soundness and trustworthiness of their work. Throughout the candidacy we encourage doctoral students to produce dissertations of the highest quality. To assess quality, we must carefully examine a work using procedural criteria, and we must equally explore the researcher's logic and reasoning at a deeper level. By engaging in methodological exploration like an archeologist exploring fine layers of an excavation, we can illuminate a deeper understanding of the underlying conceptual framework presented by the researcher and properly assess the quality of the work.

The assessment process need not be an elusive guessing game where the candidate is continually unsure what constitutes quality work. As part of the learning process, the doctoral dissertation research process includes guiding steps, as the supervisor provides the doctoral candidate with constructive feedback on an ongoing basis. By working together, the candidate and supervisor can jointly define criteria for assessing the quality of qualitative research. A constructive relationship promotes a positive flow between the student and the supervisor.

The evaluation frameworks presented by Drisko (1997), McMillan and Wergin (2002), and Patton (2002) have been extremely useful for staff who must assess students' qualitative research work. While there have been resources created for students to facilitate the dissertation writing process, there have been fewer resources specifically aimed at staff for assessment of qualitative dissertations. Clearly, both students and staff benefit from an explicit assessment process.

As presented, applying a mix of procedural criteria and philosophical criteria is the desired strategy to enhance assessment practices. Rogers (2003) makes an interesting point when discussing the need to reach beyond an assessment of methods: "It is far more important for students to learn how to ask questions about their own research process, including what they need to learn more about or explore in greater depth to strengthen an emerging interpretation" (p. 57). Her contention is that "students need to learn over time how to think through the logic of qualitative data analysis" (p. 57) in order to construct qualities of good research. Furthermore, "good qualitative research is open to question and is therefore transparent with regard to the formulation of research questions, data collection, and analysis, revisions in process over time, and limitations of the research." (p. 58). This discussion promotes the value of transparency for supervisors as they strive to advance high quality research with doctoral students. By closely examining the procedural components and the logic of the process, the supervisor and the doctoral student are able to define assessment criteria appropriate to the unique methodology of a particular qualitative study. The doctoral student is positioned to build trust by sharing their work in an open, transparent format, thus enhancing the trustworthiness of the work. Through transparency, the assessment process provides a means to measure the credibility of a study, which reflects the researcher's ability to tell the story in all its complexity. As a result, the credibility and trustworthiness of the work is strengthened through the use of a mix of assessment criteria.

Qualitative research methods are evolving to support finer textual data analysis for a richer, deeper understanding of a study's focus. New breakthroughs in software development offer innovations in qualitative methodology (QSR International, 2005). The manual process of analysis, conducted in isolation –typically using highlighters and Post-it® notes, is very difficult to assess. The lack of transparency in the analysis process restricts the assessment process. As the qualitative research field approaches mainstream adoption of QDAS, research tools that support strengthened rigor and credibility will become more accessible. Easy-to-use software features can aid staff in the process of assessing qualitative dissertations. It is important for supervisory staff to remain abreast of research technology and to understand the implications for qualitative data analysis.

A valuable benefit in adopting the use of QDAS is that students can submit their work to their supervisor and other committee members for review as the dissertation develops. Using the backup functions within the analysis software, students can create a copy of their project and send the file electronically to their supervisor. Once the supervisor has restored the project file, he or she has full access to view and critique the student's work, including raw data and analysis. Of particular value to the assessment process, the supervisor can directly examine the integrity of the various procedural elements of the study. For example, the supervisor can assess the student's application of codes, as well as the logic used in the construction of the code structure. QDAS also affords the supervisor the ability to determine whether the researcher has prematurely concluded the analysis process. By examining the code structure, the supervisor can determine the extent to which a student is immersed in the data and has successfully moved beyond superficial analysis.

When the feedback process is a structurally integrated task, both the supervisors and students benefit from the efficiency. The transparency of the dissertation research assessment process between the student and supervisor can be further enhanced with the inclusion of a self-assessment report created by the student. This status report is a living document reflecting progressive changes in the research process and within the researcher during the span of the dissertation process. The self-assessment report commonly has three subheadings: (a) here is what I have done, (b) here is what I am going to do, and (c) here is where I need help (L. Gilbert, personal communication, April 8, 2005). When this document is added as a data source to the QDAS project folder, issues raised in each of these sections can be linked directly to corresponding raw data, code structures, or analysis results. These links complement transparency and supplement the assessment process.

From the student's perspective, a more complete understanding of quality indicators of dissertation research has several benefits. With a deeper appreciation of determining trustworthy work, the doctoral candidate can critically explore a spectrum of quality-related design features and apply this knowledge to his or her work and the work of others. As a result, this knowledge will improve the application of procedural and philosophical factors and assist the student in design, fieldwork, and analysis of qualitative research.

Discussion

The doctoral candidate's committee represents a blend of research orientations, fields of study, and research interests. Unfortunately, it is not uncommon for the committee to lack expertise in the use of QDAS and effective assessment techniques. A proactive response to these challenges

supports reform of current research training practices in post-graduate education and professional development for staff. The immediate solution for professional development is the implementation of seminars and workshops designed to impart supervisors and dissertation committee members with technical skills and knowledge of methodological integration, academic mentoring, and assessment methods. Enlightenment regarding the rapidly evolving role of QDAS as a methodological tool is a critical need within the larger research community. The immediate implications involve systemic change in the alignment of qualitative research assessment practices with rapid changes occurring in the research field. As reform occurs, we must remain mindful of our ongoing responsibility to properly prepare qualitative researchers for the future and properly educate future qualitative researchers.

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Guiding students up the thesis mountain: The development of a website on writing a thesis

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Abstract

An investigation at a large metropolitan research university of staff and student perceptions of thesis writing needs, highlighted a significant requirement for additional support and guidance in relation to aspects of the higher degree research process, as well as in the development of academic writing skills.

Students were found to experience a number of difficulties in adjusting to the protracted and idiosyncratic nature of HDR candidature. They also had difficulties meeting the substantial requirements of writing a long, intellectually complex document to the standard required for a PhD. At greatest risk are students from language backgrounds other than English, and those studying in disciplines where early academic achievement is less dependent on writing proficiency.

This paper discusses the development of an online resource to address these issues. The site is conceived as a means whereby students can access relevant and appropriate guidance and thesis writing advice targeted to different stages and needs in the degree process. The educational design highlights the stages of the process and is informed by adult learning theory, as well as social interactionist and constructivist learning models.

While providing generic advice the content is framed by an awareness of disciplinary contexts as suggested by the work on disciplinary discourse by Swales, Hyland and others. The focus is the development of academic writing skills for research students who need to rapidly acquire high-level writing skills in English and in the discourse of their discipline.

Introduction

Recent changes in Higher Education have resulted in a substantial increase in the numbers of higher degree research students, as well as alterations in the composition of the student cohort. The age range has widened (the average age at our university is 35), there are more women undertaking research degrees, and students come from diverse cultural backgrounds (at our university, there has been a fifty-nine per cent increase in international HDR enrolments since 2000) (Monash University Planning and Statistics, 2006).

The successful completion of a research degree generally correlates closely with the demonstration of high level writing skills appropriate to the discourse of the discipline, but the development of these skills in the increasingly diverse student cohort is often challenging. Higher degrees are now offered in a wider range of disciplines, somewhere traditionally, research degrees were uncommon. This means new academic identities are being created, incorporating more diverse interdisciplinary language skills. Implicit is the potential for new definition in terms of epistemological style, disciplinary culture, the way knowledge is created and transmitted as well as the modes of discourse: in Becher's words, the "linguistic and symbolic forms of communication and meaning they share" (Becher, 1989: 24). Consequently, academic writing requirements in HDR candidature appear to be complex and

evolving area. Furthermore, the implementation of the policies of the 1999 Commonwealth Government's White Paper (DETYA 1999), imposing more rapid completion times for research degree candidature, has increased pressure on students and has particular implications for those whose English writing skills need further development to produce a good thesis in English.

The project described in this paper came out of an awareness of the issues outlined above. Anecdotal information, together with a preliminary scoping of the area, indicated to us a substantial problem, where significant numbers of research students were experiencing difficulty achieving the required level within the required limited time frame for the degree.

The objectives of the project were to identify research students' English language and thesis writing needs and to use this information to develop appropriate, targeted, large scale thesis writing guidance material. This paper will outline the study of writing needs we conducted and the design of the online resource that resulted from its findings.

The Study

The identification of students' English language and thesis writing needs was carried out through interviews with Associate Deans, academic support staff and postgraduate students, and through some multi-disciplinary student focus groups.

Two different perspectives emerged from this investigation. Members of staff and Associate Deans Research had well developed and carefully articulated notions of the language and particularly writing skill needs (which they often expressed as deficiencies) of research students within their departments. On the other hand, the research students we interviewed had much more individual views of the research degree experience, and in general appeared less aware of their particular language skill needs.

Staff perspective

Associate Deans Research drew upon own supervisory experiences and those of academic colleagues in their department as well as their administrative experience in the faculty, particularly regarding examination issues. They highlighted writing excellence as one of the tacit goals of doctoral candidature, with a thesis demonstrating high level English writing skills being critical to success. They envisaged that all doctoral students, irrespective of their initial language proficiency, would improve and refine their writing expertise over the duration of candidature.

The staff members interviewed regarded the normal process of writing development in a research degree as taking place through reading in the discipline, writing and revising, receiving and acting on feedback from supervisors, and modelling by more experienced writers through co-authoring papers. However, they recognised that in many faculties there are significant numbers of students for whom some kind of intervention would be necessary to speed it up.

The development of writing skills among these student cohorts was perceived to be an enormous challenge often seen to impose unduly on the time and resources of the supervisor. Additionally, the large numbers of students that many lecturers supervise imposes severe pressure on many staff members, particularly those with significant numbers of overseas and NESB supervisees.

Student perspective

Students generally identified excellence in candidature with the quality of the research, demonstrating substantial overall anxiety about whether their work would meet doctoral requirements. Their writing concerns emerged only gradually, on prompting. They were to do with the challenges of structuring long piece of work, and were particularly pressing at certain stages of the thesis process: not surprisingly, students who were not directly engaged in the writing process were less inclined to foresee problems. Students were less aware of their potential for writing skill development, or that this was something they could be proactive about.

Writing skill needs

When members of staff talked about writing development as a critical area, they identified aspects that needed work for ESB and NESB students alike, and for both groups separately.

The aspects of writing they felt needed attention across the board were text structure, paragraph construction, flow, logic, use of appropriate language, sentence structure and grammatical accuracy. When they talked about NESB students in particular, the salience of grammatical inaccuracy for supervisors was mentioned, with the suggestion that sometimes it was an obstacle to providing constructive feedback. The other area that was focussed on was the need to help students' to master the rhetorical functions of presenting an argument, such as guiding the reader, making connections explicit, demonstrating a critical stance to one's own and others' research, and developing an authorial voice.

When speaking of ESB students, there was particular recognition that students in some disciplines, such as sciences or fine arts, where success in undergraduate studies is less dependent upon English writing proficiency, can be more at risk since their literacy skills are frequently less developed at entry into candidature. Staff members referred to the need for more precision and conciseness in student writing, better development and presentation of argument, and they noted that basic errors are sometimes seen to endure through candidature.

An online resource

The study identified a clear need for support for writing development, as well as support through the process of writing a thesis. The student interviews indicated that HDR students, as adult learners, tend to each have their own agenda, and to want to access assistance to the extent needed at individually determined critical times. An online resource is particularly suitable for them as it allows for self-directed learning, being available at point of need and able to be used repeatedly.

It is also easily accessible to supervisors, and can support them both with specific information, and as a resource they can readily direct students to.

Audience

The first step in the online design involved an analysis of the target audience. While the material is addressed to students, who are considered to be the primary audience, it is designed to be useful also to supervisors who might be looking for material which they might direct candidates to use. It was therefore essential that the site have different entry points for learners at different stages of their candidature and for supervisors.

Pedagogical approach

The design of the site was shaped by the awareness that research candidates are adult learners being inducted into a research community. Adult learning theory therefore informs both the development of the site and the pedagogy of the content material. The key concepts for the design are the self directing nature of adult learners (Knowles, 1990), their need to understand the rationale for learning before engaging in a learning task (Merriam and Caffarella 1991), and their life-centred orientation to learning.

Thus we would argue that teaching these skills is not merely a process of instruction and training, but of supporting beginning researchers in their development as researchers and writers, and that research candidates would therefore not all need to follow a lock-step training process.

Choice and presentation of content is also informed by a view of research writing as situated within discourse communities characterised by distinctive epistemological stances, goals and ways of communicating (Bazerman 1988; Berkenkotter & Huckin 1995; Hyland 2000; Swales 1990).

Content and Structure

The content is a combination of the particular language and academic writing skill needs defined by members of staff across disciplines together with the broader requirements of research degree candidature expressed by students

The content structure is an information spine focusing on each stage of the research process, with emphasis on writing skills development, but also providing advice and guidance on those broader aspects, from embarking on candidature to getting closure on the thesis and preparing for life after the thesis. Attached to this information spine are learning materials with varying degrees of interactivity and disciplinary specificity.

Bearing in mind the characteristics of adult learners, the site offers an open web structure encouraging a discovery approach, although users also have the option of following the hierarchical structuring of the information available. This is a learning resource rather than a structured course to be followed; therefore (and in recognition of different needs at different stages) there are multiple ways in:

Student stories A series of video clips, which emphasise different stages in candidature. The 'stories', told by student actors, are informed by authentic student disclosures and cover some of the critical features in the research journey. The student videos are accompanied by links into different parts of the site.

Quiz The use of the web is often search focused, and we anticipated that this would be particularly true for research students who get online primarily to use online databases, the Web of Knowledge etc. We contemplated a diagnostic quiz 'Track your path' which would help learners check that they had completed essential steps and lead them to the appropriate key information pages on the site. Time and resourcing constraints mean that this is currently on the back burner.

Skills list We were also aware that supervisors and Language and Learning colleagues working with research students might find it useful to have a quick list of skills to which they can direct their students to relevant parts of the site. A simple A – Z list of topics might be enough for this purpose and audience, though it might be possible to adapt the functionality of a 'Resources Finder' Flash file to allow searches on multiple needs.

Hierarchical menu Both devices, the videos and the 'Skills checklist' page (or interactive) lead into the information spine which is also highlighted in the list on the home page via five headings: Set up for success; Design your project; Build thinking and writing skills; Develop oral communication skills; and Write the thesis. In turn these cover an overview of the fundamental skills and knowledge needed for beginning candidates; research design as it affects the writing of different types of thesis; micro-level reading and writing skills; skills in oral communication; and the writing of different parts of the thesis.

Metaphor To provide a visual and conceptual coherence to the open structure that emphasised process rather than skills, we came up with the mountaineering metaphor (a variation of the widely-used journey metaphor). This will be reflected in images and some headings.

Design process

Our approach to the design was learner-centred. It began with feedback from students in the study, which indicated many students see the thesis process as challenging and somewhat unstructured. Then, in designing and developing entry points into the site, further research was conducted with small multidisciplinary groups of research degree students at different stages of candidature, and via an email questionnaire. Students' user preference was gauged regarding image, layout, and terminology. This testing confirmed the need for different ways of navigating round the site—some students had a functional, skills-based approach, while some were attracted by the idea of hearing the experiences of others.

Through this student user preference testing, our metaphor of the thesis mountain was reinforced. We asked students about images that came to mind when they thought of their thesis, and they confirmed the appropriateness of the mountain metaphor. They spontaneously said they thought of sport and effort. However, some could think of no image at all, so it was clear that the metaphor should not be laboured.

There will be further user testing once a section of the site is established as a prototype.

Conclusion

The wide availability and ease of access of a web-based resource allows for considerable large scale student guidance and support as well as teaching particular linguistic features, and aspects of thesis writing. Although at present it has limited potential for interactivity, the site will go towards meeting a serious expressed student need for assistance. Further usability tests with HDR students are scheduled as the material is constructed and presented online. It is being repeatedly evaluated for language, accessibility, content value and the like at each phase and modifications take place, and it is anticipated that more interactive material will be added to the site.

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The PhD experience: What they didn't tell you at Induction

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Abstract

With the increasing demand to have PhD students finish their degree faster, it is also important that students make it through happier. At Flinders University, we have identified a role for emotional and psychological factors in affecting PhD students' progress and wellbeing. As such, we conducted ten semi-structured interviews to further explore these more "human" experiences of PhD candidates. The interviews resulted in six key themes being identified: the impact practical problems have on the candidature experience; isolation from other PhD students; the need to figure out what the process of doing a PhD involves; support from family, friends and the university; the difficulties arising from taking time away from the PhD to "have a life"; and the varying emotions felt throughout the candidature. As a result of this research, we have developed two resources for students and their supervisors which aim to address these issues, in order to improve the candidature experience for current and future PhD students.

Introduction

Each year, ten thousand students begin a PhD in Australia. They are welcomed into their respective institutions, told about the availability of grant money, lectured about intellectual property, and pointed in the direction of the library. Good luck, and see you in three years with a finished thesis. New students may have an understanding of the requirements of doing a PhD, that they need to produce a thesis and so on, but other than that, they really have no idea of what to expect: what problems will they face, what will help them the most, what emotions will they experience during their candidature? The nature of PhD study is that it often involves long periods spent working alone, so many students have nobody to answer these questions, and lack people to share their experiences with. This can disillusion many, and almost everyone at some point hits low patches in their candidature. A potential reaction to this is that the student drops out. The dropout rate from PhD study is astonishingly high; some estimates place it at 50% (Smallwood, 2004).

Through our research and work with PhD students, we at the Flinders University Staff Development and Training Unit became aware that there are phases and stages in the PhD journey; at some points students may be more vulnerable to dropping out. As such, we have developed a comprehensive program to improve the experience for research PhD students. Our hope is that through this program, we provide students with not only the skills, but also the resilience required to complete their PhD studies successfully. However, from our contact with PhD students, we have identified a gap in the existing knowledge of what a PhD entails, and as such, in the information we provide to students.

There appears to be a strong role played by emotional and psychological factors in the candidature journey, yet these have not been explored by researchers nor do a great deal of prospective students know what to expect. As such, we decided to investigate the more "human" aspects of candidature, by interviewing a number of students regarding the emotional and psychological factors they face, in order to illustrate this previously unknown side of the PhD.

Method

Ten research PhD students at Flinders University were approached to take part in one on-one semi-structured interviews. The ten represent a cross-section of the research PhD population at Flinders, including students of both genders, of varying ages, full-time and part-time, at different stages of candidature, and from each of the four faculties at Flinders (Science and Engineering; Social Sciences; Health Sciences; and Education, Humanities, Law and Theology). We asked questions relating to problems the students had faced, support services that would have helped, contact with peers, relationship with their supervisors, and the overall experience. The stories were qualitatively analysed for common themes, and are discussed below. (Pseudonyms are used throughout to preserve anonymity.)

Results

Through our interviews with the PhD students, six themes emerged strongly which were related to their attitudes and global experiences of candidature.

Practical Problems

The students told of a range of practical problems that emerged during their PhD. The problems were wide and varied: from difficulties balancing study with part-time work, to issues getting the design of their study through the process of ethics approval, to extreme difficulties gaining access to required resources. These problems, which can cause significant delays, have the potential to produce very strong emotions on the part of the student.

> I wasted a lot of time chasing stupid admin things that didn't need to be so difficult. (Margaret)

A number of students told of how their overall emotions could be dramatically affected by these issues; one student tells of how his emotions fluctuate on a day-to-day basis – depending on how well his experiments happen to be working.

> When things go well, you can always be motivated, but when they don't go too well, it's hard to get out of bed. (Daniel)

This can also happen on a longer-term basis, resulting in more dramatic mood changes. One student describes how after months and months of her experiments not working, her attitudes toward her PhD steadily worsened; now she's at the stage of believing she will never finish her PhD.

> I don't ever see myself finishing. (Megan)

Isolation from other PhD students

Hacksever and Manisali (2000) describe PhD study as "a long and difficult process that requires working alone in uncertainty." (p. 19) This theme came out very strongly in the students' stories. For many of them, there weren't other people around with whom they could discuss their projects, and so were forced, by necessity, to work alone on their PhD. In other words, they experienced feelings of isolation.

All students recognised the importance of contact with other students. To share common experiences, and to know that others are going through similar problems to you, seems to be extraordinarily useful. The students we talked to all recognised the importance of having others around to discuss general aspects of candidature, to know you're not alone.

> To talk about the common experiences of candidature, and to know that you're not crazy and that you're not an utter failure because you don't think it's going well at the moment. (Mark)

> To hear that everybody else is lost and struggling too, I think is really helpful. (Sharon)

> You look at how your colleagues are going and how others are moving along and you think, well they've had problems that I don't have so what's the big deal? (Andrew)

However, receiving this kind of contact and support proved to be a problem for many of these students. Although several students had colleagues around with whom they could discuss general issues, they don't know enough about each others' projects to help out with specific problems or questions. It seems that ideally, there would be sufficient people around with whom postgrads could share experiences common to candidature, but also with whom they could discuss the specifics of their projects. However, these postgraduate students are so "in their own heads" about it all that really nobody knows what they're on about. It's almost the nature of the PhD process, the students recognise, this isolation. You're meant to become an expert on this small, specific area, and are supposed to know more about it than anybody else.

To some extent, I think you're sold to the view that the PhD is isolating, and to some extent I think it's meant to be isolating, insofar as you immerse yourself in the topic, and nobody else apart from your supervisors and devoted loved ones understand what you're on about. (Andrew)

> It's really isolating, because you're the only one who's doing it… even though there's people around. (Megan)

> Because I'm working on my own, away from things, I tend to feel as though my topic has, in some ways isolated me, because I don't fit here in one place or another, somehow. (Margaret)

> That's just the nature of it. You end up focusing on your area so much that really there's no one you can talk to about it. (Sam)

Need to figure out what doing a PhD is all about

Another theme appearing very strongly in the students' tales was a need to figure out what the process of doing a PhD was all about. Several students described having difficulty with this at the beginning of their candidature, which lead to many problems and unnecessary anxiety relating to their project.

For several of the students, they simply didn't know what a PhD involved; some didn't even know if they really wanted to do it. For many students, the process of doing a PhD was very mysterious and undefined. They knew that people entered into their candidature, and re-emerged over three years later with a completed thesis (or else dropped out along the way!) but had no understanding of what happened in between.

> I didn't really know what to expect in the beginning, but whatever it was, it wasn't what it turned out to be. (Sam)

> What's next? What do I do? Unless you're told, you don't know. (Megan)

This confusion at the start can lead to many problems in the early stages of candidature. Several students had problems defining the scope of their projects; they were either too narrow, or not suitable for a PhD, or else far too broad, and unrealistic for the three-year timeframe. There were also problems knowing whether or not they were on the right track.

> [When it came to the literature review, I felt] rudderless, not knowing if it was on target or it was off. (Andrew)

> [An important step is] shaking off the mystique that surrounds a PhD; just getting your head around what the PhD entails. (Andrew)

Problems also emerged when it came to figuring out what they were actually there for. Figuring out what the student was there for, and what the supervisor could help with was a problem for several students, a problem which became more pronounced if the student had worked in the department previously, and had to make the transition from "staff" to "student".

Support

Support, these students recognise, is very important for the emotional wellbeing of PhD students. It can come in many forms: emotional, financial, academic, and can come from different sources, such as family, friends, supervisors. All of these students claim they receive valuable support from their family and friends. This helps them to step back from their PhD every now and then, to relax and forget about it for a while.

> [My friends] help me maintain contact with the rest of my life. (Andrew)

However, it can be difficult for students when the significant others in their lives don't really understand what it is they're doing, or if they want to go out and party when the student just wants to study.

> My friends have accepted that my social calendar is nonexistent… I hope they'll still be there when I finish. (Jennifer)

Another form of support, which PhD students need but which seems to be a lot less forthcoming than that from family and friends, is the support of one's department. The assistance, encouragement, and acceptance from academics, administration and technical staff is very important for PhD students' emotional wellbeing, confidence and enthusiasm. However, several students complained that their respective departments were not very supportive of postgrads. They describe hierarchies within their departments, with academics at the top and the postgrads down the bottom. Their low standing in the pecking order translates to very little assistance or respect.

> The secretaries where I am are very allergic to postgrads. (Sharon)

> [Postgrads are] seen as the bottom of the food chain to many people. (Anne)

What might be the most important form of support for postgrad students however, is the support of their supervisors. To know that your supervisor is there if you need them, that they can assist you if you get stuck, or when you just need to vent about your experiments not working. A supportive

supervisor is oft cited to be one of the most important factors in determining how likely students are to complete their candidature (e.g. Seagram, Gould & Pyke, 1998; Moses, 1994).

In general, most students claim to get along well with their supervisors. However, there are always minor issues that can inhibit a successful and productive supervisory relationship, such as not providing enough direction and encouragement, or not being available when needed.

> When I think I'm burnt out and I've run out of options, and I go and ask him, he doesn't have enough focus to sort it out. (Daniel)

There are a lucky few students who can find no fault with their supervisors. Sharon and Megan describe how their supervisors are as much friends as anything else; it is not surprising then, that they are the two students who have the most glowing praise of their supervisors in general.

> One of the most important things when you're doing your PhD, more so than your topic, is your supervisor. (Megan)

> If I didn't have that support [from my supervisor], I would be so far behind that I wouldn't be able to catch up, or I would have dropped out. (Sharon)

PhD vs life

Another problem which appears to be very significant for many PhD students is the ongoing battle between two major components: "PhD" and "life". In our discussions with many PhD students, we have identified three types of students, those who make a point of keeping their PhD separate from the rest of their life; those whose life interferes with their PhD, and those whose PhD interferes with their life.

The first group seem to be very successful at keeping their PhD separate from the rest of their life. They work hard when they're at University, but then they take time out when they go home to forget about it all, and just relax.

> Basically, I try to hang around with people that try not to remind me of uni when I'm not there. I think it's important you enjoy the time you're not at uni. You should have an avenue to blow off some steam. You need some time to let everything settle and get it in check. (Daniel)

Others have less success at keeping these two things separate. They seem to be living their PhD 24 hours a day, seven days a week.

> [Isolation is] partly to do with your PhD, partly to do with the way it takes your time away from other parts of your life. [The] isolation of feeling like the world's going on outside my PhD… and I'm not paying attention to it. (Andrew)

> I want to have a life as well. I want to finish my thesis, but I also don't want to be in the situation where I think this is my whole life… I want to get that balance. (Margaret)

> I've lost track with most of my friends, because everything is focused on getting this done. (Megan)

Then there are last group of students, who feel that the life is interfering with their PhD. They find it difficult to concentrate on their PhD when so many other issues, like financial or personal problems, get in the way. With so many other things they would rather be doing, this impacts heavily on their motivation to work on their PhD.

> I had to prioritise, and it didn't seem like there was room [for my PhD]. (Margaret)
>
> Life gets in the way. (Sam)

The emotional process of doing a PhD

What these stories illustrate is that the PhD is a very emotional process. As these students' tales have shown, the emotions and attitudes towards candidature not only differ between students, but also can change on a daily basis. Three such emotions came out strongly in the interviews and will be discussed further: confidence, motivation and pressure.

A number of the students we spoke to felt very confident about achieving what they set out to do.

> Enough people have told me that I believe and have trusted have told me that it's certainly not beyond me, so I'm prepared to accept that at face value. (Andrew)

On the other end of the spectrum, there are students who lack this self-belief.

> Everything you write, it sounds like… a two year-old could do better. I still think I'm an idiot. I have no confidence at all in what I'm doing. (Megan)

In addition, confidence levels can change throughout the duration of candidature.

> Well, today I'm confident, but not every day. Sometimes I think, well maybe I can't do it. (Margaret)

Confidence levels can plummet when problems occur, such as not being able to access resources, or experiments not working. The students feel that on these bad days, their overall belief in their own ability is impacted. However, events can also occur which boost confidence levels, for example receiving positive feedback from one's supervisor.

Another commonly experienced problem is a lack of motivation. For a few lucky students, motivation is not a problem. For others, it can vary on a daily basis.

It ebbs and flows. I tend to have a week of being really productive, then two weeks of being average. By the end of that two weeks I'm really down, so I kick myself in the bum, then I'm really productive the next week. (Anne)

Motivation levels can affect how students feel about completing their PhD. Those with high motivation want to work on their PhD to get it done quickly, and are likely to feel a sense of accomplishment when they do so. Those with low motivation may also want to get it done quickly, but only so that they don't have to work on it any longer.

> I just want to get the bloody thing done so I can get back to my normal life. (Anne)

> All I want to do is hand the thing in, that's it. Whether it passes, I don't really care. (Megan)
>
> I want to finish by three. I want parole, I want to get out. (Daniel)
>
> You get to the point where just getting up in the morning, you think ohhh, not more of this. (Megan)

While motivation can be seen as an internal drive to finish and succeed, pressure can be thought of as its external counterpart. Forces outside the student, such as the expectations of family and friends.

However, by far the more commonly reported pressure is that of time. With the new RTS guidelines in place, Universities are placing more pressure on students to finish quickly. Student scholarships only last for three years; Universities fail to receive funding from the government if students don't finish within four years; and now several Universities have made the decision to start charging students course fees in their fifth and subsequent years. The rush is on to get PhD students through the system quickly. And these students are certainly feeling the pressure.

> As soon as you start your candidature, the clock is ticking. (Sharon)
>
> The other lingering thing is running out of time. And thinking that it's all going to drag on and get to the point where I have to work 18 hour days to get it written and submitted before the scholarship runs out. (Andrew)
>
> Everything takes about ten times as long as you think it's going to. (Margaret)
>
> Time is always a factor. (Jennifer)

Despite the range of problems raised by the students, the majority seems able to maintain a generally positive attitude towards their candidature.

> It's been a personally worthwhile learning process. There's been a lot of pain and suffering throughout, but it's probably made me a stronger person overall. (Margaret)
>
> [It involves] challenges that I wouldn't have expected, because it really involves your personality so much, who you are, your identity, your sense of self. (Sam)
>
> [It's] a journey that takes lots of energy, enthusiasm and commitment… commitment of others, such as family and friends, but hopefully it's something that's really worthwhile, and that will achieve some positive outcomes. (Jennifer)

Overall, what these interviews illustrate is that above all else, the PhD is a rollercoaster of emotions. Students report feeling, at different times, both positive and negative emotions towards their PhDs. Megan sums it all up the best when she says,

> the actual process of doing the PhD… it's just hard work. It's the emotional side of it that's difficult.

Summary and Implications

The ten interviews revealed a wide range of problems and issues affecting PhD students' candidature. These include practical issues, the need to figure out the process involved in the PhD, isolation, support, the separation between PhD and life, and the various emotions felt. The issues reported here are not unique to these students, various authors have indicated that they are common problems amongst higher degree students (e.g. Ahern and Manathunga, 2004; Dinham & Scott, 1999; Germeroth, 1991; Lussier, 1998).

These issues have a number of implications for students. They can cause negative emotions such as despondency or frustration, increased delays, or elevated levels of stress, which may in turn cause students to withdraw from candidature. Given this, our aim at Flinders University is to educate students about these potential problems as they begin their candidature. This has two main purposes: firstly so that they have an idea of the kinds of problems and issues they may expect to face, but also so that if they encounter any of these problems during their candidature, they will understand that it is not unique to them, that others encounter the same difficulties with their PhDs.

To this end, we have developed two resources which are given to all new Research Higher Degree students at Flinders University. The first book, The PhD Experience: What they didn't tell you at Induction, tells the stories of these ten PhD students, with a discussion of the common themes and issues they face. The second, The Seven Secrets of Highly Successful PhD Students, provides concrete, specific strategies for students to improve their candidature experience and complete quickly and successfully. Preliminary feedback suggests that students and supervisors find these extremely valuable resources, and we are hoping to extend the series to provide PhD students with further advice and assistance.

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New social science researchers in Canada: An ongoing research agenda

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Abstract

Learning to conduct research is a central component of post-secondary education across disciplines and across nations. Similarly, establishing a research program is an important priority for new faculty members in universities around the world. Demands for global competitiveness support an ever-increasing emphasis upon research productivity and research capacity development. Given this context, scholarly attention must be paid to the initial and ongoing development of researchers. To this end, the Quality in Postgraduate Research conference is an ideal space to consider the state of researcher development across nations. The present paper addresses the current situation for new social science researchers in Canada. In this paper, I (a) provide an introduction to graduate and postgraduate educational opportunities in the social sciences in Canada, (b) introduce theoretical foundations for understanding research development, (c) describe important research learning experiences for new social science researchers in Canada, and (d) conclude with some brief thoughts about the challenges of accountability and the dangers of undermining research education for some individuals.

Graduate and Postgraduate Educational Opportunities in the Social Sciences

Master's and doctoral studies in the social sciences in Canada typically involve a set of required and elective courses intended to provide breadth of coverage for the given discipline and, in some cases, depth of coverage in a particular area of specialization. The majority of programs in social science disciplines involve an independent research requirement where students are expected to conduct research under the guidance of a faculty advisor. Typically, this research project is aligned with an area of specialization developed through the coursework. The research project provides an opportunity for students to apply understandings drawn from coursework and independent reading (Lovitts, 2005; Weidman & Stein, 2003; Wisker, 2005).

Some students in some programs fulfill this research requirement by undertaking a component of their advisor's ongoing program of research. This is the laboratory-based model that predominates in the natural sciences. More frequently in the social sciences, students design their own research project and seek an advisor who is able to provide support for that student-initiated project (McGinn & Lovering-White, 2004). In some cases, students and advisors share similar research interests, such that the student initiates research that is related to the faculty advisor's ongoing research. In other cases, student-initiated research falls outside the areas of specialization for the advisor. In these cases, the students themselves are considered the relative experts in the area of specialization, and the advisor provides general support related to disciplinary scholarship. Both student-initiated and faculty-initiated research projects are intended to provide opportunities for students to demonstrate independence, apply accepted research methods, and articulate some form of theoretical advance (Grundy & McGinn, 2006; Trafford, 2005; Wisker, 2005). Students move from being knowledge consumers to being knowledge producers (Lovitts, 2005).

Some professional master's programs have been developed in fields such as occupational therapy, business, and education with no independent research requirement. Professional rather than academic goals provide the main impetus for these programs. These programs are typically course based and may or may not include a culminating examination. The programs usually lead to terminal degrees that do not fulfill entrance requirements for doctoral programs. Library research rather than empirical research predominates in these programs. Students in these programs are often treated as consumers of research who need to learn how to critique and apply research evidence. In some cases, students in these programs are expected to become knowledge producers (just like students in the research-based programs), however, the emphasis is often upon becoming reflective practitioners and evaluating their own practices, rather than becoming scholars and advancing theoretical understandings.

Over the past few years in Canada, new graduate and postgraduate programs have opened across disciplines, new faculty members have been hired to support graduate education in these programs, and initiatives have been implemented to increase the overall research profile of both smaller and larger Canadian universities. All expectations are that this transformation and expansion will continue for the next several years. This transformation is in line with the Rae review of postsecondary education in Ontario, Canada, which recommends expansion in "graduate enrolment at those institutions that can demonstrate quality and capacity to provide the necessary supports to students to ensure the successful and timely completion of their studies" (Rae, 2005, p. 34). In order to access funds devoted to graduate education, it is expected that universities will need to demonstrate that they have the "quality and capacity" to support expansion. Hence, Canadian universities are facing the same challenges "to develop and defend their role in today's knowledge economy" that underlie the "Knowledge Creation in Testing Times" theme of the 2006 biennial Quality in Postgraduate Research conference (Conference themes, 2005). Regardless of institutional setting, it seems that scholars and institutions are feeling pressure to do more and to be held accountable to higher standards. In the midst of these testing times, it is essential to ensure that the adopted measures of "quality and capacity" reflect a broad vision of research education and draw from the theoretical and empirical work on research education and researcher development.

Theoretical Foundations for Understanding Researcher Development

Learning is a situated accomplishment that is realized through participation and self-identity (Lave & Wenger, 1991; Wenger, 1998). Doing research, knowing research, and being a researcher are thus inherently intertwined processes that take place in social settings. Participation, community, collaboration, mentorship, inclusion, and self-identity are critically important foundations for theorizing about research education and research capacity building.

Researchers need access to a wealth of resources in designing, conducting, and reporting research. New researchers cannot be expected to produce research without access to such resources, and they need to learn strategies that more experienced researchers use to access those resources. These skills are often tacit and therefore most readily accessible to new researchers by participating alongside other researchers (Roth & McGinn, 1998). In his analyses of sociological research, Bourdieu (1990, 1992) describes the process by which new researchers come to know the implicit understandings characteristic of seasoned researchers.

By participating in research together, individuals form communities that share particular discursive and material practices. Bunch (1995) provided a detailed analysis of the ways that four graduate students appropriated discursive practices characteristic of the mathematics education community through participating with their supervisor in courses, research meetings, conferences, and publications. Even when a researcher is working independently, research is "very much a social practice, in the sense that the individual investigator acts within a framework determined by the potential consumers of the products of his or her research and by the traditions of acceptable practice prevailing in the field" (Danziger, 1990, p. 4). The audience for most research is other researchers (usually those from a related field), but may also include educators, students, administrators, politicians, granting agencies, and so forth. One of the main tenets of writing (in any context) is always to be aware of the potential readers or audience for the work; this is a topic that is well-elaborated in writing manuals and guidebooks, and in research on writing practice (Becker, 1986; Brooke & Hendricks, 1989; Cooper, Baturo, & Harris, 1998; Fetterman, 1993; Johns, 1997; van Maanen, 1988). Social studies of science have provided numerous analyses of the ways that considerations for potential audiences shape the content and form of research reports and grant applications (e.g., Myers, 1985; Sinding, 1996; Zdenek, 1997). Beyond writing style and report format, considerations for audience also shape the kinds of research questions that are pursued and the research methods adopted. In order to obtain grants or contracts, researchers must attend to the needs and preferences of funding agencies, political lobbyists, administrators, employers, and others in positions of power (Fetterman, 1993; McGinn & Roth, 1999; Roth, 2002).

Aside from these external social forces, a lot of research is undertaken in direct collaboration with others. The "myth of solitary genius" (Stillinger, 1991) has given way to the notions of "shared minds" (Schrage, 1990) and "thought communities" (Fleck, 1979; John-Steiner, 2000). Researchers have long acknowledged the importance of collaboration within their research projects and for their personal development as researchers. For example, McGinn and Lovering-White (2004) interviewed one professor who indicated that he only began to feel like a researcher after he received tenure and began collaborating with other researchers. For him, working in collaboration means that he has others with whom he discusses research ideas on a regular basis and to whom he is accountable. He now has a more active research agenda and a stronger commitment to publishing than he did during his early faculty years when his emphasis was on teaching and service to the academic community.

Research collaborators bring a range of needs, interests, strengths, concerns, and personalities to a given project. Successful collaboration depends upon resolving differences, working toward shared goals, and creating space for each collaborator. Studies demonstrate that research projects and other creative endeavours can benefit from distributed learning and the synergistic evolution of ideas within a team (Creamer, 2004; John-Steiner, 2000; Saari & Miettinen, 2001; Schoenfeld, 1989). As John-Steiner (2000) has argued, "working together productively toward shared goals is a human activity unique and valuable in its contributions to individual and social well-being" (p. xi). McGinn, Shields, Manley-Casimir, Grundy, and Fenton (2005) document and describe their collaboration as a team of five researchers engaged in a nationally funded research project investigating individuals' experiences of identity, participation, and belonging in academe. Their own negative past experiences prompted them to develop a formal set of principles to govern collaboration, ownership, and authorship within the research project. Through

collaboration, they discovered the value of this formal set of principles and draw particular attention to the way that the research team became a space of belonging where all team members are accepted and welcomed. This sense of belonging provides a personal perspective on collaboration that is missing in most studies of research collaboration.

Nationally and internationally, research funding agencies and institutional administrators are placing greater emphasis upon research collaboration rather than lone scribes sequestered in individual offices. For example, the Social Sciences and Humanities Research Council of Canada (2004) is engaged in a transformation activity that provides a major emphasis on large-scale collaborations involving scholars from multiple disciplines and institutions working alongside public stakeholders. Similar initiatives are evident across nations. This push toward larger research teams necessitates concerted efforts to ensure positive functioning within the teams.

Interactions among research team members may provide opportunities for mentorship relationships to develop. Traditionally, the term "mentoring" has been reserved for those cases where an experienced, senior member of a community provides guidance, support, instruction, and so forth to a new initiate into a community. Such relationships are often evident between supervisors and students, and between researchers and research assistants. Other visions of mentorship consider more reciprocal relationships where all community members learn from each other as each individual contributes expertise and asks questions. Newcomers to a community can contribute to the education of more established community members (Hadwin, McGinn, Demers, & Bell 1996) and the community as a whole, rather than an individual community member, can mentor (Hadwin, McGinn, Demers, & Bell, 1999). In a more recent research study, McGinn and Frake (2006) identified differences in definitions and practices of mentoring based upon theoretical and epistemological commitments of the participants in the mentoring relationship. Recipients of a mentorship award interact with graduate students in ways that align with their scholarly interests. For example, a developmentalist focuses on provided scaffolded support while a critical theorist models critical questioning. The award recipients are scholars who live their scholarship, that is, they don't just teach or profess their theories, but they enact and show by example what scholarship means to them. In the various mentoring relationships, students could learn the relevant theories by living them in their interactions with their mentors.

Inclusive communities provide opportunities for newcomers to participate in the community's practices and contribute to the learning of more established community members. There is a pressing need to expand the boundaries of research and provide space for researchers who bring diverse perspectives. The present lack of diversity limits the breadth of available knowledge and research approaches (Gordon, Miller, & Rollock, 1990; K. Hall, 1999). Hence, new initiatives have been advanced to support and sustain the development of aboriginal researchers, researchers with disabilities, and other historically marginalized groups. Grundy, McGinn, and Pollon (2005) document the ways that collaborating with a researcher who is disabled contributed to her development as a researcher and also changed the ways that the research team was able to interact, thereby increasing understandings of what it means to be an inclusive research team and how the broader scholarly community might need to change in order to be inclusive and benefit from the expertise of researchers with disabilities.

All members of a research team have opportunities to learn and adopt new self-identities through participation together in research. This is true for

students and community members who are engaged in their first research project and for seasoned researchers who have had lengthy academic careers. When newcomers to a community perform the kinds of tasks that practitioners perform, they may begin to develop self-identities as practitioners rather than "mere students" (Lave & Wenger, 1991; Nespor, 1994; Nyquist & Wulff, 1996). For example, McGinn and Lovering-White (2004) document the perspective of Shirley who explained that she began to feel like a researcher when she began to collect her own data on her own research project. As she explained,

I felt like a researcher when I was in the field, all by myself, 20 below, going from [site] to [site] talking to people…. I didn't feel like a researcher…doing the literature review or writing my thesis proposal, but when I landed at [the] airport and started talking to people I felt like a researcher.

One becomes a researcher by doing research. Graduate and postgraduate students begin to develop self-identities as researchers as they engage in research activities through research methods courses, disciplinary content courses, research assistantships, or independent thesis research. Seeing oneself as a researcher appears to be an important part of being a researcher (McGinn & Pollon, 2004).

Research Learning Experiences

Building upon the theoretical foundations of participation, community, collaboration, mentorship, inclusion, and self-identity, I have been engaged in a series of ongoing investigations of research learning experiences for new social science researchers. These investigations include the following important data sources:

- 16 interviews that I conducted about researcher education with faculty members (10) and graduate students (6) from a range of social science disciplines
- 50 interviews conducted by students enrolled in a graduate-level introduction to educational research course that I teach, where current M.Ed. students and recent graduates describe their own independent thesis research (M.Ed. theses and projects)
- 4 case studies of graduate student research assistants working in a Faculty of Education
- 4 case studies of graduate student learning in research methods courses that I teach
- 73 completed M.Ed. theses
- observations and fieldnotes from a research team striving to be inclusive for a researcher who is hard of hearing
- published "conversion" stories from experienced researchers who have moved away from positivist quantitative research toward qualitative research

Across these investigations, I have come to understand the various settings for research learning, including (a) research methods courses, (b) disciplinary content courses, (c) research assistantships, (d) independent research projects, and (e) faculty work. In this paper, I provide a sampling of research learning in each of these settings.

Research Methods Courses

Research methods courses are obvious sites for researcher education. Most graduate programs in Canada include one or more research methods courses, which are often required for all students. These courses typically include a mix of practical, theoretical, disciplinary, and epistemological considerations. In interviews, students and faculty members readily cited research methods courses as a space where graduate students learn about research. However, they were also quick to acknowledge the shortcomings of such courses. For example, Anna (a PhD student) described her research methods course in the following way:

> It sort of gives you a general sense of some of the considerations. You sort of talk about reliability and validity and external validity and all of those sorts of things….it's important to sort of have that background so that you sort of have the vocabulary and you sort of have a sort of sense of what are some of the important considerations before you get into doing research. But I don't think that really teaches you how to do research it's just sort of teaching you some of the background knowledge that you need to know really. I mean we do talk about things obviously in method courses about um, um, study design and you know how, if you want to be able to make causal conclusions you have to manipulate variables and all those sorts of things but it still doesn't really give you a really good sense of the process.

Some research courses are focused on textbook learning, while others provide opportunities for students to engage in authentic research practices. Interview participants indicate that courses are best when they provide opportunities for students to work through the research process, not just read about. Creative activities such as conference presentations and poster fairs were also well received by interview participants. Research evidence suggests that learning is enhanced when students in research methods courses engage in particular research activities or conduct full research studies (Chang, 2005; Roth & McGinn 1998; Takata & Leiting, 1987; Winn, 1995).

For example, in the graduate-level introduction to educational research courses that I teach, formal and informal class assignments require students to participate in a series of research activities investigating other graduate students' understandings and implementation of research methods in thesis or project research. Evidence suggests that students increased their research skills and their appreciation for research over the course of one term. Students had opportunities to apply material from the course readings and discussions through their participation in the research activities. Their assignments reflected growing sophistication in the use and interpretation of research methods. Students' evaluations of the course were uniformly positive. Examples like this show that students can develop as researchers through participation in research methods courses. Many students begin to identify themselves as researchers or researcher-in-the-making, which represents a big change from their prior identities as students or teachers. The practices of research, the community setting, and students' emerging identities as researcher are all critical to research learning in research methods courses.

Disciplinary Content Courses

While research methods courses include explicit instruction in research methodology and skills, disciplinary content courses include implicit (and sometimes explicit) researcher education. Students learn to conduct research by reading research, discussing research ideas, and formulating research plans. Disciplinary content courses have tremendous potential to complement research methods courses by assisting students to learn and apply research

skills in the context of disciplinary issues. However, through my interviews, I have found that few students or faculty members identify these courses as explicit sites for research education without prompting. In one interview, Fred (a professor) explained that disciplinary content courses were clearly important sites for research learning, but that he was "horrified" that he typically only addressed library-based research tasks in such courses. Based upon this observation, Fred vowed to reconsider this emphasis and to rework his course outlines and assignments in all of his graduate courses to more explicitly include opportunities for students to develop and demonstrate research learning. As he explained

> One of the things [that graduate programs] need to do of course is develop efficacious researchers and that needs to be done in more than just the methods course and the exit project thesis. It needs to be a, I think, a focus in all that we do, as well as other things we focus on. Within our courses and within our other contact with students, in other ways.

Disciplinary content courses provide spaces to learn disciplinary content and methods. They can also provide an important entrée point into the research community as is evident in Bunch's (1995) analysis of the initiation of doctoral students into the mathematics education research community. The students came together with a professor in mathematics education courses where they began to adopt the vocabulary and scholarly conventions of the mathematics education research community. Over time, they moved toward full participation in the research community by participating in scholarly conferences and writing academic papers.

Research Assistantships

In addition to formal coursework, one of the most powerful forms of researcher education is through a research apprenticeship or research assistantship where students have opportunities to engage in the day-to-day workings of research projects from design and conception through data collection and analyses to writing and publication (Grundy, 2004; Grundy & McGinn, 2006; Roth & McGinn, 1998). Students and faculty members who have participated in interviews have been unanimous in the support for research assistantships or apprenticeships, and I therefore recommend that students incorporate such opportunities into their graduate programs whenever possible. Students learn valuable research skills and develop self-confidence about their skills as researchers by working alongside experienced researchers.

However, there is considerable variability in the tasks involved in research assistantships and the resulting learning opportunities for new researchers engaged in those research assistantships. Mundane tasks such as photocopying and data entry have limited educational potential and should not be the full extent of a research assistantship. By participating in more varied research tasks, new researchers have the best opportunities to capitalize on the research learning opportunity. Interview participants were particularly positive about research assistantships that allow the research assistant to eventually take some level of ownership within the research project, making some research decisions on their own. In such instances, research assistants come to see themselves as co-researchers participating in the research community. Frequently, they see the senior researchers with whom they work as mentors and sometimes the research team becomes a site of multi-directional mentoring where junior and senior team members learn from and support each other.

Independent Research

Building upon the foundations developed during coursework and other research learning opportunities, students develop their proficiencies as researchers as they engage in independent research. A graduate or postgraduate thesis is typically the first such opportunity for new researchers to take ownership of a research project. From my experience, many students enrolled in professional graduate programs that have no independent research requirement miss out on the sense of accomplishment and celebration that attends the completion of a sustained research project. Requirements for an oral defense of the thesis before a panel of academics may heighten this sense of accomplishment, although not without concomitant feelings of stress (Lemon, 2005).

Conducting an independent research study involving field-based research seems particularly well suited to developing a sense of one's self as a researcher. For example, Colligan (2001) describes her own experience undertaking field-based research as a doctoral student. Her account provides clear indication of her development as a researcher. The account is particularly powerful because Colligan has physical disabilities that necessitate assistance with showering and personal grooming. As a new doctoral student, a well-meaning professor had advised her against undertaking field-based research because of her disabilities, but she ignored this advice and went on to conduct research with a Jewish sect in Israel. Not only was she physically and intellectually capable of undertaking field-based research, but also the assistance that she required from community members opened up space for conversations that would not have occurred with another researcher. The contributions of her research went far beyond what a physically able researcher would have discovered in the same setting.

Independent research projects undertaken during graduate or postgraduate study provide opportunities for students to pursue their own interests and contribute to their visions for their future careers and lives beyond graduate or postgraduate study. The research can shape the individual's professional practice or it can prompt the individual to take up a new profession. Engaging in independent research affects students' self-identities.

Faculty Work

Learning and development as a researcher does not end upon completion of graduate or postgraduate study. The completion or near completion of a Ph.D. is a requirement for most academic appointments in Canada. Individuals who opt for academic appointments are expected to undertake research, to teach courses, and to advise graduate and undergraduate students. There are multiple opportunities for life-long learning and development in such positions. Newly appointed faculty members are particularly focused upon establishing their own self-identities as scholars and researchers, but this process is ongoing throughout an academic career (D. E. Hall, 2002; Lang, 2005).

The rhythms of faculty life affect individual's goals and commitments. McGinn and Lovering-White (2004) document transitions for two faculty members as they settled into their lives as academics. In his early years as an academic, Fred focused upon teaching and service commitments. After about a decade, he started to focus more intently upon research and began to develop collaborative research projects with other faculty members at his institution. These collaborators helped to focus and motivate his research efforts, making the research more rewarding for him. Shirley's transition focused on the ways that she involved research assistants in her work. Prior to tenure, she was

focused upon her own needs to secure tenure and hired students to work as research assistants to help her to complete her research. Once she secured tenure, she began to think more carefully about the educational opportunities that she could provide through the research assistantships. She now describes herself as "more attentive to what kind of learning experiences would be useful and fruitful for the graduate students to have that in some ways also jive with, you know, what would further the whole project." Published "conversion stories" where experienced researchers have documented their movement away from positivist quantitative research toward qualitative research (e.g., Miller, Nelson, & Moore, 1998) provide other interesting analyses of scholars' ongoing development and transitions as researchers. Skills and identities as researchers are not static; there is continual evolution over career and life spans.

Accountability for Researcher Development

Across the various settings for research learning, it is important to consider the ways that doing research, knowing research, and being a researcher are inherently intertwined processes. Actions, knowledge, and self-identities are three important kinds of learning outcomes for new social science researchers. These learning outcomes extend beyond the statistics about successful and timely completion of degrees that predominate in institutional reports about researcher development. Measures of quality need to consider what new researchers do, what they learn, and how they perceive themselves, and not focus simply on time to completion. Students who take extra courses or work as research assistants may delay their graduation slightly, but the resulting identity and skill development must be considered.

Importantly, measures of quality must also consider who is included and excluded from researcher education and opportunities for development. Not all opportunities are equitably distributed. Prospective new researchers from different cultural or disciplinary backgrounds are often overlooked in admissions to graduate and postgraduate programs, discouraged from becoming involved in non-required activities such as research assistantships, and unsupported in their attempts to enter academic careers. The situation is similar for individuals with disabilities and those who lack cultural capital due to social class, rural placement, inexperience with universities, and other background characteristics. It is critically important that present calls for accountability and quality do not further disenfranchise these potential new researchers. Any increases in graduate enrolment or faculty ranks must be attuned to the importance of diversity for Canada "cannot afford to disenfranchise segments of our society, such as students from low-income families, Aboriginal Canadians, or individuals with disabilities" (Giroux, 2004, p. 92).

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Research candidates' conceptions of theory

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Introduction

What do academics in the Humanities and Social Sciences have in their mind when they ask their postgraduate students the question: What is your theory?' Or: 'What is your theoretical framework for this research?' How does the student understand such questions about "theory"?

As an academic community, particularly in the Humanities and Social Sciences, what do we mean by theory? And what do students understand us to mean when using the term in relation to their research?

This small-scale, preliminary study begins to explore Social Science students' conceptions of theory in the context of a social science Masters level course. This work is part of larger research agenda which seeks to address the following research questions:

- What is the role of theory in the Masters/doctoral research?
- What happens when students don't theorise on research—is this an issue for certain disciplines or all disciplines?
- What about emerging disciplines with under-developed or evolving theories, how do students address that context?
- How do different disciplines conceptualise theory?
- What is the link between epistemology and theory and conceptions of research in various disciplines?
- How can one conceptualise theory—is it more than an idea?
- What does it mean to say that something is too theoretical or does not have a theoretical basis?

Conceptions of research and theory

Researchers have begun to look into how university students' conceptualise research (see for example, Meyer, Shanahan and Laugksch (2005), Aiston and Meyer (2006)). This research is based on the premise that given the current emphasis on quality research training, such training is building upon a shaky foundation 'unless the underlying conception of research is identified and addressed' (Kiley and Mullins, 2005, p. 260). Furthermore, research suggests that those students whose conceptions of their discipline are incongruent with the fundamental conceptions with that subject area (i.e. they hold misconceptions) face difficulties before they start. (Meyer and Shanahan (2001). It would seem to make sense, therefore, that those postgraduate students who conceptualise research only as a set of skills to be learnt and applied are going to face difficulties.

Students' conceptions of research do not only precede their way of taking a course on research methods at university. The conceptions may have also more longstanding effects, such as directing students when selecting a job, or

contributing to how the future work will be undertaken. Students may have unrealistic views of their future job, for example that research skills are not needed in it. Students do not always have a realistic picture of their future work, as shown in a comparison study on experts and novices in the domain of education and computer science. The study found that professionals rated the need of decision-making skills, problem-solving skills and higher order thinking skills in general higher than students (Tynjälä, Helle & Murtonen, 2002). The above research has identified variation in students' conceptions and Aiston and Meyer's recent work has shown that students do discuss 'theory' when talking about research. For example, in terms of proving or disproving theory, using existing theories (e.g. 'application of previous theory to a particular area'), developing theories, or looking critically at existing theories.

To date, however, there has been no research that specifically addresses, one might argue, one of the most fundamental aspects of research, namely students' conceptions of theory. Just as defining 'research' is problematic (for example, the lack of consensus amongst the social science academic community, with regard to quantitative and qualitative approaches, through to research that highlights the variation in academics' conceptions of research (Brew 2001), equally problematic are the issues of 1) what form of theory one is talking about and 2) whether data is collected to test or build theories. With regard to the former point, the term 'theory' is used in a variety of ways. Outside of the academic community it is common place in everyday speech. For example, 'If you ask me, my theory on why their relationship broke up is…' or, 'The cakes at the local shop are not as good as they used to be; my theory is that they have a new baker…' Within academia, its most common meaning is an explanation of observed regularities (often referred to as theories of the middle range), but is also used to refer to much higher levels of abstraction, for example, critical theory, poststructuralism etc (referred to as grand theories). With regard to the latter issue, deductive and inductive theories are points of discussion. All in all, the nature of the link between theory and research is by no means a straightforward matter.

Methodology

At the commencement of a Social Science research methods course students undertaking a Masters of Education in a Finnish university undertook a 10 minute task where they wrote their thoughts in response to the following: 'Describe the relationship between theory and research'. Students answered the task in the first lecture and then again in the first small group session immediately after the last lecture. In total there were 61 students enrolled in this general methodology course of which 30 students answered both tasks, i.e. at the beginning and end of the course.

The course was a general methodology course embedded in a Masters programme. The eight lectures (each of two hours) included topics in general history and paradigms in research, history and paradigms in educational research, nature of scientific knowledge and tasks of science, styles and strategies in educational research, and reliability and ethics of research. In particular discussion focussed on methods of research, e.g. the hypothetic-deductive method, and the role of theory in qualitative and quantitative research. In addition, students were given a short text (Töttö, 2000, 102-109) that they read for the examination and then responded to the claim: "Both qualitative and quantitative research are equally close to theory."

Students' answers were read many times and their answers were classified according to how they described the relationship between theory and research.

Findings

Students' descriptions of 'theory'

While attempting to understand students' conceptions of theory and research, it is important that we are clear about which concept it is that we are examining. As outlined above, the question of students' conceptions of research has been analysed and reported previously. Therefore, our analysis of the students' responses to the questions set in the tasks in this study were quite specific. We are not analysing their conceptions of research here, instead, we are seeking the important descriptions of how students might understand with the word "theory".

Most of the students just used the word "theory" when they wrote that it is the basis for research and it becomes modified on the basis of research results. Only three students used terms other than "theory". They wrote about "underlying ideas" or "assumptions" that were on the basis for research. This could be interpreted as reflecting understanding of what "theory" means:

> Research begins from some underlying assumption. It does not have to be any proper scientific theory, but you cannot create it [research] from nothing. (B1)

Some students' answers suggested that there might have been confusion over what these students understood with the term "theory". In some answers, students seemed to talk about 'theoretical background', i.e. about a section of scientific text, when using the concept of "theory". One student wrote in the beginning of the course:

> Theory gives a basis for research and initialises the research conducted. Theory helps to understand the relevance of research more widely and with the aid of it [theory] research can be delimited and focused on a certain domain. (B58)

In the end this student wrote:

> Theoretical framework initialises the research and opens the current topic for a reader. It explains central concepts, events that led to the current situation and other things that are central in the research. Good theory is clear and easy to understand. It evokes reader's interest in the empirical part and the results achieved. (E58)

In addition to this student's answer, we had many answers that had hints of similar conceptions, but at this stage the interpretation cannot be confirmed. For example one student wrote in the beginning of the course:

> Theory is part of research, research is based on theory. Theory is usually developed earlier, while research can focus on entirely new, never before studied domain/topic. (B12)

The same student wrote in the end of the course:

> Theory acts as the basis for research, that the research in often based on. Theory can also be developed by the research results. There can be many kinds of theory, but I think all research is based on some kind of theoretical

> basis. Also, the earlier studies on the subject can act as a theory. (E12)

On the basis of the last sentence in this student's texts, it may be that when we ask about "theory", it evokes in his/her mind information concerning the structure of a scientific text. But this student may also mean that a theory is based on earlier findings. As a conclusion, only few students wrote explanations or described "theory".

- What do students understand when we ask them to describe 'theory'?
- Where does theory come from?
- What are the tasks of theory and research?

Theory and research as tightly intertwined

In their responses students generally suggested that theory and research are integrated and that theory needs research and research is not possible without theory. At the commencement of the course, 13 students specifically mentioned this interaction and by the end of the course 16 students did so. Typical expressions were: 'Theory and research go hand in hand, so that theory supports research and vice versa.' (B40)1, 'On the one hand, research is conducted on the basis of theory and on the other hand, research creates theory' (E1), and 'Research and theory are always in interaction: each always has an effect on the other' (E2). The other students who did not specifically mention this interaction did also describe the connection between theory and research, and emphasised the importance of both, so we could say that basically most students thought that theory and research are tightly connected and both important. A typical answer to this question was:

> Theory guides conducting of research and on the other hand, research creates theory. Starting points for research are in the theory base and with the help of research theory either gets confirmed or falsified and if it gets falsified, it results in springing up a new theory. (B7)

Although the students acknowledged that both theory and research were important, there was variance in their views on the roles of theory and research in relation to each other. From the responses, it seemed that the 'order' of theory and research evoked a dilemma for some students, for example 'It can be questioned, which was first, theory or research. The answer is probably as hard to find as the answer to the question about which was first, the chicken or the egg.' (E49) The next student had the same dilemma, but he/she was not as meta-cognitively aware as the previous student: 'If research would not be done, we would not be questioning old knowledge, which itself is the starting point for research.' (B50) This question about the order of theory and research was not so clearly analysed among other students, but most expressed their views about 'theory on the basis of research' and 'research that creates theory'.

To understand students' conceptions of the relationship between theory and research in more detail, we analysed students' answers in terms of three questions, where they seemed to have variation in their views:

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[1] The codes in quotations refer to the Beginning (= B) or End (= E) task and to the numeral assigned to each of the students (total number of students who enrolled in the course = 61).

Where does theory come from?

Based on the responses after the course it appears that many students appear to have given thought to the question "Where do theories come from?" during their semester's work. One third (N = 10) of the students wrote in the beginning of the course that theory is created on the basis of previous research results or previous scientific texts. In the end there was only four who brought this view up. Here are some examples:

> First thing that came into my mind is that to have theories, there must have been research conducted. In addition, already existing theories can be tested with research and so "check" their correctness, to correct them or change into new theories." (B24)
>
> Theory is a general knowledge base brought by previous research—a theory for the phenomenon that is under study. (B17)
>
> Theories are modified with the aid of research. Research is used to test, for example, different variables to be able to form an adequate theory about their functioning. (E46)

The course included lectures about the history of science, where we discussed the goals of science from different periods and we also discussed the very idea of hypothesis testing and how hypotheses are created, i.e. that there is no method (e.g. induction) for creating hypotheses or theories. The reduction in the number of straightforward explanations for theory creation, i.e. 'Theory is based on research results' may be an indicator of students' questioning of this explanation, but there were not many alternative ideas. Only two or three students could be said to have expressed new ideas. One wrote in the end:

> Theories are modified during time and change/development in society. (E19)

This topic was discussed in a lecture, for example, how time and place should be right for theories and how the 'right' theory tends to show up at the 'right' time. Therefore, this answer may reflect some change in conception, supported by instruction. Another student wrote in the beginning of the course:

> Theory and research are closely attached. Theories are based on different studies and research results. Theories can be formed on the basis of many different collections of studies. Research, on the other hand, modifies theories to be more "truthful" and acceptable. (B48)

This student wrote in the end of the course:

> Theory can be thought as a more settled conception, a kind of background theory, and research more as practical work, searching for answers with the aid of theory. (E48)

It seems that this student's conception of theory has moved towards a more general view of theory, a kind of "collective assumption" that is not anymore so tightly attached to the results of research. The next student wrote in the beginning and in the end:

> Theory is already existing, researched knowledge, that is justified and verified. Research is a way of working that is aimed at getting new knowledge either from old theories

> or at creating an entirely new theory. They support/supplement each other. (B38)
>
> Theory is built on the basis of research, or research confirms theory or modifies it. Theory is created on the basis of assumptions and facts. To become scientific knowledge theory needs research based knowledge to support it. (E38)

Here we can see some kind of change in conception, when the student acknowledges in his/her answer in the end of the course: 'Theory is created on the basis of assumptions and facts'. Although he/she now mentions assumptions, there still is very heavy emphasis on the 'Theory is built on the basis of research' idea in the first sentence.

There was one exceptional answer among the students, but this student had already shown at the beginning of the course a deeper understanding than peers on the subject:

> Theory and research support and complement each other. Without research many theories would remain without any confirmation or even an attempt to find out how it corresponds to the truth that we are living. On the other hand, the ideas that are born by thinking and wondering, the kind of unripe theories, are prerequisite (I mean not only the outcome) for research. Interest in things and situations and will or even a compulsion act as a starting shoot for both. (B51)

The same student wrote in the end:

> New theories are born as a consequence of wondering and research results. Old [theories] are modified or rejected when evidence or interest contradicts them. (E51)

To summarise, the students seemed to think that theories are created on the basis of research results and even if this conception was questioned in the end of the course, i.e. they did not mention it so frequently, they did not yet show any alternative explanations. Any mention about theory as an invention did not occur.

Tasks associated with theory and research

The tasks associated with theory and research were described in the light of each other in students' answers. Nine students wrote in the beginning of the course that the task of research is to test theory, and the number of students mentioning this was about the same in the end of the course. The other important task addressed to research was being the basis for theory formulation that was discussed before in the section about sources of theory.

When thinking of the tasks of theory, some students thought theory should be attached to research to make research more trustworthy or useful. For example, one student wrote in the beginning of the course:

> Theory should be a basis for all research or it should be so that theories could be modified from research. Research that is not based on any theory is useless research. (B57)

The same student wrote in the end of the course:

> Spiral-like process, where parts in interaction; need each other necessarily, no other without another, if it wants to be believable in the science world. (E57)

We can see that the conception of spiral-like process is new, but the motivator for including theory in research still remains external. The same kind of 'external pressure' to use theory can be seen in the next students' answers:

> Without theory there is no research, i.e. all "decent" research is based on theory. (B8)
>
> Research should have some sort of connection to theory to increase its reliability. (E20)
>
> Theory is an essential part of research, because research should have some "sounding board", that is, some kind of prior theory which research can be compared with. In addition, theory possibly guarantees part of the reliability of the research, when it gives some kind of backup in the background. Without theory research and its results can stay "floating" in the air and their credibility is questioned. (E24)

These students seemed to think that it is possible, but not wise to conduct research without theory.

Discussion

Differing conceptions among the students involved in the pilot were found in terms of what do students understand when we ask them to describe "theory", where do they think theory comes from, and what do they think the tasks of theory and research are.

Most students did not use any synonyms for "theory". Only a few mentioned "underlying ideas" or "assumptions". Some students seemed to confuse "theory" with "theoretical background", i.e. they described theory as: 'Evoking reader's interest in empirical part and gained results'. For teaching this means that we have to be very careful when talking with students about theory to ensure that we are talking about the same thing.

At the beginning of the course, one-third of the students indicated that they thought theory was created with the aid of research. One topic we especially discussed in the lecture, when we talked about hypothetic-deductive method, was the difficulty of creating theories and hypotheses, and that induction cannot be used as a method. In the end, only a few students wrote about research as a source for theory, but they did not offer any substitutive explanations for theories. Only one student referred both in the beginning and in the end to 'thinking and wondering' and to 'interest in things and situations'. Students thus seem to have a quite unsophisticated way of thinking about the creation of theories.

It appears from these students' responses that they felt confident when writing about research and its relationship with theory. However, none of the responses suggested that these students had any clear sense of how theories are explicitly developed. There was considerable evidence that students had given thought to the issue that the use of theory gives research credibility and reliability. The responses also suggest that they thought that research without theory was possible, but not very valuable. However, on the development of theories, they remained silent.

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Quality Assurance and strategic strengthening of HDR performance

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Abstract

Higher education policy has moved from notions of efficiency in the 1980s, quality in the 1990s, to performance in the 21st century. Outcomes and performance based funding instituted at national level in recent years is just one reflection of this change and is driving institutions to review the management of their research activities. For three consecutive years Macquarie University has undertaken a study of the experiences of commencing higher degree research (HDR) students. The purposes are to provide feedback and to inform ongoing policy development. In each year, commencing students were invited to participate in a series of focus groups, or if desired, confidential individual interviews, designed to elicit open discussion on their semester one research experiences at institutional, faculty and supervision levels. In addition a small number of interviews at middle management level with HDR Associate Deans and key administrative staff were also undertaken. Key findings from the 2003-2005 studies highlight the need for a HDR client service focus; the importance of communication and information prior to commencement; the clear and transparent resourcing of research projects; and, the management of expectations and workload of students and supervisors. The findings are discussed in relation to key institutional policies on candidature management and strong, proactive institutional leadership in research.

Introduction

This paper presents a case study on a major project[1] to inform institutional higher degree research (HDR) student policies. The Candidature Management Project: Improving the first year research experience, commenced in 2003 and seeks feedback from commencing HDR students on their transition into research. This student feedback provides important data to inform ongoing policy development, implementation and practice, with a view to strengthening institutional performance in HDR retention, completions, and reduced time to completion. From a strategic management perspective, a targeted focus on the crucial commencing months for research students, would be able to provide valuable information on the success or otherwise of institutional intitiatives and strategies.

There appear to have been few studies specifically examining the commencing HDR research experience and the transition into HDR. Some studies on doctoral education have included a component on commencing students (e.g. Neumann, 2003; Sinclair, 2004). The University of Melbourne undertook a preliminary study on commencing coursework and research postgraduates (Ross, 2001) but also recognised the paucity of research on the transition into research degree study as reported in the academic literature. Publicly reported research in this vital area of higher education appears to lag institutional developments and national growth in HDR students.

Higher degree research students have long been acknowledged as key contributors to an institution's research activity and output (Powles, 1984; DEST, 2003). Further, in a competitive higher education environment, where

[1] The project is directed by Ruth Neumann and Leah Boucher is Project Officer on the study

research is THE currency, strong national—and hence institutional—HDR performance is paramount. The emphasis on quality outcomes, research concentration and performance is increasingly reflected in government funding models (Kemp, 1999; DETYA, 2001). The incorporation of a 50% allocation for HDR completions in the Research Training Scheme (RTS) (Nelson, 2006) reflects the important weighting given to successful outcomes.

Within this national context, the provision of an institutional framework and research climate which maximise the quality of the research environment for HDR students are critical. The three year study (2003-2005) undertaken at Macquarie University on the transition into research represents an important contribution to the institutional policy and strategy.

The institutional context

Macquarie University has research and postgraduate studies as key institutional values. In 2005 Macquarie University had more than 1500 HDR students (Macquarie University, 2006), representing 5% of the University's total enrolments. This ratio is identical to the national proportion of HDR enrolments (DEST, 2005). At Macquarie University the vast majority of HDR students are enrolled in doctorates and international HDR students are an increasing proportion of the HDR student body. In 2005 they represented 24% of the total HDR enrolment (Macquarie University, 2006).

In January 2003 a new Deputy Vice-Chancellor (Research) commenced. With a strong proactive leadership style, the University's HDR performance was re-assessed and a strengthened focus developed. This included the establishment of a new Higher Degree Research Committee (HDRC) which included a policy and strategic direction setting role. There was also a concern with the management of HDR students and their candidature. The focus on candidature management implied a more active institutional role in HDR and involved the development of a strong HDR framework with institutional incentives. Finally, the University made several new senior management appointments in the research and HDR area and provided a staffing complement in key administrative units commensurate with the scale of research activity.

The Case Study Features

The Candidature Management Project: Improving the First Year Research Experiencei project was initiated by the DVC (Research) and the University's Higher Degree Research Committee (HDRC) in 2003. The aims are to examine the transition into higher degree research and the quality of the first year research experience. Semester one commencing HDR students are invited to participate in a focus group or an individual interview, as well as complete a short survey. The survey, introduced in 2004, collects systematic information on the effectiveness of policy implementation and on particular areas of feedback to senior management. In particular, the experiences of each annual cohort are compared with those of previous years and also monitor the effectiveness of policy implementation at the student level.

The data from each year's interviews and survey are analysed in five main areas:

1. Why undertake HDR and why at Macquarie?
2. Supervision matters
3. Resources and skill support
4. Central Commencement Program
5. Organisational and communication issues.

A full report with executive summary and institutional responses are produced for discussion and finalisation at HDRC. The qualitative data from the project are seen as an important complement to data from other sources.

Most importantly the project has feedback loops. The DVC-R communicates with Deans and the University Librarian in relation to the recommendations each year and all project participants receive a copy of the full report with its recommendations. From 2005 the feedback loops are being strengthened and the extent of feedback available from the project to each of the University's Divisions has been increased. A website for the project is also under development. Further, the project outcomes are used continually by the Deputy Vice-Chancellor (Research) and the Dean Higher Degree Research to assist in their monitoring of policy implementation and its impact on practice.

Student Response and Key Findings

Student response to the project has been positive from the start. Each year overall participation has been between 46% - 63%, representing around 100 semester one commencing students annually. Participation from each of the University's nine Divisions varies, ranging from 30%-100%.

Students are surprised, appreciative and impressed that the University is seriously seeking their feedback:

> I'm pleased that the VC wants to hear of our struggles (E203)
>
> I was impressed that the Uni wanted our feedback. I got the letter and then didn't respond and then I got the phone call. Wow! I was amazed. (J205)

Overall participants have been overwhelmingly positive in their commencement experiences, and feedback on finetuning has been invaluable. In each year around 3%-5% of participants (n= <10) have been very dissatisfied with their commencing experience. The main reasons for dissatisfaction can be attributed to either a poor supervision experience or unsatisfactory resource allocation and support for their research. Given the University's concern to seek student feedback and also to act on the findings of that feedback, students have commented that their opportunity to participate in a focus group has been a catalyst for change in their Department or Division.

From the feedback provided in the years 2003-2005 there are ten main findings. These are listed briefly and then discussed in more detail in the following section in relation to institutional HDR policies.

1. Since 2003 HDR client service focus within the University has strengthened at all levels.
2. The introduction of a Central Commencement Program (CCP) from 2004 addressed major student information needs.
3. HDR students continue to need specific information at, or prior to, commencement.
4. It is important for students to cost their research on commencement of a HDR, particularly in expensive fields of study.
5. The University needs to consider targeted support for different types of HDR students.

6. It is important to clarify mutual expectations of supervision and supervisor workload management.
7. There needs to be transparent decision making within Divisions for resource allocation.
8. The availability of scholarships is important to make HDR a reality.
9. Streamlining of institutional HDR processes and administration is essential for students.
10. There can be considerable variations in departmental / divisional research culture.

Informing institutional HDR policies

One of the main purposes of the Candidature Management Project: Improving the first year research experience was to provide feedback and information to management on the effectiveness of University policies as perceived by commencing HDR students. The intention is to use student feedback to develop, refine and inform University HDR policy. Given the appointment of the new DVC-R, 2003 represented the benchmark year from which to measure change, with new policies introduced from 2004. Thus, student feedback through the project (2003-2005) should reflect targeted institutional HDR changes and also be able to inform ongoing policy refinement and development. Indeed, student feedback has been invaluable and effective:

> We saw this [project] as just an integral part of the whole tracking of our performance, and I would certainly be wanting to maintain this annually for some time yet. …. (DVC-R, 2006)

Two key HDR policies, both introduced from 2004, illustrate the importance of the student perspective. They are discussed here.

The first policy is the introduction of a Central Commencement Program (CCP). This program has been fundamental to the enormous improvement in satisfaction of the basic information needs among HDR students. The CCP is a compulsory program offered twice each year and provides commencing HDR students with an overview and introduction to research at Macquarie University. In 2003 many students noted that they did not know what they did not know, nor to whom to go to for basic information. The CCP is complemented by Commencement Programs at divisional and departmental levels (DCP) which develop the discipline-specific information and practices for research students. Importantly the CCP and the DCP introduce students to key figures in HDR – the DVC-R, the University's Dean, Higher Degree Research, and, within the Divisions, the divisional Higher Degree Research Representative. This early contact assists in making HDR students feel more connected and also to know where to go for advice and support. The CCP has also fostered a stronger institutional research culture:

> I felt that [the CCP] made it very clear that we were part of the wider university research family, the Deputy Vice-Chancellor made that very explicit, as did the Dean, HDR, so I thought it was great… [P505]

Within Divisions there are also signs of strengthened research climate. Increasingly, Divisions are formalising a regular, often fortnightly for the first year of candidature, HDR seminar program as a requirement of their DCP and thus building and strengthening HDR student culture within the departments of each Division. The commencement program has also stimulated detailed research proposals at an earlier stage in candidature, since a requirement for completion of the DCP is formal Divisional approval of each commencing

student's research proposal within six months of commencement. Student feedback on the CCP has been very positive and their views assist in annual refinements to the program. In particular they highlight the areas for greater divisional enhancement, and the importance of the interconnection between the institutional and divisional levels.

The second major policy introduced is on financial resources for HDR support. From 2004 Macquarie further devolved HDR funding to the Divisions to provide a transparent and accountable method of supporting Divisions in their HDR costs. The model includes a component for staff supervision salaries, as well as a minimum 25% annually to support each HDR student's direct research costs. As Divisions have adjusted to this funding policy, HDR student feedback has enabled the University to refine its policy as well as guide Divisions in their implementation of the funding approach to students. Since the introduction of the policy, commencing students have become increasingly conscious of the costs of their research – particularly in those areas traditionally seen as 'cost free'. Students have been required to plan and budget for their research needs at a far earlier stage. Most Divisions now require from their students an annual budget justified against the research aims, a move welcomed by students. Student feedback in the focus groups in turn is assisting the Divisions in refining their approaches to the financial support of their students, and making explicit the diverse range of research costs and the importance of matching funding with the different research stages. Within Divisions there are moves to consider "whole of HDR career" budgeting and assisting students to take a closer look at planning their research costs over both short and long term. Importantly, the transparency and generousness of the University's financial devolution is removing the need for students in some of the more expensive research areas to apply for external grants early in their candidature, a development welcomed by students since it provides them greater stability and removes distractions from their research progress.

An important component of Macquarie's HDR financial policy is the provision of institutional scholarships to both domestic and international students in line with institutional areas of research strength. The success of this strategy is recognised by feedback from commencing students who value the University's priority in making available additional HDR scholarships and thus make HDR a reality. In the years of the study, students cite the availability of scholarships as a key influencing factor in electing to do their HDR at Macquarie University. In fact, by 2005 many participating students commented that Macquarie's scholarships were the current market leader.

A third area of policy relates to supervision and supervisor development. An important focus of the new Dean, Higher Degree Research, is policy development on supervision which in turn is strongly informed by student feedback from the project. In each of the years students have been very satisfied with their principal supervision experiences - My relationship with my supervisor is the best thing (N205) – and student comments reflect how careful the majority have been in selecting their principal supervisor. Students comment that they are clear on their supervision expectations, although greater clarification is needed about the role and expectations in relation to associate supervisors. A major issue is overall workloads of supervisors, a crucial matter for Deans and the University as a whole. The Candidature Management Plans developed by the University in response to student feedback have been welcomed as a useful guide to assist HDR students manage the research process throughout their candidature. In addition, the Higher Degree Research Guide For Candidates and Supervisors was launched

late in 2005 and contains an overview of research stages, specific candidature information, and University support for HDR students. It will be possible to explore the extent to which this document meets HDR student needs in the 2006 project. An expanded supervisor development program operating through Divisions was launched in 2006.

Conclusion

Over the three years of the project a major outcome is the marked change in advancing an HDR client service focus at all levels within the University:

> I found that MQ actually wanted to meet me. .. That really impressed me because everybody else saw you as a number. (E105)

Equally, institutional quality assurance perspectives have been fundamental to the success of the project. There is a recognition of the critical importance of effective HDR commencement and of a good transition to subsequent research stages. Thus, the depth and extent of the HDR student feedback is highly valued by the University's senior management and the HDR Committee. The annual findings both monitor and inform policy at the most senior levels:

You have to have all the things in the right place, your strategy has to be completely integrated and that is what this first year experience project is about about. It is about understanding how that looks from a student point of view and how effective it is. (DVC-R, 2006)

Currently the feedback loops are being strengthened further in relation to good practice examples, benchmarks and, most importantly, more detailed comment back to students to allow them to see how their feedback has improved the quality of HDR at the University. Importantly the University sees the project as a vital part of its strategy in continuous improvement and quality assurance.

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Te Ao o te Whaikōrero: The world of Maori oratory

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Abstract

Te Ao o te Whaikōrero, the 'world of Māori oratory', explores the complexity of Māori oratory, both past and present. What makes whaikōrero more than merely a theatrical speech is the origin and function of the various components, the rites associated with the selection and qualification of its exponents, and its delivery. This presentation delves into some of the underlying philosophies inherent in whaikōrero which impact on, and are influenced by, a diverse range of systems within the Māori world, its culture, etiquette, and belief system. It also recognises the effect of colonisation and urbanisation on Māori practices. This presentation will firstly highlight some of those 'underlying philosophies', after which it will then go on to raise issues for undertaking research that is located within a western educational paradigm using a traditional Māori philosophical approach to knowledge creation and knowledge transmission. From this view, perhaps others will become more aware of cultural practices that Indigenous peoples currently perform and appreciate the value of these in retaining history, explaining cultural systems, and an alternative form of indigenous education and research.

It is from researching my own PhD that I would like to raise issues which I believe will impact on western tertiary institutions in the years to come. The underlying determinant is indigenous research and indigenous language. As part of this I will discuss the transmission of indigenous knowledge after which I will briefly discuss the search for knowledge in terms of indigenous method. This includes the indigenous repositories of knowledge, oral traditions, and the research framework. After this I will provide some discussion on the restraints of western research, at least, through a university, in regard to information provided by informants and consent forms. The latter part discusses presentation and publication of indigenous material focusing on indigenous language and its position in terms of indigenous approaches to research.

As a preface to this article, I will provide a brief explanation of whaikōrero, the art of Māori oratory, which is the topic of my PhD thesis. In short, whaikōrero is speech-making in a Māori context. Cleve Barlow has defined whaikōrero as "the greetings expressed by elders on marae courtyards during assemblies of people" (Barlow, 1991: 165). This form of discourse is mostly seen during the rituals of encounter, known as pōhiri (a formal welcome ceremony) or mihi whakatau (a less formal welcome ceremony), between visitor and host. It is important, therefore, to view the opening points of discussion in this article in relation to whaikōrero.

The transmission/dissemination of knowledge: 'Who does knowledge of the past actually belong to?'

Regardless of the venue or the speaker, this is a question that has continually roused my interest in the past, especially as I listen to accolades by people seated around me being generously accorded to various speakers as they deliver speeches in the form of whaikōrero, lectures and seminars, or wānanga (extended discussion forums). I suppose a sense of sympathy is roused within me because I have heard similar utterances being expressed by

other speakers on a previous occasion, and what is being said on this occasion is, in part, merely the regurgitation of eloquent and profound material expressed by someone else earlier. It just seems a tad unjust that there is no acknowledgement being duly expressed towards predecessors from whom these intelligent, insightful views and philosophies originated. It is not my intention to express outright dissention at those individuals who are simply voicing these expressions, because without them, the treasured history of former times may have very well perished along with the memories of those esteemed repositories. My aim here is to share the credit between both the source of the information as well as the speaker, should they not be one in the same person. How can we not give due recognition to the current repository of that knowledge and their role in transmitting that knowledge to the future generations so that they will be proud in their heritage as Māori. And likewise, it would be a disservice to omit praising those pundits with their wealth of experience and knowledge who coined beautiful phrases, who received knowledge from numerous people before them, and opened the portal to esoteric knowledge of the Māori people which was secured and passed on from generation to generation. It wasn't only the knowledge that was passed on, but the manner in which it was transmitted, that is, the ethos, integrity and spirituality that made those teachings so special was also passed on. It is as a result of this that Māori are distinctly Māori and the individual tribes are unique and distinguishable from one another. These distinct characters as tribes and sub-tribes also define Māori as special individuals. These will also be the cornerstones of identity for the future generations of Māori that they will treasure and forever know who they are and where they come from. This is held together by a genealogical thread that ties Māori to the primal Gods Rangi-nui and Papa-tū-ā-nuku, to their offspring, and then down to the human form formed from mother earth, Hine-ahu-one, from whom Māori people believe their very existence came to be. In writing my thesis, I followed the same path in that this is a collection of knowledge and heritage passed down. So what is the relationship here to the theme of this conference? Since the conference theme is "Knowledge Creation in Testing Times", referencing, to me, becomes an issue. Māori, being people who endorse oral dissemination, still retain knowledge in oral forms other than oratory, such as song and performing arts. Under a western framework then, this would make referencing a challenging task because the person divulging that information may not necessarily be the original source.

It was my interest in learning about the Māori people in general as well as the tribes which I have affiliations to which provided me with the motivation and passion to pursue knowledge in regard to Māori culture and lore. "One of the fundamental notions of Māori society is the respect for elders whose wisdom embodies the past," says Reilly (n.d.: 2), and it is with this thought in mind I will be forever grateful to all of my kuia (elderly Māori female) and koroua (elderly Māori male) who have passed away for all the history and teachings about the Māori they invested in me and what, I believe, they intended to be passed on to generations after me. As with Indigenous people everywhere undertaking research, I believe that this very knowledge will be the 'plumage' of sovereignty, independence and honour that will be firmly imbedded in the souls of indigenous researchers.

The search for knowledge

To conduct research on Māori in an appropriate manner research should be unbiased and Durie (1998: 65) expressed his view that researchers

> must come to a better understanding of Māori society if they are to measure past conflict and conduct in cultural context. To understand

> that society they must look inside its thought concepts, philosophy and underlying values and avoid interpretations from an outward appearance. They must consider the social structure not just in terms of how it looks but with regard for the likely reasons for it. It will be important to consider the poetry, songs, legends, proverbs, idiom and forms of speech-making.

Is this any different from any other study of Indigenous people and/or their cultures? I think not. Indigenous beliefs must be accommodated and accepted as research of an indigenous nature will only increase in the future

Another point to observe regarding Māori research, and this is probably also applicable to research of other indigenous people, is the view that anyone conducting research on topics related to Indigenous people should make an effort to conduct their research in a manner which is more conducive to encompassing indigenous spirituality, philosophies and concepts. This will allow for research about Indigenous people and their practices which will be conducted more sensitively which will result in more accurate findings.

> Māori research must be conducted within a Māori cultural framework. This means it must stem from a Māori world view, be based on Māori epistemology and incorporate Māori concepts, knowledge, skills, experiences, attitudes, processes, practices, customs, reo, values and beliefs (Bevan-Brown 1998: 231).

An Indigenous approach to repositories

One model of research which I adopted also stems from an indigenous approach espoused by the tohunga Hohepa Kereopa, an expert on Māori medicine, who once provided a hint on procuring leaves for the preparation of medicine. It is preferable, he said, to refrain from gathering the leaves off one sole tree or plant. The inadvertent effect of gathering leaves from one tree, he said, means that the person who has gathered the leaves has empowered that one tree to be the sole healer. Because Māori believe that trees have a living form, similar to that of people, this gives that one tree, or plant, exceptional mana (prestige, power and authority, associated with individual and collective well-being), that is, it raises the status and authority of that tree which may then become the victim of jealousy and envy. This then gives root to animosity. What Hohepa proposes is that the leaves from different trees be gathered so that many trees, as opposed to one, will then have the power to heal, whereby minimizing the likelihood that one tree will be superior to others. This allows the mana (power, status), to be shared. Perhaps this is no different to western research practices of conducting widespread research. Not unlike the trees with their remedial properties, by interviewing a number of elders no-one individual would be credited with more status than others. It is, therefore, as a result of all the informants that the loss of knowledge in regard to whaikōrero has, to some extent, been remedied.

Oral traditions

Sir Peter Buck, in Cox (1993: 12), pays mention to western scholars and their scepticism of oral transmission. Reilly (n.d.: 23) provides one of Buck's comments explaining how

> 'Civilised man'…had grown sceptical of the human ability to remember and transmit material over a long period of time. Thus they had become sceptical of 'uncivilized man's' ability to pass such information down through the generations without committing it to paper.

Despite the scepticism by 'civilized man' recorded by Buck, I viewed oral information as an integral part of this research, especially in light of the fact that the majority of written literature on whaikōrero tended to be repetitive. I felt that interviewing was an avenue whereby I could acknowledge those who had passed on their knowledge to the informants. It was also a way of reinstating the validity of oral transmission and the mnemonic capacity, especially to the sceptics reliant on the written word only. As Cox (1993: 12) explained, ". . . the mnemonic capacity of scholars trained in oral history has astounded counterparts."

Orbell (1978: 6) supports people founded in oral histories and transmission explaining that:

> In Maori society, as in other societies which make no use of writing, language was always experienced as a part of lived reality, and because of this it possessed great weight and finality. Whereas we, in our print culture, say that 'actions speak louder than words', people living in oral cultures considered words to be a form of action.

There is also support by Cox (1993: 13) that oral traditions be preserved.

> It is important to remember that oral tradition has not ceased just because a more 'acceptable' alternative is available. Māori continue to store, maintain, and transmit historical details orally. For Māori, this information is vital to the social, economic, and political well-being of groups, and is consequently a dynamic resource. The same events in which many ancestral figures have played a part are retold through waiata (songs), whakatauki (proverbial expressions). Whakapapa (genealogical tables), and whaikorero (formal speeches).

McCrae is of the similar vein because oral tradition continues to be a cornerstone of Māori practice on a variety of occasions. In Thornton (1999: 2) she comments that on

> tribal meeting grounds, in formal ceremonies, in verbal depositions to land tribunals, in the teachings of elders to their chosen young, even in casual talk, the Māori oral legacy is still heard.

Thornton (1999: 4) goes on to say that there are

> two avenues of transmission by which we have knowledge of an oral literature today: one is a living oral tradition coming right down to the present time; the other is through manuscripts and tapes in which that oral tradition has been fixed and so preserved.

I would be prompted to ask, then, what is so wrong with reliance on oral tradition and transmission of knowledge? Is there no case for people to believe and trust the accuracy of material transmitted orally by a person who has proven that they are reliable informants? The following comment by Shortland (1856: vii-viii) further describes the value of oral traditions.

> What more convincing proof can there be that the New Zealanders have preserved from remote ages oral records of their history, by committing them to memory, and so transmitting them, from generation to generation, down to the present time; and that these oral records contain the germs of truth?

I would not support the term 'germs of truth', as Shortland refers to them, but would rather acknowledge and respect their oral records as a true

reflection of their opinion and a view of history, as they remember them. For wouldn't it be fair to say that it is the reader of any material who makes the final decision as to the legitimacy of anything they read? Perhaps the main point that I am trying to argue here is that, regardless of the fact that a large volume of literature on Māori is now available, the oral tradition of Māori is still valid and important because it is through oral transmission that the significance, spirituality and true essence of that material is expressed. The 'kernels of truth' that Shortland refers to may, therefore, provide the means by which information about the Māori people can be delivered with more accuracy because it has been expressed orally by the very people whose traditions, culture and history are being spoken about. Regardless of the criticism by researchers of history during the 1880s-early 1900s leveled at oral transmission, says Reilly (n.d.: 18), they have since become increasingly positive towards oral traditions because the informants are indigenous people and oral information gains validity after it is committed to word or published. Is this, therefore, the direction that indigenous research will take?

The research framework

Oral transmission of knowledge is a central component of this research as opposed to the normal practice of written literature and publications being the overarching source for research work. Researching written works was consciously left until I had completed oral interviews, or the main part thereof. The reason I chose to do this was because of my belief that there was potential for the purity of my research, Māori research, to be 'swayed' or influenced by the views expressed in the written literature. I was wary that my questions and the manner in which they were worded, organized and asked, may have subconsciously been guided by what I had read which would result in research more aligned to non-indigenous research and the value of oral tradition and oral transmission of knowledge would be compromised and this would be detrimental to the accuracy of the findings. In my view, completing the oral interviews with elders prior to the literary review would reinstate the credibility of oral traditions of which Māori have held onto since their beginnings.

Information provided by informants

Oral interviews, to me, were the most acceptable and effective means of eliciting the quality responses I mentioned above. The majority of interviews were formally structured. Five respondents chose to merely divulge the knowledge they had on the subject of whaikōrero, as opposed to the more standard 'question and response' format. 31 Interviews were conducted over the period from 1995-2003. Two elders that I had intended to interview actually died immediately prior to the interviews being conducted and this prompted me to prioritise the interviewing process. The venue where the interviews were conducted were determined by the informants in order for them to decide on the location where they felt most comfortable to discuss the topic; the privacy of their own homes, marae, my home, the hospital, the workplace and the Universities. I would, therefore, like to express deep gratitude to all of them for availing themselves for my research. The majority of these elders were familiar with either myself or my family, but there were some who were unknown to me, and I to them, who agreed to share their knowledge, their memories, and even their kai (food), with me. I must confess that there were times when I felt like a secret forager of information who accesses these people without others knowing; being privy to knowledge and information which I thought, at times, may have been rightfully destined for their own direct children and/or grandchildren, or people from their own immediate tribe or sub-tribe. It was indeed a privilege to have these people

talk with me which I will probably spend the rest of my life finding a way of reciprocity. Where words fail to fully acknowledge such people, I must be content at this point in time, with the moral gratitude that will forever sit close to my heart for all that they have shared.

Bearing in mind the fact that whaikōrero is a male dominated area of responsibility on most marae (a physical complex which promotes Māori culture. See Figure 1), most of the people interviewed were male. I made initial contact with informants via telephone and once I had arrived for the interviews they were asked whether they agreed to have the interview recorded on tape-cassette. Two male respondents declined being recorded. The approach with the kuia was slightly different. These were more informal discussions with a less structured form whereby they would just talk about an area of whaikōrero they wished to discuss. I sensed some reluctance by two of the kuia to talk about whaikōrero, probably because it is generally accepted that whaikōrero is a male role in most tribes and they didn't particularly view it as an area they should discuss, and rather, that it best be discussed by the 'men'. There were others who weren't formally or informally approached who, upon hearing that I was researching whaikōrero, volunteered any information or views they had in regard to whaikōrero. All of these people were informed that any recordings would be transcribed and both a copy of the recording and the transcript would be returned to them or their families. Most informants agreed to divulge their knowledge with the understanding that I safeguard it. It is from this understanding that I recorded the discussions and completed transcription of the dialogue. I still have records in my possession. This is another example of the manner in which indigenous people divulge knowledge. In the main, the University of Otago stipulates that raw data be destroyed after five years. Oral informants view this is as inconceivable, otherwise, why would they agree to pass on their knowledge?

Figure 1:

A diagonal view of the 'marae ātea' of Painoaiho Marae, Murupara.

The need for consent forms

I believe that the initial consent by informants to share their knowledge with me was based on Māori principles. It was consent in terms of the consent given when an elder hands on knowledge to a youth. It was consent purely in support of the request and the merit of the request. As elders they divulge information with the understanding that I treasure that information and use it wisely. It is under this premise that they entrust the information. This is the understanding as 'Māori'. One aspect of interviewing which I would like to mention here is the requirement for consent forms. Many of the informants

being elders to me seemed to become suspicious when they were required to sign a participant consent form. Again, this challenges cultural understanding about the oral traditions.

Comments by informants entered as direct quotes

Direct quotations have been presented in the thesis in accordance with the dialects the informants have chosen to conduct the interviews or discussions in. I hope that by doing this the individual styles of speaking as well as their dialectal distinctiveness will be acknowledged, and therefore I have not assumed what words should be and I have attempted to refrain from spelling words as I think they should have been spelt from my own point of view. From this stance I implore any linguists or any other person who reads the comments entered as direct quotes by informants not to assess or evaluate their oral comments purely from their written representation and then assume that this is also the correct written form of the Māori language.

Publications on Māori – publications on indigenous people

Royal (1992: 13) is critical of people who research and publish work on Māori culture and history and their approach saying

> Māori history, as written and published in the past, has attempted to create some kind of National norm of Māori history and traditions. Writers such as John White have attempted to create a common version of tribal traditions, thereby undermining tribal diversity and ultimately tribal authority.

Durie made the following comment at Te Oru Rangahau Māori Research and Development Conference held at Massey University, Palmerston North, 1997,

> a code of ethics relevant to research and the advancement of old and new Māori knowledge is needed and must be developed by Māori. . . .
>
> …researchers working to advance Māori knowledge and Māori people need to adopt what Moana Jackson called a vision of hope, a methodological approach which enables Māori custom, language and identity to be strengthened (Durie 1998: 415).

An indigenous medium of publication other than English

In the opening section of this article I identified indigenous research and indigenous knowledge as important factors that tertiary institutions must consider in the future. New Zealand is a leader in this field because of the acknowledgement of the Māori people, the indigenous people of New Zealand. In 1987 the Māori language, 'te reo Māori', was declared an official language of New Zealand and since 1997 strategies have been implemented by government departments in New Zealand to increase its use. The University of Otago now has a Māori language policy of its own, active since 2003, which promotes the Māori language. The University of Otago is the only University that I am aware of that has such a policy in place. The University of Otago Vision statement for the Māori language states that "…te reo Māori becomes an ordinary, useful, relevant, vibrant and inspiring language as a medium of communication in a wide range of contexts."[1]

After years of discussion and negotiation this has developed into a set of

[1] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

principles which the University has adopted. I have listed some of the information provided in the Māori Language Policy here to highlight the recognition of an indigenous language, the Māori language, within the University of Otago. The objectives are:

- To increase the number of people who speak te reo Māori by increasing their opportunities to learn the language.
- To improve the proficiency levels of people in speaking, listening, reading and writing te reo Māori.
- To increase the opportunities to use te reo Māori by increasing the number of situations where te reo Māori can be used.
- To foster amongst Māori and non- Māori positive attitudes towards and positive values about te reo Māori so that Māori-English bilingualism becomes a valued part of the University community and of New Zealand society.[2]

Principle 1, of the policy, endorses "…the right of students and staff to use te reo Māori, including for assessment." in "…recognition of the status of te reo Māori as a taonga (treasure) protected under the Treaty of Waitangi, and within the spirit of the Māori Language Act 1987." [3]

Principle 2 states that the University of Otago will proactively promote the Māori language by 1) recognising competence in Māori language as a valued skill, 2) Urging departments to recognise in their selection criteria the desirability of appointing staff who are bilingual in Māori and English, 3) encouraging University staff, both academic and general, to take Māori language papers, and 4) encouraging students to take Māori language papers as part of their degree. [4]

The University, under Principle 3, will ensure that written Māori language used in University publications is of a consistently high standard and will adhere to orthographic to the conventions for writing Māori set out by Te Taura Whiri i te Reo Māori, the Māori Language Commission. It accepts all dialects of Māori language, reflecting the fact that it is a national rather than a regional university. [5]

- In addition to the language, the University's strategic direction, as outlined in the University charter, is:
- to encourage greater Māori participation within the University
- to protect and promote te reo and tikanga Māori in a manner consistent with Māori cultural aspirations and preferences, and the practices of the University
- to support iwi initiatives that address iwi needs
- to develop mutually beneficial partnerships with iwi in research, teaching and administration

[2] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

[3] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

[4] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

[5] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

- to promote research in te reo and tikanga Māori, health, education, current issues and history [6]

If we consider the direction that the University of Otago has taken in terms of Universities throughout the world and adapt the model to represent indigenous people, then an Indigenous People's Charter would be:

- to encourage greater Indigenous participation within the University
- to protect and promote Indigenous language and culture in a manner consistent with Indigenous cultural aspirations and preferences, and the practices of the University
- to support Indigenous initiatives that address Indigenous needs
- to develop mutually beneficial partnerships with Indigenous in research, teaching and administration
- to promote research in Indigenous language and culture, health, education, current issues and history [7]

In order for this to happen there are some questions that the academy will be posed with. Do Universities located in countries with a large population of Indigenous people have:

- the willingness to consider a vision that includes the language and customs of an Indigenous body of people?
- the commitment?
- the capacity in terms of physical, material and structural resources?

I believe a huge drive towards indigenous research will develop throughout the world because research of an indigenous nature still remains an untapped area where new knowledge, paradigms and philosophies exist. And if an academic institution can build the capacity of indigenous research, then who is there better than the indigenous scholar and/or researcher to conduct that research, other than themselves?

> …a code of ethics relevant to research and the advancement of old and new Māori knowledge is needed and must be developed by Māori.
>
> …researchers working to advance Māori knowledge and Māori people need to adopt what Moana Jackson called a vision of hope, a methodological approach which enables Māori custom, language and identity to be strengthened (Durie 1998: 415).

I believe all of this discussion has stemmed from indigenous language. The language may, to the majority of non-indigenous academics, appear to be very significant, but it is a start, and this is probably the most integral factor to incorporating an indigenous character to the western academic institution, and indeed the University of Otago, which I would like to emphasise. My own PhD was written totally in the Māori language, except for direct quotes, as a result of the commitment by senior academics in Te Tumu that recognition be given to the Māori language. The Māori Language Policy formulated by the University of Otago is the base of indigenous recognition. It is from this language base, this acceptance of an indigenous language, that indigenous knowledge, indigenous philosophies, indigenous culture are developed. A

[6] http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

[7] Adaptation of the strategy of the University of Otago http://www.otago.ac.nz/about/maorilanguagepolicy_engl.html

people can never be fully recognized without recognizing their language. Language is the vehicle of thought. Language is essential to all things Māori, and it is through the language that the colour, life, vitality, special character, uniqueness, and soul of things Māori, is maintained, preserved, and firmly rooted. Failure to recognize the language of indigenous people in tertiary research will deny the world of a transparent window into the culture of that people. This window, that is the indigenous language, I believe, will provide the best view, the most accurate view of that culture. It is from this indigenous window which provides an indigenous view of itself that non-indigenous observers will be in the most prime position to fully appreciate the cultural richness indigenous people possess and acknowledge the wealth of knowledge that indigenous people and culture have to offer to research and the academy.

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Developing a framework for determining the quality of research education in Australia: Lessons from European initiatives

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Abstract

In recent years the federal government's concern with global education markets and international reputation has manifested itself through policy measures to monitor the quality of Australian Higher Education. In particular, the quality of research has been under scrutiny through such mechanisms as the Research Training Scheme and the Research Quality Framework. However, the question arises as to whether these reforms are aimed at improving the quality of Australian research and research education, or are simply mechanisms to allocate public funding to universities and impose more government control on the direction of research conducted at Australian universities.

Similar reassessments involving postgraduate research education are also taking place overseas. Many crucially involve the participation of students and student organisations, and are taking into account long-held research student concerns regarding their position, income security, mobility and access. Such processes are in direct contrast to government policy in Australia, where students have by and large been relegated to the position of clients rather than partners in developing a new research education model. This paper examines what this will mean for the future of Australian research and research education, and what we can learn from more inclusive overseas initiatives such as the Bologna process.

Australian Government and quality assessment

The Australian Government's professed interest in improving the international reputation of our education system has manifested in policy measures to monitor the quality of Australian Higher Education. These measures have led, through a variety of enquiries, to the development of new schemes and regulations covering the quality of university processes, off-shore delivery, and education and services for overseas students in Australia.

While these developments all impact on the research education sector, the two quality-related schemes of most relevance to research education are the Research Training Scheme (RTS) and the Research Quality Framework (RQF).

The Research Training Scheme has been in operation for several years. It is a performance-based funding distribution scheme that determines how government funding for research education is distributed amongst Australia's universities. The Research Quality Framework is yet to be formally approved or implemented.[1] Based on similar exercises overseas, it is designed to assess the quality and impact of publicly funded research and to distribute further funding based on this assessment. The ostensible objective is to ensure that Australian research is of an international standard.

[1] Further information available at <http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/research_quality_framework/default.htm>

It seems that the need for a funding distribution scheme and a means of extending government control over the direction of research have been important considerations in the development of both the RTS and RQF. The omission of any real student involvement in the development of these schemes is an indication that commitment to quality on the part of the government is not in fact the primary focus.

This is evident from a comparison of the approach to student involvement in government decision making in Australia with that of Europe, in particular, in relation to the Bologna process. The Minister for Education has recently announced an enquiry into the ramifications of Bologna for Australia.[2]

Bologna

Work towards establishing a European Higher Education Area, or the Bologna Process, has been underway for many years.[3] Some of the main aims are to develop a framework to:

- Promote a European dimension in Higher Eduction through curricular development, the integration of programs, and mobility schemes
- Ensure that degrees are recognised and transportable across Europe through the diploma statement
- Adopt a common 3 cycle (tiered) higher education system
- Establish a credit system that ensures student mobility
- Develop comparable quality assurance mechanisms
- Encourage students from outside Europe to study in European countries.

This process has drawn on the active input of stakeholders within institutions, within countries and within Europe, and has included the student organizations.

Involvement of students and student organisation

Students were not included in the initial Bologna meetings but, after requesting involvement, they have been included ever since. The National Union of Students in Europe (ESIB) represents 45 national unions of students from 34 countries.[4] It has representatives on all Bologna related committees at the European level.

In addition, in the majority of countries involved in Bologna there are regular contacts between the national government, or relevant government department, and student organisations. Bologna stresses that students are partners and encourages student involvement at institutional and national levels.

A Council of Europe survey conducted in 2003 of the student influence on higher education governance addressed questions to student organisations, institutions and government ministers. The survey found strong support for the idea that:

> students have a right to influence decisions and practices since they are the largest group within higher education and the main stakeholders.

2 Further information available at <http://www.dest.gov.au/Ministers/Media/Bishop/2006/04/b002040406.asp>

3 Further information available at <http://www.dfes.gov.uk/bologna/>

4 <http://www.esib.org/>

> The students are well informed and their influence enhances the quality of higher education. Students may also be a driving force behind changes.[5]

The Prague Communique produced by European Ministers responsible for Higher Education in May 2001 described students as 'full members of the higher education community' and as 'competent, active and constructive partners in the establishment and shaping of a European Higher Education Area'.[6]

A conference sponsored by the Council of Europe to be held in November will examine the role of students and student organisations in developing the European Higher Education Area.

This is not just lip service to the idea of student involvement. The Bologna Process has been addressing student concerns. Most recently this has included consideration of the doctoral process and issues facing doctoral students. Because this consideration is relatively new, it is a little early to assess outcomes but mention can be made of the main concerns

Student concerns

Student concerns regarding mobility include the ability to enter higher education, to move between cycles, to move into higher education from the equivalent of the Australian TAFE system, and the ability to move within Europe. Mobility issues with regard to the PhD, or third cycle, include the timeframe, funding and income support.

Students are also very concerned about the lack of consistency in intellectual property rights across Europe. In addition, the status of PhD students varies among European countries. In some they are viewed as students, in others as employees of the institutions, while in others they assume an ambiguous position in between these two roles.

The social dimension of Bologna is underpinned by a belief, accepted by all 45 Bologna countries, that Higher Education is primarily a social good.[7] The social dimension requires access and equity provisions to ensure that suitably qualified students are able to access Higher Education. These provisions are intended to include an appropriate funding base.[8]

This is a key element of Bologna and yet it is student groups that have needed to raise these issues and specifically call for appropriate data collection on access and equity provisions and outcomes. Particular concerns have included the following: that barriers to the second cycle have increased through the use of additional entrance exams;[9] gender equality has also deteriorated as there are now less women studying across the second and third cycles; equity access for students from non-traditional backgrounds is

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5 Persson, Annika 2003, 'Student participation in the governance of higher education in Europe', Steering Committee on Higher Education and Research, Council of Europe, available at <www.esib.org/documents/studentparticipation.pdf>

6 European Ministers for Higher Education 2001, 'Towards the European Higher Education Area: communiqué of the meeting of European Ministers in charge of Higher Education in Prague on May 19th 2001.

7 European Ministers for Higher Education 2001, 'Towards the European Higher Education Area: communiqué of the meeting of European Ministers in charge of Higher Education in Prague on May 19th 2001.

8 European Commission 2005, 'Realising the European Higher Education Area: achieving the goals', Conference of European Higher Education Ministers, Bergen 19-20 May.

9 ESIB 2005, 'Bologna through student eyes', Bergen.

not assured; and lack of income support and income security.

While stakeholder involvement has led to many sustainable and appropriate Bologna related initiatives, the situation with regard to the consideration of student concerns is not perfect.

Tuition fees have become an area of contention. Prior to Bologna, the charging of fees varied across Europe. The recent push for conformity has tended to lead to the wider introduction of fees for students from Bologna countries and for overseas students. Fees are becoming more common for second cycle qualifications.[10]

While there is student representation at the international level, there is much variation at the national level and also between and within institutions. At the national level only a few countries include student organisations as full members of education related committees and organisations. But most countries do have a consultation process that explicitly includes student contributions. This inclusive approach is less common at the institutional level and has not changed since the Prague Communique. The independence of student organisations also varies and there have been issues with other participants not willing to see students as partners.

Australian situation

In Australia, the situation with regard to student input at the university level seems to reflect the variability of Europe. But nationally, the situation is markedly inferior to that of Europe. Some national representative university groups such as the Deans and Directors of Graduate Studies (DDOGS) encourage student input, but at the government level students are seen as clients and certainly not as partners.

Consultation only exists in the sense that student organisations (like any group or individual) are able to make submissions to government or parliamentary enquiries. Student organisations are rarely invited to participate on committees or working parties. Any consultation is largely meaningless as student positions are rarely taken into account in actual decision making.

An example of this can be seen in the consultation process around the development of the RQF. In April 2005, consultation forums facilitated by the Allen Consulting Group were held in all capital cities. Much dissatisfaction was expressed about the process, but there was virtually unanimous support for the inclusion of Higher Degree by Research (HDR) students in the RQF:

> In relation to research training there was a strong view that research training is a core activity of the sector and that it is therefore important and should be reflected in the RQF in some way. It was generally agreed that the outcomes produced by research students and the fact that the students themselves can be seen as a research outcome – in that they contribute to Australia's future innovation capabilities – should be included within the RQF assessment process[11]

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10 Brunner, Lea 2005, 'Bologna-reforms and tuition fees', *European Student Link*, no.29, ESIB, <http://www.esib.org/newsletter/link/2005-01/BolognaTuition.php>

11 Allen Consulting Group April 2005, Summary of Outcomes from Stakeholder Forums, available at <http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/research_quality_framework/consultation_forum.htm#Forum_Summaries>

The Council of Australian Postgraduate Associations (CAPA) has made several submissions outlining why research student output should be included and has also met with Department of Education Science and Training (DEST) representatives. The RQF Expert Advisory Group ignored these approaches, along with the results of the forums and the numerous submissions that also called for the inclusion of research students.[12]

The scope for student input into decisions that directly affect research education has been further eroded since last December when the government passed legislation that will effectively destroy student organisations in this country.[13] Student organisations are responsible for a range of services on university campuses. These include academic advocacy, legal services, catering, childcare, clubs, social activities, postgraduate conferences, and many other activities that enhance the university research culture.

One vital service that student organisations provide is representation. Students volunteer to sit on university committees to ensure that the student perspective is included in decisions that will affect students. Nationally, several organisations represent the views of students to government including CAPA which represents the views of postgraduate students. CAPA's representational ability is seriously curtailed by the legislation which has already resulted in a 70% budget reduction.

Implications

This has serious implications for Australian research and research education, particularly as the Minister is considering whether Australian institutions should follow the Bologna model.

The DEST discussion paper on Bologna[14] points out that student organisations have been involved in the planning and implementation in Europe. But the paper fails to learn from these processes.

None of the questions posed in the paper are related to identifying stakeholders or determining how stakeholders should be involved in the process. The only questions related to stakeholders are about how stakeholders will be informed.

Research students contribute a significant amount of the research conducted at universities and author or co-author many publications. Research students are the future research academics and scientists - they will be teaching, supervising and researching in the new environment. If students are not happy with the changes some will go elsewhere. On the other hand, countries that have a high level of student participation in decisions regarding Bologna implementation find that the Bologna process is held in much higher regard.

Conclusions

To ensure quality in Australian research both now and into the future,

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12 Submissions available at <http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/research_quality_framework/rqf_subs.htm>

13 Higher Education Support Amendment (Abolition of Compulsory Up-front Student Union Fees) Act, available at <2005http://www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/asmade/bytitle/814E1014B6E98C1FCA2570DD0027DC64?OpenDocument>

14 Available at <http://www.dest.gov.au/sectors/higher_education/publications_resources/profiles/Bologna_Process_and_Australia.htm>

students must be included in any quality assurance and accreditation process without exception. Democracy in the reform process is required to ensure equality of participation. Student organisations need to be supported through financial, logistical, or human-resource based assistance. For research students, participation in the process will involve time taken away from study, and this needs to be accommodated.

Processes and developments from overseas cannot be simply recreated in Australia. But nor can elements of these developments be randomly picked to suit the whim of government. Processes such as Bologna follow a holistic approach and if the government takes some of the ideas without the crucial social dimension or stakeholder partnership involvement, it is unlikely to lead to an increase or even the maintenance of quality research education in Australia.[15]

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[15] For a student perspective on Bologna in Australia, see CAPA 2006, Submission to The Bologna Process and Australia, May 2006, available at <http://www.capa.edu.au/frameset.html?./papers/index.html>

What phenomena do researchers experience creating multiple mode theses? Research at the effervescent edge

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Abstract

Significant changes have emerged in the way technologically innovative 21st century researchers conceive, create and present their theses in multiple and multimedia modes including text.

This research project explores the experiences of Doctoral candidates who apply design and production principles to thesis presentation which go beyond traditional text-only theses presentation boundaries. Conversations with candidates and supervisors have given insight into dynamic knowledge creation and its impact on thesis production. The researchers' journeys and their sometimes-exasperating challenges, raise issues about whether their needs are being met in terms of equity, support and freedom of expression. Because of their chosen research methodologies, candidates who create multiple mode theses have different research training, supervisory and examination experiences from those of their traditional peers.

In these "Testing Times" the impact of this phenomenon on higher education research practices should be felt, not ignored.

This paper will discuss the nature of multiple mode theses, present a brief encounter with answers to my research questions and provide valuable insights into research being conducted at the 'effervescent edge'. The completed thesis should benefit higher education research administrators, supervisors, examiners of multiple mode theses and the doctoral candidates who create them.

(Most participants are deidentified)

> ...the emergence of alternative conceptions of knowledge and method have problematized traditional views of what research entails and have escalated our consciousness of its unexamined assumptions" (Eisner 1997, p. 5)

Introduction

Movie clip 1: Family Movie (Movie used with author's permission—contact author)

This movie clip suggests a metaphor for doctoral candidates' experiences who create multiple mode theses and acts as a reminder that their journeys at the effervescent edge may be different to candidates who create text-only theses.

As an information technology trainer at Macquarie University I help postgraduate researchers learn to create multimedia for assignments and research and became interested in the way other researchers experience the use of non-text components in their theses.

Angela Brew uses a metaphor of flight to explain the need to explore what is happening among the different contested dimensions of research:

> ...to enable us to give substance to aspects of research waiting in the wings: ideas, methods and techniques waiting to fly; ideas which, more often than not, have their wings clipped to protect or promote the interests of the powerful (Brew 2001a, p. 8)

Authors such as Barnett acknowledge that research is in a supercomplex age of uncertainty and change (Barnett 2000) so this research project is being conducted at a time when researchers are exploring new modes of representation, new or combined methodologies and pushing research boundaries to an extent where their experiences go beyond those of their text-only research peers. Elliot Eisner considers that with the "emergence of new data representation forms ... complications include lack of familiarity with non-conventional approaches, and appraising and publishing difficulties" (Eisner 1997, p. 1).

Although there is also an increase in doctoral experiential studies – identifying literature exclusively on candidates' experiences with multiple mode theses is not possible and, as Brew states no previously written accounts "specifically addresses the ways in which research is experienced by those who carry it out" (Brew 2001b, p. 272).

Theses qualities

The following antonymic labelling of thesis qualities is derived from research writers, supervisors and doctoral candidates.

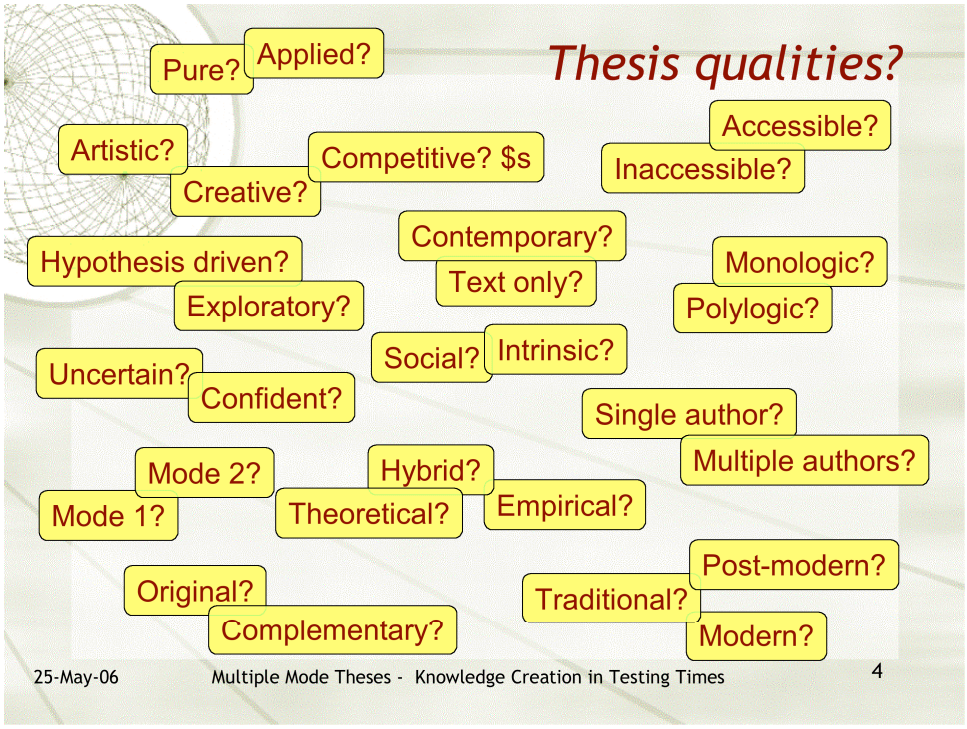

Figure 1: Some antonymic labels of thesis qualities

The nature of multiple mode theses varies across the higher education spectrum in Australia as they relate to university policies and practices. Qualities of multiple mode theses include that they incorporate actual or digital cultural or social objects, artefacts and media, contain such works with an accompanying exegesis, may be presented and examined at live sites, use technologies to prove hypotheses, are packaged unconventionally, are

presented in print as folios, books or published papers, are judged mainly on aesthetic value or artistic content or are judged on how artistic content or other models support hypotheses.

Opportunities for submitting multiple mode theses vary. Some universities do not accept them; at another they are increasing at an exponential rate; some have multiple mode theses policies and some have none; some multiple mode theses policies are mainstreamed into traditional thesis policies; some policies are more specific and others less so. Collating policies would be difficult as they frequently change.

People use different words to identify what I call multiple mode theses. Not that descriptive terminology changes much about what they are, but if there were a uniform descriptor it may help identify them electronically. Expressions used include non-traditional, artistic, creative, alternative, marginal, unconventional and contemporary. 'Non-traditional' is a difficult expression because what is traditional or non-traditional in research depends upon current practice. All theses are highly 'creative' whether they include non-text components or not, and 'artistic' thesis components may emanate from any discipline, not necessarily creative and performing arts ones.

Examples of multiple mode theses

The following examples of multiple mode theses show a variety of presentation techniques.

Whilst giving IT help to Lesley Kinney (2003) we made a surprising discovery. We scanned line drawings of figures from Egyptian temple and tomb walls and digitally layered them in an animation program. They performed actions related to social and cultural activities. This figure scooped up dust and threw it over her shoulders in observance of mourning. One outcome of this candidate's research proved that original Egyptian artisans had represented social and cultural activities in sequenced frames on temple and tomb walls. These results not only proved her hypothesis, but that information technology and knowing how to use it, can create new knowledge.

Figure 2: Lesley Kinney (2003) Funerary scene, New Kingdom, Tomb of Neferhotep, Thebes - Sequential Time in Ancient Egyptian Wall Art (Image used with author's permission)

Glenn Auld (2002) produced a thesis on DVD including an exegesis. For ten years, he lived with the Ndjebbana speaking people Kunibidji, who are the traditional landowners of Maningrida in Arnhem Land. He produced software for the Kunibidji people to explore their language using touch screen

computers.

Figure 3: Glen Auld, 2002. Why should I present a thesis on Computer Assisted Njébbana on DVD? (Picture used with author's permission)

Daria Loi (2005) struggled to have her thesis approved in this suitcase format. Her experience was one of self-determination and self-belief. Justification included that the presentation format had a metaphorical connection to the topic. The examiners applauded her work.

Figure 4: Daria Loi, 2005. Lavoretti per bimbi – Playful Triggers as keys to foster collaborative practices and workspaces where people learn, wonder and play
(Copyright Daria Loi - Picture used with author's permission)

In adherence to Eisner's comment "the presence of alternatives literally forces us to seek justification" (Eisner 1997, p. 6) Lori, Auld and others have written papers justifying their thesis presentation modes. That they needed to explain and justify their presentation modes indicates they thought other researchers or academics might have perceived their works as radical.

One can only imagine a day long ago when the first student who created his or her thesis in text, instead of debating it in agora like fashion, justified why this was so!

Novelty?

We may well agree with Eisner and ask: "why is this exploration occurring?" (Eisner 1997, p. 2) and "What might this new frontier have to offer?" (Eisner 1997, p. 5)

For some, the thought of animations derived from ancient line drawings, a thesis being presented entirely in a suitcase or artwork created from the sub-conscious, may be confronting or perceived as a novelty.

Nowotny, Scott and Gibbons discuss "the epistemological core" of knowledge and introduces the "deeply radicalising" concept of novelty and the challenge it presents to the "established way of doing things" because they challenge traditional authorities and create an impetus for institutional reformation (Nowotny et al. 2001, p. 182).

The authors also consider novelty alters power relationships. (Nowotny et al. 2001, p. 182) It is important universities feel the impact of researchers who push the boundaries by creating novel theses elements. The 'boundaries' exist in terms of knowledge creation and presentation for researchers but, for the university, they exist with their postgraduate study handbooks on thesis submission policies. So, one would hope that what is occurring at one end of the 'research spectrum' is impacting on what is happening in universities' postgraduate studies committee meetings. The conundrum of this reversal of power might be challenging to traditionalists.

Another impact the authors raise is that "novelty and innovation may threaten our sense of self- and person-hood" (Nowotny et al. 2001, pp. 182-183). The example they use is of the Scottish researchers who created the cloned 'Dolly' sheep. They contend that public unease was felt not from the application of the drug as an incubator but because " 'Dolly' appeared to highlight the vulnerability of our sense of human individuality and identity" (Nowotny et al. 2001, p. 183).

These authors support the continual change, within the mainstream of Western Enlightenment, of what they call the 'epistemological core' of knowledge. By emptying and filling this core with "new values, norms and practices" and becoming open to "a greater variety of knowledge traditions" it is revitalised and the "riches allow us constantly to re-configure knowledge" (Nowotny et al. 2001, p. 259). It becomes apparent that multiple mode theses would enhance this ideal in their capacity to generate and present core revitalising knowledge in ways that text-only theses may not.

Perhaps difficulties occur in universities where the impact of novelty and innovation simulate those presented above. Wherever tradition and novelty meet there are bound to be power struggles, negotiations, concessions and resolutions reached, hopefully for the greater good of the creation of research knowledge and research practices.

Methodology

The logical research questions which stem from such an environment where tradition and novelty meet might ask for clarification of definition, search for policies, uncover currently used thesis formats, their impact on supervision and examination, researchers needs and opinions from academics and researchers on these new ways of presenting theses. In this situation, logic seemed presumptuous and the need to explore experience within an unknown environment and to gain a deeper understanding dominated. This approach would not suppose one thing or another.

The main research questions were thus designed to discover the phenomena that candidates experienced creating multiple mode theses and to discover other academics' experiences with, and opinions of, multiple mode theses. It became a constructivist activity to make meaning of the nature of the research and where it sat within the many philosophical approaches one could take. To find the "structure and essence of this phenomenon for these people" (Quinn 1990, p. 69) I based my approach to the research on the principles of phenomenology. (See Appendix A for Understanding Phenomenology.)

To suppose that this or that situation existed may have limited the outcomes. This approach is supported by Michael Quinn's concept of "goal free analysis" in evaluation techniques. (Quinn 1990, p. 116) Also, my workplace experiences may have influenced the nature of the research were it not bracketed with a presuppositionless approach advocated by Edmund Husserl. The notions of Husserl's "presuppositionlessness" and "absoluteness" (Ströker 1998, p. 251) are essential ingredients of phenomenology.

Thus, the research project became a serendipitous inquiry with myself as researcher, exploring the experiences of Australian doctoral candidates and academics who had been involved with the process.

Method

Directors and Deans of Graduate Studies contacted academics who contacted candidates who were free to contact me so all the research participants randomly self-selected. By following this process, I was aware that people contacted me for a variety of reasons; either they were interested in the topic, believed they could benefit the research by including their experiences or had a story to tell. One female participant travelled one and a half hours on a motorbike to meet me.

I conducted informal conversations with eighteen doctoral candidates, transcribed these conversations and am in the process of analyzing and summarizing them. This unstructured approach permitted participants to raise issues of prime importance, an approach which structured interviews may have suppressed.

Interviews with fifteen academics who had created, supervised or examined multiple mode theses were slightly more structured and their experiences are collated and summarised separately. The thesis also includes case studies of three candidates from a Teaching Doctorate designed to include a compulsory multimedia component.

Analysis

Michael Quin, Robyn Barnacle and Monne Wihlborg provide useful models for analysing phenomenological research data.

Quin discusses that phenomenological analysis incorporates the generally accepted phases of bracketing, analysis and comparison "to identify the essences of the phenomenon" (Quinn 1990, p. 70). As he considers a phenomenological philosophy differs from conducting a phenomenological study it is important to identify ways of conducting analysis synchronous with "what people experience and how it is that they experience what they experience" (Quinn 1990, p. 71).

Barnacle points out in her paper Reflection on Lived Experience in Educational Research that phenomenology is concerned with "qualities, values and impressions" rather than the analysis of such. (Barnacle 2004) Therefore as a research method "pure" phenomenology does not ask why or how or when

but presents the experience as it occurred namely, is existential.

In keeping with concepts of Wihlborg (2005) the outcomes of this phenomenographic study into a "unique socio-cultural experience" (Wihlborg 2005, p. 1) the results will be "described as categories of descriptions of [abstract] conceptions" and involve "a 'common organization of the content or the conceptions grouped in the category" (Svensson & Theman 1983 cited in Wihlborg 2005).

This study draws upon Robert Yin's useful case study analysis model below.

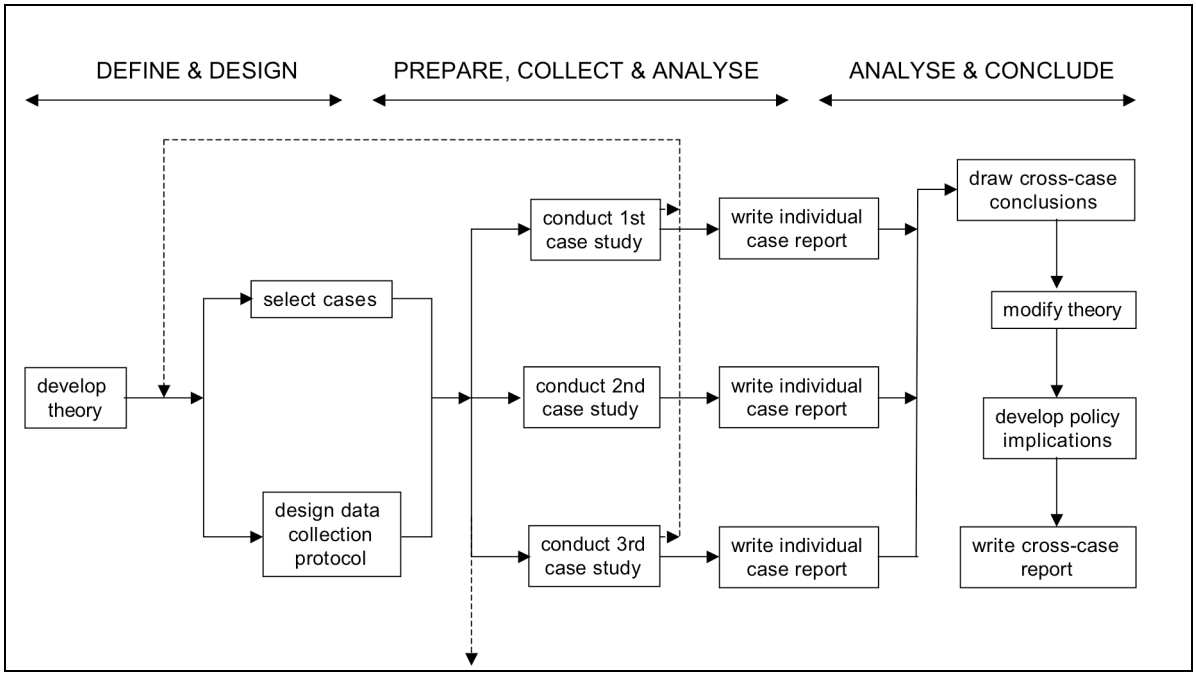

Figure 5: Model of Case Study Method reproduced (Yin 2002, p. 50).

Presentation

I discovered authors on 'experience' such as Max van Manen (1990), Caroline Ellis (1997, 2000) and those who supported new ways of representing lived experience such as Robyn Barnacle (2001, 2004), Laurel Richardson (1994, 2002), Laura Brearley (2000, 2001, 2002, 2004) and Yvonne Lincoln (1997).

In her article That rare feeling; re-presenting research through poetic transcription, Corrine Glesne confirms that during the analysis of her subject's life she was drawn into reflecting on her own life portraits. (Glesne 1997, p. 18) Miles Richardson in his paper Poetics in the Field and on the Page considers "Poetry, as a special language, is particularly suited for those special, strange, even mysterious moments when bits and pieces suddenly coalesce" (Richardson 1998, p. 541).

This thesis' presentation style is primarily traditional, reflective and creative and represents the experiential voice via metaphor, media to capture sensation and essence and verse relating to universal social phenomena. Presentation includes "descriptive" and "interpretive" (van Manen 1990, p. 26) elements such as sound files, rhyming poetry and free verse, to permit a more accurate representation of experiences in keeping with phenomenological philosophy.

This verse is an example of how I related a candidate's experience to a universal phenomenon. He was told he could submit his multiple mode thesis but that the university would not be responsible if anything 'went wrong'. (See Appendix B for "Yes" but "No" From the Committee.)

> Whether the text is a drama or whether it is a disavowal of the single, career-making monograph in favor of multiple texts aiming to engage multiple audiences, seeking to persuade multiple readers/players, we are all seeking forms and frames which convey our narratives with immediacy and with recognition. (Ellis 1997, cited in Tierney and Lincoln 1997, pp. 115-139.)

Multiple text forms make reading more interesting, insightful and presents the authors' genuine researcher, personal and interpretive voices. Hearing voice ascribes personal emphasis unable to be felt through text and helps the researcher represent data as close to the source as possible—engaging the reader/hearer in a more intimate association with the research participant.

Phenomena articulated metaphorically

Metaphorical groups emerged during transcription of participants' conversations. Coffey & Atkinson consider that the metaphor is "revealing in terms of cultural and conventional usage" and helps to "identify cultural domains ... of a given culture or subculture; they express specific values, collective identities, shared knowledge, and common vocabularies" (Coffey & Atkinson 1996, p. 86). Below are the metaphorical categories and examples participants used during our conversations.

Journey

- Am I on the right track? (Student)
- It's about the journey. (Student)
- ... on an introspective journey ... (Student)

Boundary

- There are boundaries and everything has to fit within. (Supervisor)
- Trying to shoehorn work into another discipline. (Student)
- I would like to think, a number of the students, both recently graduated and currently completing doctoral work, are really pushing some edges of both epistemologies, methodologies and presentation format. (Austin 2005)

Activity

- She was really hacking apart what I was doing in the construction. (Student)
- Work on thesis collapsed and fizzled. (Student)

Objects

- Everything seems to have been driven by the cash register. (Student)
- My thesis didn't fit into any neat boxes. (Student)

Concepts

- Understand the lens through which they view the world. (Student)
- Ways of using text and using visual mediums to bring the words off the page. (Student)

Sensation

- I thought of the dissertation as a dead white man's genre. (Student)
- This kind of discourse kind of like rubs you up in a way like you go back to the static ... I get dried up ... need to stir up all the gathering dust. (Student)

Physical being and emotion

- There's a taboo about feeling in academia. (Student)
- I felt like I was in the dock. (Student)
- We're often in the presence of the profound yet we're often more concerned about whether the baby is clean. (Supervisor)

These rich metaphors give insight into the nature of candidates and academics' experiences, their philosophical and emotional connection with phenomena in a challenging and unique research environment.

Qualities, values and impressions

The following diagram is from Laura Brearley's presentation The Nature of the Post Graduate Research Experience, (Brearley 2005). Brearley has categorized phenomena which demonstrate the breadth and range of post graduate research experiences.

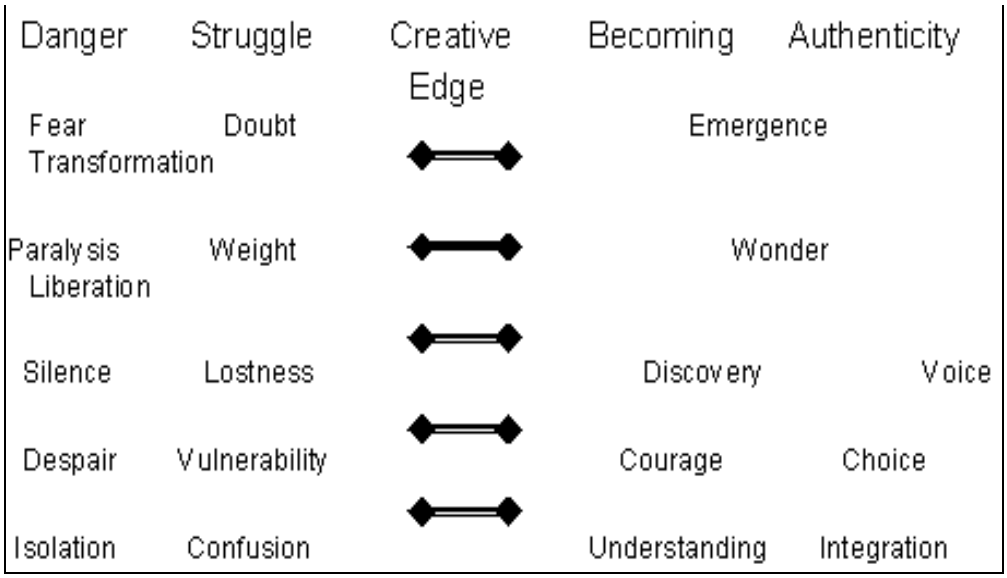

Figure 6: Dialectics of the Research experience (Brearley 2005)

To cut a research adventure quite short; the table below represents a preliminary summary of my findings. Comparison between Fig. 6 and Fig. 7 suggests the different phenomena experienced between doctoral candidates generally and those who create multiple mode theses. Participants unknowingly constructed the categories of experiences on the left. Some of these experiences may be common to all candidates, but the answer to my

research question lies within understanding the experiences of creators of multiple mode theses. The connecting phenomena, on the right, represent research outcomes.

EXPERIENCES:	PHENOMENA:
Researcher's practice	Survival
Gathering ideas	Inspiration
Research design	Conceiving the unique
Project implementation	Endeavour
Supervision	Synchrony or asynchrony
Methodology	Truth seeking
Conform or perish?	Fear and risk-taking
Knowledge creation	Discovery
Research at the effervescent edge	Exploration, boundary pushing, keeping equilibrium, unknown, euphoria, balance, being sick with worry, seeking validation
Impact on health & self	Self-preservation
IT Support	Ineptitude & frustration
Examination	Being scrutinised
Advice to Examiner re navigation	Dilemma, risk, trust in unknown
Problems and solutions	Threat of failure, going beyond usual
Transition – other use of objects	Enterprise or exhaustion
Considering the future	Vision

Figure 7: Experiences and related phenomena.

Skimming the effervescent edge of research experiences

Content and analysis of experiences will be addressed in the complete thesis. The following categories of impressions formed by research participants give peripheral insight.

Isolation – benefits and drawbacks

The candidate who creates something exceptionally unique may find that isolation has the potential for both benefits and drawbacks in terms of identifying like-minded colleagues and supervisors. Adrian commented:

> Part of the effect of the isolation was I was able to do things that perhaps would never have been approved by anyone. I made so many revisions of this program and I think if I had a very clear question from the start I would never have developed it to the same extent that it was. And the result was that it was actually a much better program.
>
> I needed to talk to people who were relevant in the field and get some people who were interested because that was the real problem. On one hand, the sort of the freedom and isolation really helped me develop something

> that was much better than otherwise but on the other hand, without any sort of supervision from someone who was interested or even casual, like twice a year contact, it really suffered.

In recognising this problem, Eisner considers:

> …little or no tradition in the use of nonconventional forms of research exists in most universities and, as a result, there is often little faculty expertise that students can draw upon" (Eisner 1997, p. 8).

Fear and Risk Taking

On the advice of their supervisors, two candidates withdrew their non-text components prior to examination – a digital photographic essay and a digital multi-dimensional model – for fear of non-acceptance by examiners.

> "When you've got that crunch point of the examination it is just the most limiting factor in my opinion of all of this sort of work. Because someone knowledgeable in the content area may not have any connection whatsoever with the methodology or the presentations and to try and find - in what I would I like to call sometimes "the effervescent edge", where things are just bubbling and you can't see clearly what's in there - you know this effervescent edges stuff - you'll rarely find it, I think" (Austin 2004)

The issue of inclusion of content created by a second party, non-text objects or ideas is one which seems to be an issue, especially where supervisors make those contributions or where the content has artistic value. There are many occasions where others contribute to theses, such as those presented with a cast as performances or where non-text components or raw materials are manufactured professionally. One candidate instructed a graphic artist how to draw illustrations for an illustrated novel. The drawings were to enhance cognition not to be artistic. His experience is simulated in the following poem. (see Appendix C for Railroads.)

Boundary pushing

Monique spent a year trying to get a cross-disciplinary thesis proposal approved. After discussing her situation I felt bereft of hope and wrote the following.

Conundrum

In the name of unknown gods

Best intentioned plans sometimes go awry

Dreams of what could have been

Scatter to the four winds

Blown erratically

Obedient to the quirky impulses

Of ambiguous convention (Somerset, 2005)

Gemma conducted cross-disciplinary research, pushed methodology boundaries and presented in unconventional text format. For her the quandary about:

> …the whole notion of tradition is what's traditional and what's non-traditional and how do you change it? It's not going to happen without someone making a statement making a fence and pushing the boundaries.

Life affirmation

For her Educational Doctorate, Dr Jennifer Nayler created a folio work of five separate interrelated components entitled: Socially just pedagogies (Nayler 2004) now published in book form as: Pedagogies, storylines and story spaces (Nayler 2006).

This verse describes her personal shift towards feminist, post structural theorising. (See Appendix D for Towards Socially Just Pedagogies.) It became the instructive theoretical frame for her doctoral work and which

> …highlights the fact that we are constituted and constitute ourselves through language and discourses. It is our subjectivity our conscious and unconscious thoughts about the world and experiences which shape the discourses we take up and ones we won't. Certainly I realised that writing a book about socially just pedagogies and talking about it and exploring it was something life affirming—really worth doing (Nayler 2005).

Falling apart

Gemma's cross-disciplinary thesis was based on her experiences running a one-person business. She wanted to tell her autobiography "with me as researcher entering into the research". This need took her on an introspective journey where the structure and elements of the thesis took form. Her thesis is visually, conceptually and creatively different from traditional theses although it is purely text and image based. The exploration of how she was going to write it "was as indicative and as complex as the journey". Her topic unravelled by considering an indigenous work of art, taking parts of the artwork and creating metaphors and song lines for each chapter to form the thesis' structure.

> I wasn't doing it to get a PhD. I was doing it because I was profoundly curious in the phenomenon. And all of the bringing it down to the size of the head of a pin and going deeper wasn't good enough. I don't know if all the undermining and the tears I don't know how I stayed, I really do not know how I stayed strong enough to say I can't do it that way. I eventually said I couldn't do it that way (Gemma).

Ineptitude & frustration

<u>Unsuitable supervisor</u>

> Where I didn't have the discouragement of a supervisor; I didn't have the encouragement either. Because my supervisor just didn't … you know said, look, I don't know that stuff (Student).

In her paper *Is there Room for the Non-Traditional Theses in the Expanding*

Higher Education System? Linda Conrad notes regarding supervision the "issues of diversity in the content or methods of research . . . have only begun to be addressed" (Conrad 2003).

Unsuitable examiner

After receiving a "damming indictment" from one of the examiners, Adrian found out his thesis:

> …was sent to an examiner who really wasn't suitable as there was no statistics in my thesis at all. There was just no logical reason to send it to this person other than she was suggested.
>
> Despite this, Adrian was Awarded.

Eisner acknowledges this situation in that: "... new forms may require new criteria, and new criteria evolve through the efforts of those who can help interpret the meaning of the work" (Eisner 1997, p. 9).

Ann Bamford's advice to students who produce digital dissertations goes over and above the advice one would give to producers of analogue or text-only theses. She considers the more 'open and reflexive' the work, the more it lends itself to critical evaluation and that extra rigour needs to be applied in meeting the needs of epistemological validity whilst ensuring "that digital process encourages holistic data embedded with personal meaning and value" (Bamford 2005, p. 3).

IT Training

That IT training in Universities should be funded Mike, a Supervisor, agreed:

> Of course, of course, I believe that very, very strongly. Actually, there are broad signs and historical markers that give encouragement. But the overall answer to that question is there's not enough and it's not taken seriously. We still rely mainly on people's good will and personal skills and interests to actually carry these things.
>
> If you're looking at non-traditional ways of putting, presenting doctoral stuff for most people, that would involve some use of computer-based technologies. And there is a technical limitation. If you don't have the support staff or the technical people to say, listen, you know… not just you go to them and say, look, I want to do X, how do I do that? That you can usually get around. But it's having someone who knows the technical stuff that maybe is just over the horizon, the possibilities...(Austin 2005).
>
> Well, I had been working on this for a long time and I was so frustrated, because I was absolutely certain that it would work, the idea that I had that these scenes would animate, I was sure they would work - but I just did not have the expertise (Kinney 2005).

Brearley wrote: "Making meaning of research data in the form of poetic text blurs the boundaries between research findings and analysis. A poem has the potential to be both" (Brearley 2002, p. 4). It wasn't until I wrote about Lesley's experience that I realised how these boundaries could be blurred. (See Appendix E for IT Help.)

Conclusion

> The ordeal of candidature is a mad process in its assignment of a structural role to insecurity. It challenges the candidate's sense of worth, provoking a trauma of loss as one if its central knowledge-producing mechanisms, one which is often cruelly prolonged or repeated (Frow 1998, p. 318-319).

Regarding the role multiple mode theses play and will increasingly continue to play in research, I am going to end with a quote from the same author with which I commenced this presentation.

> We have choices over the directions in which research is heading both in terms of the topics we choose to explore and the ways in which we choose to explore them. To be constrained by narrow agendas because we are unaware of alternatives or afraid of retribution is unforgivable (Brew 2001a, p. 183).

It is the responsibility of academia to be able to, if not suggest alternatives through this unawareness, at least travel supportively with researchers on their multiple mode thesis creation journeys. To whom shall doctoral candidates look for mentoring in these types of alternatives if they themselves are the only pioneers?

I feel honor bound to the participants who contributed so much very rich data in their stories to this research to complete the thesis in a way that will both provide interesting reading and benefit research practices in ways deemed best by relevant authorities by the "institutional reformation" (Nowotny et al 2001, p. 182) to enable doctoral candidates in their journey on the effervescent edge successfully to reach the shore of completion.

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APPENDIX A

UNDERSTANDING PHENOMENOLOGY

Drifting in the middle of an ocean
Thoughts circling as seabirds searching prey
Meandering northwest, east, or south
Conceptions ebb and flow as ocean waves
Wrestling with the jostling of my craft
Pulling all the drifting ropes aboard
Alone but focussed on a misted light
Searching for a certain place
Where waves of thought tumble together
And break with rippled edges on the sand.

(Somerset, 2004)

APPENDIX B

"YES" BUT "NO" FROM THE COMMITTEE

We've considered your proposal

The committee decided
You can drive your modified car in our rally
Other people have won in modified cars

Yours is more modified than usual
So if you drive it and crash it
We didn't say you could drive it

The club doesn't like people crashing
In unusually modified cars
It makes us look silly

If you lose
We don't lose
But if you win
We win too

If you win
We'll drink champagne together
And my club will get the kudos and cash
For your success

That's it then – OK?

(Somerset 2004)

APPENDIX C

RAILROAD

I thought to build a railroad
Along a certain track
Yes all the way to Kingston
For going there and back

I asked the Supervisor
To guide the way it went
And he agreed to make sure
I kept it straight not bent

I could lay down gravel
My mate had some hard wood
So I built the foundation
And he helped where he could

We worked along together
Laboured nights and days
The super was approving
So I laid down the rails

The track was straight and worthy
As it traversed the land
It functioned just as promised
I'd done what tracks demand

When it was halfway finished
The Council asked to see
The effort of my labours
I hoped they'd all agree

They told me to be careful
As I didn't own the wood
But I could not remove it
The track would be no good!

I couldn't make the sleepers
And lay them in a row
I'd laid the firm foundation
Knew where the track would go

Can you leave a track undone
Because you have the fear
That someone will object
When the final stretch is near?

So I kept on with digging
And working through the night
The work was nearly finished
The end was just in sight

The Super came to visit
And said "a darn nice track ...
But

"... take out all the sleepers
and put them round the back"

I looked at him and quivered
My heart it skipped a beat
And tears rolled down my dirt-streaked face
And fell right at his feet

He said the wood was hybrid
And the Council would agree
They wanted its components
Completely owned by me

I still believe this railroad
Was the best I'd ever built
And left it just the way it was
The Super felt no guilt

But I believe in railroads
And paths throughout the land
I'll find a way to build one
How the Council now demands.

(Somerset 2005)

APPENDIX D

TOWARDS SOCIALLY JUST PEDAGOGIES

Entrenched in academia
And learning communities
Enthusiastically participating
In what needed to be done

Mentors discourse
About philosophies

Wonder why
Mine is not aligned
Traditionally

No match to the cohort
Who talk about their work
Assumptions abound
About the way
We are
And communicate

Write a dissertation
In consciousness
And recode to fit to
Traditions of academy?

Seems so antisocial
Concrete dissertations
Dead white man's genre
To me

Poststructural theorising
Change the way we think
Interrelate and teach
For educators to engage
And apply accessibly

Action to change the world

(Somerset 2005)

APPENDIX E

IT HELP

Her face and flustered request reveal distress
Today frustration replaces her rippling laugh and sunny greeting
I listen with quiet empathy as she leaks her dispirited heart

Her old car barely makes it to this campus
Temporal concerns impede her way
Absorption with her thesis magnifies them

Has she blurred her vision of its worth striving for excellence?

Technology is defeating her
It is the key link
She depends on help and is grateful

Why is living research so complex?

I watch her struggle in the milieu of a mediocre world
As she creates a new one

(Somerset, 2004)

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Making the learning leap: Research students crossing conceptual thresholds

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> Then, I think, em, the main feeling is intuitive way of feeling that I. It's very hard question because I think there are some very special moments or times that I feel that I had some breakthroughs. (International PhD student)

For all research but particularly that for PhD and beyond, there is (we hope) a moment (at least one moment) when the researcher makes a learning leap, when their work moves beyond the fact finding and questioning to the conceptual level work which problematises, questions fixed 'truths', and starts to enhance deep learning, understanding, making a contribution to knowledge at a conceptual level. There are many ways in which we might support students in crossing this threshold, making this leap, including research development programmes, supervision, feedback, and the use of peer groups among others.

This paper is underpinned by JHF Meyer *et al's* notions of conceptual thresholds and troublesome knowledge and builds on previous work (Wisker, Robinson, Trafford, Lilly, Warnes, 2004, Aiston, 2005, Kiley & Mullins 2005) on postgraduate student learning and the roles played by the supervisory dialogues and relationships, research development programme, peer group and friend support and, most importantly, the development of metalearning in the students themselves, all of which can be affected and enabled by those interactions. In reporting on this very early work on postgraduates, this paper focuses on research carried out with Research by Higher Degree (RHD) students and their supervisors into the crossing of the conceptual threshold, the development of conceptual level research, and considers supervisory dialogues and feedback conversation between postgraduates and supervisors both 'guardian' and individual supervisors, while ongoing research focuses further on structured interactions in specific workshop sessions.

Some of the questions underpinning the work are:

- Does the theory of threshold concepts, and the crossing of thresholds, describe and appreciate the kinds of learning leaps RHD students can/must make in their work for it to achieve doctoral level?
- If so, what might generic threshold concepts look like and how might we identify the crossing of generic PhD thresholds when articulated in student work and comments?
- Does the theory of threshold concepts describe and appreciate the kind of learning leaps students make in discipline-specific terms and, if so, how might this be articulated in their work and their comments?

- What elements of our work with RHD students can support and empower them to cross such thresholds and to work at the necessary conceptual level for doctoral achievement?
- What are the kinds of statements students make to indicate their awareness of working conceptually and what is the kind of work they produce which is proof of this level of thinking and working?

An introduction to threshold concepts and troublesome knowledge

The background to our work with RHD students lies in major research project in the UK 'Enhancing teaching and Learning Environments'(ETL) and in particular the work of Meyer, Land, Cousin (See Meyer and Land, 2003). The notion of a threshold concept was introduced into project discussions on learning outcomes as a way of differentiating between core learning outcomes that represent 'seeing things in a new or transformed way' and those that do not.

While discipline-based colleagues can usually identify clear key concepts, a threshold concept is seen as something distinct within what would typically be described as 'core concepts'.

Additionally, threshold concepts may represent, or lead to, what Perkins (1999) describes as 'troublesome knowledge'—knowledge that is conceptually difficult, counter-intuitive or even 'alien' (Meyer Land, In Press).

Meyer, Land, Cousin and others describe a threshold concept as like a portal opening up a new and previously inaccessible way of thinking about something. In this respect, it represents a transformed way of understanding, interpreting, or viewing something. Without this new way of seeing, the learner cannot progress. And once they have seen, appreciated the threshold concepts, these crucial interpretative insights about the way the subject sees the world, there may be a transformed internal view of subject matter, subject landscape, or even world view. This transformation may be sudden or protracted over a considerable period of time. The transition to understanding often proves troublesome because it is so new and challenging, and leads to a changed way of seeing the world, in terms of the subject's epistemology as well as, in some cases, the individual's more general perceptions.

> Such a transformed view or landscape may represent how people 'think' in a particular discipline, or how they perceive, apprehend, or experience particular phenomena within that discipline (or more generally)" (Meyer Land, In Press).

It might be argued, that such transformed understanding leads to a privileged or even a dominant view and therefore a contestable way of understanding something.

Threshold concepts, as distinct from core concepts are more than a building block. They lead to a qualitatively different view of the subject matter. They are likely to be transformative—once understood likely to lead to perceived shift in perception of the subject and can shift identity and personal subjectivity, a notion which parallels that of Mezirow's (1978) work on perspective transformation. They are probably irreversible, are integrative—exposing the previously hidden interrelatedness of something.

Some images and analogies

The work of Meyer, Land, Cousin et al proved attractive to those of us

researching the learning of RHD students and in particular their transitioning to conceptual level work rather than merely 'busy' work. In previous work on RHD students' development of metalearning (Flavell 1979, also see Wisker et al, 2004) the notion of a learning leap into conceptualised research work mapped well onto this work in threshold concepts. For us, further analogies developed to aid explication, those of border crossing, learning levels, and a cats cradle—a network of understanding built on the threshold concept(s) onto which we can/student can further build their research design, process and interpretation.

We began to identify, and so to work to explore: two kinds of threshold concepts:

- Discipline specific
- Generic postgraduate level

Our work enquires about the specific nature of the postgraduate threshold concepts and has to date indicated that students, supervisors, and examiners can identify use in subject-based and interdisciplinary research (which includes several such threshold concepts) and what could be called conceptual thresholds in terms of working at the *level* appropriate for postgraduate research. At postgraduate level this includes:

- problematising of accepted concepts
- conceptual framework development
- conceptual level work at the point of developing questions, design, data analysis, conclusions—so that conceptual conclusions will be produced

Based on our own experience and on early research which has involved data collection of dialogues and interviews which are taped, transcribed and scrutinised for evidence of conceptual level understanding, expression and awareness of changing of perceptions and enhancing conceptual level work, we should like to argue that there are some points in RHD development when it is possible to focus on developing and using strategies enabling conceptual threshold crossing at postgraduate level:

- development of appropriate research question
- conceptual framework identification sessions in workshops
- *viva* preparation sessions—supervisory questioning identifies conceptual development work and contribution to meaning.

Most frequently, the supervisor works with RHD students at several moments in different ways which can enable facilitation of threshold crossing-moments for postgraduates:

- identifying a research question
- theorising—interaction in a dialogue between and with the theories and own work in the theoretical perspectives chapter
- methodology and methods-engagement at conceptual level
- research design which actions the question
- data analysis which carries out a theorised exploration and investigation
- conceptual conclusions
- enabling, encouraging, empowering students to work conceptually so that the thinking, planning, research work its articulation are using the meta-

language of postgraduate level expression and the student is working at a conceptualised level.

It might well be useful to consider case studies of RHD students whose work is on the brink of crossing a conceptual threshold and ask:

What problems do these students present with in relation to conceptual levels of work and the crossing of conceptual thresholds?

What are the signs of these problems?

Is there anything we might do to help nudge students across the conceptual thresholds?

Let us consider an example of a student whose work has not yet crossed a postgraduate conceptual threshold and which actually also focuses on the work of her own students who are also currently a little stuck.

> Case Study 1
>
> Jane has been working for nearly two years on a piece of research looking at the professionalisation of radiography students. She is a practising radiographer. She has written extensively about definitions of professionalism, working her way through a large number of these in detail. She has given students a questionnaire about their awareness of professionalism in radiography and what it means for them and where in the curriculum they have been led towards it. She has acres of data from this and at every conversation or supervision meeting she says she feels she is losing her way-she has already written nearly the right number of words for a thesis. What seems not to be present so far though is how, and in what way, do radiographers construct the notion of what professionalism means to them in terms of the specific issues in their own practice i.e. a kind of negotiation between a training model and one with the exclusivity, rigour, and problem solving choice elements to be found in other medical areas where professionalism is fore grounded (e.g. medical doctors).

Our comments on questions she might consider:

- Is there any kind of paradox, contradiction, or tension felt in linking professionalism and all its elements with this particular role (as a radiographer)?
- Do these tensions exist for the profession itself and/or for the students?
- What are the connections between identity formation (in particular professional identity formation) and this entrance into a profession?
- How can we problematise activities within the curriculum and within radiography teachers' practices that can nudge the students towards an awareness and therefore the first step towards ownership and use of professionalism in their own practice?
- What signs or evidence e.g. phraseology, statements etc do they make, what do they do which shows us that they have a sense in practice of professionalism?
- What are the implications for radiographers and their curriculum

These are some questions she might consider in order to further conceptualise her own work, and at the same time encourage her students to conceptualise their own professional identity—which might help them to identify and own such a professional identity.

How do we enable and empower this student to work at a conceptual level when her own work is actually exploring the work of her own students at that level (undergraduate level threshold concepts for those students, postgraduate for her)?

- What strategies do we use?
- What do we say on her written work?
- What questions can we ask to prompt and what are the implications for the development of her research design now, or her analysis later?
- How can we help her develop the coherence of her thesis in terms of thematic elements, theorising, and developing links between the parts of the thesis?
- How can we help her to establish and problematise the notion of professionalism for this role/profession?
- Does conceptual level work run throughout the work to date? and if not has she merely been very busy without yet grasping the problem and the concepts involved?

More broadly what are the comments, activities, and strategies that can be used with students in terms of meta-learning and reflective conversations which might encourage conceptual level work?

Some strategies- Anglia Ruskin's International PhD research development programme

In a research development programme based at Anglia Ruskin University, the final stage focuses on students enhancing their conceptual level of work ready for the final submission and the viva, a significant part of a PhD in the UK and Europe. Once the had responded to questions in structured workshop activities designed to *focus* on the development of the conceptual framework of the research, conceptual level thinking interpretation of data, turning them into findings, and conclusions which go beyond the factual to include the conceptual, contributing to our understanding, to meaning students were prompted to reflect on their development and said:

> 'They were very er high level questions. Questions that I had to think beyond the content'

> 'Well I think differently. I became more critical.'

One describes a moment following the workshop prompts when their ideas, questions research design, findings and the meaning of their work suddenly fell into place:

> 'Well, actually, I wasn't talking about the thinking right, I was talking about- I think more about the - I have the word, it is [?]. To be more attuned to my task when I am coming here. So, I am kind of collecting from the basket all the skills that I need to the task. So, that is one thing. In the way of thinking again, I feel that I, I tell you, I give you an example. Yesterday night I was going with in the car, we went to X, we were invited to X and suddenly I

> heard, I saw the matrix that I want of the variables. I said, yes, give me the paper, I have everything, you know. Like from this side and this side, I have everything written and it can be also at home but if you are doing this brainstorming in this atmosphere, I think that this thing can happen especially in times like that and this is something in the thinking in terms of er, er joining variables and understanding like the, like the triangulation which was much more clearer to me this time and then I kind of said, ok triangulation this and this and this, you know, so er I don't know if that answers more about the thinking er process, ok.'

It is important for all of us to consider and identiy ways to enable and empower postgraduate students to work at a conceptual level, to cross conceptual thresholds both in terms of the key threshold concepts in their discipline or interdisciplinary area, and the conceptual threshold of postgraduate level study. To this end we would like to ask

- What strategies do or can you use to enable and empower your students to cross conceptual thresholds??
- How can you use the atmosphere/opportunities of the university, of peer groups, the broader academic community?
- How can you develop and use research development workshops, activities and materials?
- How can supervisory interactions encourage and guide students through dialogues and feedback?
- What other strategies and materials can be seen to contribute to encouraging and enabling students to cross conceptual thresholds and work at a conceptual level in their research and thesis?

One question underpinning the exploration of strategies which might be effective in enabling and empowering postgraduate students to cross conceptual thresholds is to what extent such effectiveness in crossing conceptual thresholds is to do with the student's perceptions, ontology, identity, changes in approaches or other factors. The comments from students noted above we have taken as evidence of their greater awareness of the conceptual level of their work, and the way in which this tracks itself through focus on clear questions, engagement with the theories in a dialogue with the literature, robust an d appropriate research design, conceptual level of interpretation of data turned into findings and conceptual conclusions, making a contribution to meaning above and beyond that to factual knowledge. However, the real evidence of such achievement will emerge in both the thesis and the viva .

What are the characteristics or elements of evidence which convince YOU (and examiners) that research students have crossed conceptual thresholds?

Finally- this is an earl exploration into the was in which postgraduate students can be seen to engage with own and work with both the threshold concepts of their discipline or across disciplines, and at a conceptualised level which indicate they have crossed the conceptual thresholds into truly postgraduate level work. At this point it would be useful to consider further research we, and others, might carry out and whether there is any research into conceptual thresholds with postgraduate students which you would like to carry out?

Conclusion

Most research into the conduct of the PhD and learning at RHD level has focused on research development programmes, supervisor support, and recently on meta-learning (Wisker et al, 2005). Research identifying threshold concepts and exploring evidence for and strategies to encourage the crossing of conceptual thresholds has confined itself largely to undergraduate study and specific subject areas. Our early work into the dual threshold crossing i.e. generic (postgraduate level research) and discipline or interdisciplinary specific at RHD level to date presents student achievement of such moments of transiting into a higher and conceptualised level of understanding and meaning i.e. a conceptual level in their work, and begins to identify both some of the strategies we might deploy to encourage and nurture such transition, and some of the indicators of such a transition in terms of the students' awareness of their research and work being at a more conceptual level. Further work on each aspect of this will be reported in September 2006 at the threshold concepts conference in Glasgow, UK, and beyond that.

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Symposia

Implications for current practice of innovative conceptions of research higher degree education

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Tai Peseta
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Margaret Kiley
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Abstract

This symposium of three linked papers and discussant response encourages participants to consider postgraduate research learning, assessment and supervision practices from a variety of perspectives. Running through the symposium was a concern with the related questions of firstly—what are the important outcomes that should result from a PhD, and secondly what are the processes that should be encouraged and established to effectively foster the development and assessment of these outcomes?

In several countries HDR supervision and learning is being scrutinized more closely than it has in the past. In part this flows from the new audit culture of quality in higher education. In part from the extended participation more students and staff in an era of widening participation in higher education and dramatically increasing enrolment in postgraduate study. However it also reflects a growing scholarly interest in researching the nature of research education.

In some universities this increased scrutiny has manifested in revision of assessment criteria and marking guidelines for PhDs, in some countries this has led to the development of new national policies describing the core outcomes of research higher degrees (for example the Roberts Report in the UK) and the allocation of new funding to support these outcomes (GradSkills initiatives UK and in many Australian universities) and in other settings new requirements have been put in place for the training of supervisors.

Three presentations were made and Professor Elaine Martin of Victoria University was the invited discussant. One paper is included (Kiley) and Barrie and Peseta invite readers to contact them.

Generic Attributes of Graduates of Higher Degrees by Research: Implications of new conceptual models for national frameworks and practice. Simon Barrie, The University of Sydney, Australia. Contact S.Barrie@itl.usyd.edu.au

Learning for Supervision: A program for accrediting supervisors of research higher degrees. Tai Peseta, The University of Sydney, Australia. Contact tpeseta@itl.usyd.edu.au

Reconsidering assessment criteria and assessment guidelines: Assessment for research learning—A Discussion Paper

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Abstract

In this paper, using on substantial contemporary research, I put forward an argument for a change to the current practices of assessing research theses in Australian universities.

Background

The examination of doctoral theses in Australia, while varying slightly from university to university, generally follows the outline below:

- Early in candidature students present a proposal seminar on which formative feedback is provided.[1] Supervisors and advisors also provide ongoing formative feedback on work as it develops and on the candidate's progress, and in most universities there is some form of mid-term or final-term presentation at which candidates receive feedback from supervisors and the wider department.
- The written thesis, usually a maximum of 100,000 words, is the single item of examination except for:
  - in the Performing Arts the performance and an exegesis provide the basis for examination,
  - in a Professional Doctorate coursework in the first year is assessed and then the thesis is assessed as per the PhD.
- The final written thesis is sent to two (and sometimes three) external examiners i.e. examiners external to the university with approximately 50% of all Australian theses sent overseas.
- The names of examiners are not disclosed to candidates, although candidates are usually involved in discussing a list of potential examiners.
- Each external examiner, without contact with co-examiners, prepares a written report (on average 3-4 pages) providing formative feedback to the candidate, supervisor and/or university. Each examiner also provides a recommendation to the university's higher degrees committee as to whether the thesis should be 'accepted as is', 'accepted with minor editorial changes', 'requires more substantial change and then be re-submitted for examination', or 'unacceptable'.
- The recommendations of the examiners are discussed by the university's relevant committees and the university makes the final decision as to the outcome of the examination process.
- Most universities allow for examiners to request an oral examination of the candidate (and in some cases the candidate can request this), however, this is not common practice.

[1] Note that in some universities the proposal seminar is used very much in a summative fashion with candidates being asked to exit the program if their proposal seminar in less than ideal.

- The time from submission of the thesis to final acceptance by the university varies from a median of 0.35 of a year to 0.39.[2]

It is argued that there are several benefits of the existing system, including:

- External validation of student work.
- Some level of objectivity with the examiners being unknown to the candidate.[3] However, given that supervisors select, and sometimes brief, examiners prior to the thesis being sent for examination, the level of objectivity may be more in appearance than in reality (Mullins & Kiley, 2002, Kiley & Mullins, 2004).
- The work of Bourke (2006) suggests that the current external reporting system produces reliable results regarding the quality of the thesis.
- Students receive written reports on their thesis, often of considerable value in terms of contributing to the refinement of the research.

In light of the above, one could reasonably question why we might want to consider a change? Several reasons will be put forward and include:

- The evolution of the doctorate in Australia
- The current use of Examiners' reports
- Benefits and otherwise of oral exams
- The increasing focus on generic skills at the postgraduate research level
- Influences on doctoral education.

The evolution of doctoral education in Australia

Taking an historical perspective to doctoral education it is easy to understand why it is that in Australia we adopted external assessment practices for doctoral theses. The first doctorate in Australia was offered at the University of Melbourne in 1946 and it is not surprising that the powers-that-be at the time considered it essential to have such a work examined externally (at that stage it was taken to mean overseas) as that is where many of the "experts" of the time were researching (Pearson, 2005). Also, given Australia's distance from the sources of such examiners, for many universities, the thought of bringing external examiners to engage in an oral examination was considered out of the question, hence the assessment process was seen to be one that relied on a written thesis and written examiners' reports[4]. Furthermore, with Australia's university system keen to demonstrate its quality, the implementation of a system which, on the surface, could be argued to be objective had a degree of appeal. Hence, it can be argued that the thesis examination system within Australia is not based on current educational practice, but rather historical circumstances.

Several issues have changed in Australia since 1946 including the concentration of a substantial number of highly qualified and skilled

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[2] Based on data for 400 candidates at four universities the mean time from sending the thesis for examination to confirmation of result (i.e., including both examiner time and committee decision time) was as follows: theses accepted as submitted = 0.35 of a year; theses requiring minor revision = 0.39 of a year; theses requiring major revision = 0.53 of a year; theses requiring revise and resubmit = 1.39 years. Of the 239 theses accepted, or with only minor change, the median is 0.33 years, but there were 17% of these that took more than 6 months. (Data courtesy of Professor Sid Bourke, University of Newcastle).

[3] It is of interest to note that in Australia we put considerable emphasis on possible conflict of interest between candidate and examiner whereas in Canada the concern re conflict of interest is between supervisor and examiner (Hall, 2006).

[4] Note that some Australian universities have had, and still offer, oral exams, but across the sector it is the exception rather than the rule

researchers within Australia, outstanding developments in international travel and communication technologies, and the development of a number of universities which can be considered as good as, if not better than, those to which we might have sent theses in the past.

These changes suggest that our assessment practices should also evolve to be more in line with contemporary education and curriculum in Australia.

Formative feedback provided by examiners

Research in Australia (Council of Deans and Directors of Graduate Studies in Australia, 2005; Holbrook, Bourke, Lovat, & Dally, 2004a, 2004b; Johnston, 1997; Margaret Kiley, 2004; Margaret Kiley & Mullins, 2004; Mullins & Kiley, 2002) over the past few years provides substantial evidence that one of the most significant, and yet generally unrecognised, outcomes of the current examination process for Australian theses is the formative aspects of the written comments provided by examiners.

In educational terms, the fact that this highly valuable feedback comes at the end of the doctoral process, when it is often too late to be meaningfully incorporated into the research, seems to be an enormous waste. However, this formative feedback by examiners would be very valuable toward the later stages of candidature if there were some more effective way of incorporating it (Kiley, 2003). This formative style of assessment should be thought of as separate from the summative "tick-a-box" that examiners are asked to do when they recommend to the university's higher degrees board as to any further work needed on the thesis. Hence, I am proposing below that a form of doctoral assessment be adopted in Australia that incorporates this formative assessment at an appropriate stage of candidature.

Oral exams

The debate in Australia on the oral examination of theses, their style and their value, is a vigorous one. In a keynote address to the *Quality in Postgraduate Research* conference in 2004 Doug McEachern (University of Western Australia) suggested that in Australia we should:

> 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 (p. 47).

McEachern proceeded to outline a number of recommendations, including the use of the supervisory panel as the core of the examination team with an external member or members added at an appropriate time and the introduction of a face-to-face defence[5] of the thesis.

Given the history of *Orals* in Australia it is not surprising that there has been considerable difficulty in introducing this form of examination, even where there has been strong support from senior management. Most Australian universities offer examiners the option of requesting an oral examination "when they have issues" with the thesis (whatever these might be). Of course this is not how it is written, but this is how research candidates see the use of *Orals* in Australia. Even at universities where candidates can elect to have either a *traditional* examination or an *Oral*, the choice of an oral examination

[5] The term 'defence' is inappropriate in the context that is being proposed in this paper.

by students is rare, it seems because candidates consider that it implies they think the thesis "has problems".

Despite the reputation of *Orals* among students there are many arguments put forward to support their educational value and administrative expediency. As Green (Green, 2005) suggests of the UK form of *viva voce*: 'Many oral examinations seem (to examiners and candidates alike) to become effectively opportunities to fine-tune the written work of the candidate in order that it reaches a notional standard that is acceptable for scrutiny by peers in the relevant intellectual community' (p. 21). Furthermore, with an oral assessment candidates and examiners are able to engage in discussion on the topic of the research in a way that is not possible with a written report. There are three obvious benefits from this:

- The assessor is more able, through the discussion, to assess the candidate's development as a researcher as well as the product of their research, than through reading the written thesis only.
- The student can gain considerably from such a discussion in terms of other insights into the topic, and their development as a researcher.
- The examiners can assure themselves that this is indeed the work of the student.

An interesting issue to keep in mind is that when mentioning an *Oral* to staff in many Australian universities they are likely to understand this to be the sort of examination/defence/*viva* that they experienced as a doctoral candidate in, for example, the USA, New Zealand, UK, or Europe. Furthermore, simply applying, say a "USA model of examination" at the end of an Australian doctorate would be to overlook the substantial assessment activity which candidates have undertaken during their doctoral candidature even prior to submitting their research proposal (Nerad & Heggelund, 2005). Hence, I am proposing below that we introduce an Australian *Oral* that reflects our approach to doctoral education.

Generic skills

Most Australian universities have had a recent focus on the identification and development of transferable/generic skills at the doctoral level (also referred to as employability skills, graduate outcomes etc) (see for example Crotty, 2004; see for example Margaret Kiley, McCormack, Maher, & Cripps, 2004; Manathunga, 2004). Some universities have even appointed staff to develop and propose an implementation plan for research candidate generic skills.

Work by Barrie (2004) and Barrie *et al* (In Press) suggests that there are four hierarchical levels of generic skills. The first are *Precursor* abilities, that is the skills that the candidate brings to her/his candidature. These are skills learnt in an earlier context, not necessarily an academic one, and applied to the "new" context of undertaking a research degree. The second level skills have been termed *Complementary* and are skills and attributes which are not specifically related to the discipline area of the research, but which complement the work, for example learning to use a bibliographic tool or a data analysis software package. These second level skills are often taught in "stand-alone" courses. The third level Barrie terms *Translation* level attributes or skills and are skills which are differentiated by the discipline itself and are developed within the discipline(s) within which the candidate is researching. An example of a translation skill would be the understanding and use of discipline-specific writing conventions. These are the skills that that are closely connected to other aspects of the candidate's research practice. Fourth level generic attributes are termed *Enabling* and can be describe as the skills

and attributes that are learned by being immersed within the disciplinary context itself. In the case of research candidates an example is the "becoming" or "being" a successful doctoral graduate (a Doctor).

Clearly trying to assess these skills using any single form of assessment would be to ignore the different types and level of attribute. Furthermore, because these skill levels are hierarchical it is not necessary to assess the lower level skills if there is evidence of successful engagement and development at the higher third, and particularly fourth levels. For example, publication in peer reviewed journals during candidature is used, particularly in the Science and Engineering areas, as an indicator of the successful development of certain skills, However, as Kiley (Margaret Kiley, In Press) suggests, most Australian universities, where generic attributes/skills have been defined, currently assess the achievement of these skills through the:

- examiners' comments on the written thesis
- assumption that if a candidate actually submits they have demonstrated a number of organisational skills
- self-assessment of skills developed or refined during candidature, and
- successful employment of graduates.

One of the arguments advanced for an oral assessment (of some type) is that it offers additional opportunities for candidates to demonstrate some of the higher level skills and knowledge that they have developed or refined during candidature which seems to be in line with the increased focus on student learning during their degree. As Chubb (2000) proposed:

> A PhD thesis is in fact a means by which we describe the outcome of a period of learning and is both a reflection of that learning and the underpinning skills. It demonstrates the intellectual depth that was reached and the originality. (p. 19)

Influences on Doctoral education

With the increased focus on research training in Australia and the Research Training Scheme there has come an increased focus on the purpose of the doctorate. In some arenas, England being a good example, the focus has swung substantially to the purpose of the doctorate being to train researchers. This movement away from the traditional "original contribution to knowledge" has come at a time when in Australia the idea of completing a substantial body of work is challenged by the time limitations of the Australian Government Research Training Scheme (RTS).

Research by Mullins and Kiley (2002) indicates that experienced examiners vary, to a small extent, as to whether they consider that they are examining the thesis as a "polished and cohesive piece of writing that provides an original contribution to knowledge" or whether they are judging if the candidate has demonstrated that she/he is "capable of undertaking research". Examiners in the Humanities tended toward the former and those in the Sciences and Engineering tended to the latter.

Assuming that in Australia the belief is that the doctorate is both an original contribution to knowledge and research training, then it is probably timely that we modify our expectations and means of assessment. Again as Chubb (2000) stated:

> The issue of what constitutes a PhD or other higher degree by research is something that perhaps should be discussed system-wide. No university could shift from present expectations on its own—given that our staff examine each other's students—without potentially disadvantaging our students. If something were to be done, if expectations about the quantum of work were to be modified, it would need to be done by most of our universities. Now, I am not suggesting that the requirement for originality, intellectual rigour and so on would change, or that the body of work should be other than substantial—and obviously I am not proposing to change the requirement for external examination of PhD theses. I am talking about how much a student needs to do to prepare them for their role as the next generation of researcher. I suspect that close examination could reveal that the expectations are now too high. (p. 19)

The proposal outlined in this paper for a new approach to assessing doctorates in Australia allows us to take into account this reconceptualised doctorate.

Interestingly, while there is some argument over the aims of the Australian doctorate, as outlined above, many countries have moved from that dualist stance to recognise the complexity of doctoral education.

Firstly, the nature of research itself has changed. We are operating in an increasingly globalised environment. Some of the newly emerging areas of research require large, often multi-national, teams of researchers, others are dependent on multi-disciplinary teams, all requiring highly developed team-work and communication skills by the researchers.

Secondly, and also associated with the globalised environment, we have the increased mobility of researchers and research students and the provision of relevant programs e.g. the Bologna Declaration and the European Commission's move to establish research and technology areas (Kehm, 2005), and the Nordic agreement for a multi-country approach to research training (Nordic Academy for Advanced Study, 2005). However, it is worth noting that Frijdal (2005) argues strongly that:

> It is striking that the Bologna Declaration stipulates three years for the doctoral programme. This must be the result of sheer ignorance. In reality doctoral studies, like in the US, take much longer in Europe…it is not realistic to believe that a doctorate can be done in less than four years, indeed it is remarkable to observe that those national studies that *do* exist clearly showed that completion rates were very low and time-to-degree were very long. (p. 4)

Thirdly, there is the increasing expectation of a highly qualified workforce in the knowledge society. For example, the Japanese Council on University Reform recommended that graduate schools should train people who have highly professional knowledge and skills as well as future researchers who will work in academia (Yamamoto, 2005), and Enders (2005) argued that:

> In our modern societies, training of the highly qualified for research is not just supposed to fit the given demands of the labor market and its jobs. Research training is supposed to push towards innovation via some 'over-

> qualification' as well. There is, for example, certainly some under-investment in existing companies in R&D that needs to be developed. But more importantly, there is a demand gap from companies that do not yet exist. (p. 120)

Using Germany as his source of data, Enders continues:

> PhD graduates have a significant career advantage [outside higher education] in comparison with their graduate peers from the same discipline without a PhD. Furthermore, the PhD provides an entrance ticket especially for elite positions—consider, for example, that 50% of the members of the board of the 200 biggest German companies have a PhD. (2005, p. 122)

Fourthly, the Australian government's time limit and introduction of the RTS:

> 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. (McEachern, 2004 p. 46)

This "professionalism" is reflected in various initiatives by Australian universities and/or the government e.g. the introduction of structured programs for research candidates, and of Professional Doctorates in the 1990s; and the focus on "generic skills", commercialisation and training programs in the early 2000s.

These developments all point to a need to reconsider the doctoral curriculum, including its assessment.

Administrative Issues

I acknowledge that there are a number of issues with regard to the administration of the current examination process that could be addressed, e.g.:

- The number of administrative processes through which the thesis must progress e.g. actual submission, forwarding to examiners, examiners back through the administrative section, reports then to the examiners' committee and finally a decision which is conveyed to the candidate.
- The levels of follow-up of examiners who are slow in providing their reports.
- The decision-making processes involved in taking examiners' recommendations and making a final decision on the outcome of the examination process.
- The very low payment amounts for examiners e.g. approximately $150 after tax, suggests that examination is undertaken as a "professional duty". It would be interesting to see whether turn-around times improved significantly if examiners were paid a more realistic sum for their work or at least whether universities were able to be more "demanding" regarding meeting timelines.

In some universities no doubt various efficiencies can be made to reduce the time from submission of the thesis to approval by the university. However,

this is not the focus of this paper, but rather it is outlining an educationally defensible and sustainable approach to the assessment of the doctorate in Australia.

Proposed alternative for the assessment of the Australian Doctorate

During 2006 an Options Paper is being prepared, taking into account the issues raised above. However, to make a start on a model and to generate discussion. The following questions should need to be considered when discussing the model:

- Should there be one or two external examiners?
- What is the most appropriate time to introduce the external assessor(s) to the panel?
- Should the *Oral* be based on a "near completion" or on a "final" document?
- What would be a reasonable time frame for the assessors to have to read the thesis prior to the *Oral* e.g. in Canada it is four weeks?
- Should we consider postponing the *Oral* if comments from assessors, after having read the written thesis, indicate that the thesis is not ready for assessment?
- How *public* or *private* should the oral assessment be?
- Should the 'public' seminar outlined in Stage 4 be, in fact, part of the oral assessment?
- How would differences of opinion between the assessors be managed e.g. would the views of the external assessor(s) hold greater weight than those of the internals?
- With the review process, should it be review of the process only, or involve moderation of the quality of theses?
- Should payment for external assessors more closely reflect the value of the work or continue to be based on professional duty?
- Should we maintain the "ungraded" system or introduce some form of relative grading of Australian doctoral theses?
- What might be appropriate grievance/arbitration processes?

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Supervising international research students: How do you see it?

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Abstract

Recent marketing of research degree programs in English has resulted in significant increases in enrolment of full-fee-paying international postgraduate research students in English-speaking institutions. In this commercial context, supervising research students from multiple language backgrounds and academic cultures raises a variety of issues for supervisors and students, not least of which relate to commencing students, backgrounds in the relevant methodological and technical skills, and the English language competency which they desire and are deemed to need for success. Shared expectations of intercultural supervision require that multilingual scholars are provided with access to appropriate intellectual and linguistic capital in English, yet, equally observably, fulfilling these expectations reifies a globally dominant academic order that reproduces itself by marginalizing alternatives. Individual supervisors with a wide variety of world-views and disciplinary assumptions are situated at the heart of these tensions, producing supervisory practices which are marked by their diverse mores and values. This 90-minute symposium, presented by members of the Research Education Programs Unit at the University of Adelaide, will engage with this diversity of practice in an interactive forum designed to generate self-reflection for participants as well as presenters.

Kate Cadman will briefly situate the issues in recent work by Appadurai and others challenging the epistemological assumptions of research degree programs in English. These challenges will be explored in relation to students, desires and investments in their research education in English.

Margaret Cargill will present snapshots from an in-progress survey of recently published articles written by researchers with English as an additional language, which highlight a range of current practices in regard to adherence to 'standard' conventions of English usage. The relationship of this range to supervision practices will be interrogated.

Christina Eira will focus participants, discussion on a set of axes representing the epistemological and language dilemmas previously presented. Participants will be asked to reflect on their own preferences in relation to their disciplinary goals and to current institutional constraints. The aim will be to open to scrutiny both pragmatic and ethical aspects of practice in supervising international research students.

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Publication skill development: Inter-disciplinary approaches for transferable research education outcomes

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Abstract

A 90-minute symposium was run that aimed to engage participants in analysing the effectiveness and transferability of three approaches to publication skill development, and the relationship between successful outcomes and contextual factors. Each team presented their workshop under a set of common headings, which had been identified from the literature as likely to contribute usefully to the analysis process.

The following sections report on each of the three presentations, giving the presentation headings and key points, and highlighting significant issues raised by the presenters.

Co-authorship: Workshops for staff and students

by Claire Aitchison and Ros Martins

Higher degree research students are required to show mastery of an ever increasing range of academic genres demanding higher levels of writing skills. Not only do students have to produce assessable texts such as thesis proposals and the thesis itself, they are also expected to produce progress reports for the university and industry partners, conference papers and articles for publication during the term of their candidature. And further, most recently under the subtle (or not so subtle) funding pressures, students can also feel pressured to take up collaborative writing ventures with peers and/supervisors and/other academics. In short, the time frame and task frame for 'becoming an academic' is more pressured with more demands for multiple writing outputs.

As writing specialists in a Learning Skills Unit we sought to assist students struggling with the complex task of co-authoring. The challenges for these research students revolved around issues of personal prioritising and time management (i.e. time spent on thesis writing vs time spent on co-authoring), managing the difficult and new task of writing with another/others, and managing the associated interpersonal aspects of the collaboration.

We found too that academic colleagues were also interested in the ideas and issues around collaborative writing, that they too were struggling to respond to the pressure to publish simultaneously carrying ever increased workloads and responsibilities in the university.

In our presentation today we hope to give brief introduction to these workshops and to provide an opportunity for discussing the transferability of

such resourcing of staff and students.

Institutional Location

These workshops are a relatively new initiative offered by the Learning Skills Unit at the University of Western Sydney. To date we have offered 3 iterations of this workshop:

1. For HDR students as part of a bigger workshop program offered by the Office of Research Services.
2. Part of a 3- day research training program offered by two Research Centres from Business.
3. An in house staff development workshop for academics of the Learning Skills Unit.

All workshops had participants who were both students and academics.

Workshop Profile

These were 'not-for-credit workshops. Most had two presenters and most have been up to 3 hours. Plans are underway to extend this. Most participants attended voluntarily but some were recommended to come by supervisors.

Disciplinary affiliation/expertise

Presenters are from the Learning Skills Unit – the approach has a language focus informed by research from Applied Linguistics, ESL/EAP, and educational pedagogies (especially around learning, writing and group work).

Key pedagogic features

- Draw on participant experiences—e.g. comparison of solo-authorship and co-authorship
- Foreground current research into disciplinary writing and publication practices (e.g. McGrail, Rickard, Jones, 2006)

Participants were provided with information about co-authorship, disciplinary variations in practice and publication rates. Because workshops included participants from many disciplinary backgrounds and with wide ranging experiences of co-authoring, a key pedagogic feature was to provide opportunities for free discussion and exchange of information. Hence group work was used extensively. The exploration of metaphor also freed up discussion and sharing of experiences.

Content

Content included a review of the literature, strategies for auditing the project and the collaboration with attention given to affective as well as linguistic and time management aspects. The special focus on writing allows opportunities for discussion on issues of 'voice', ways of learning through writing and on text negotiation including the question of authorship and naming rights.

Evaluation outcomes

Participants completed qualitative evaluations, which were overwhelmingly positive. Interestingly, in all workshops those participants with the greater experience of co-authoring were the most enthusiastic about the workshops. It has also been common for participants to report positively about the diversity of peers in the workshops.

Transferability of learning

Issues raised in these workshops are relevant in other contexts. Skills and

understandings can be taken to collaborative work with industry partners and incorporated into teaching and other professional aspects of academic life.

Applicability to other contexts

The skills acquired can be applicable

- for assessing research projects more broadly (e.g. auditing the value, feasibility of the proposal)
- for facilitating successful group work tasks in the classroom and beyond
- for facilitating writing and organizational skills for use by supervisors

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Getting published in English: a workshop for psychology research students and staff in a Canary Islands university

By Sally Burgess and Margaret Cargill

Abstract

This paper reports on the introduction into a Spanish university of the collaborative, genre-based pedagogy for developing publication skills that was presented at this conference in 2004 by the second author. The project was sponsored by the presenters' universities and Research Project P12002/026 (European Research and Development Fund-Autonomous Government of the Canary Islands). In this paper we report on two workshops given at ULL. The first was taught by Margaret, with an English native-speaker psychologist as an expert informant and Sally and her team as teaching assistants. The second workshop was run by the same team minus Margaret, effectively testing the effectiveness of the train-the-trainer approach we had used

Presenters' disciplinary affiliations and expertise

Workshop 1

Presenter: Applied Linguist, course designer, extensive experience in other contexts, no knowledge of Spanish.
Teaching assistants: Applied Linguists, research project team members, bilingual Spanish-English, familiar with context, some familiarity with discipline, new to course materials and procedures.
Expert informant: Psychology research student, ex-EFL teacher, bilingual Spanish-English, familiar with participants, discipline and context, new to course materials and procedures.

Workshop 2

Presenters: Participated in Workshop 1 as teaching assistants and had prepared adapted course materials. Teaching assistants: Participated in Workshop 1 as teaching assistants. Expert informant: Participated in Workshop 1 as expert informant

Workshop profile

Feature	Workshop 1	Workshop 2
Duration	4 d	4d + 1 writing day
Presenters	1 + 8 teaching assistants	6 + 2 teaching assistants
Participants	22	15

Key pedagogic features

Materials

- Powerpoint slides on IMRaD structure, elements of the research article, sentence templates, editing, submission procedures and on-going skill development
- Sample research articles for analysis drawn from larger corpus submitted by course participants

Methods

- Input sessions
- In-class text analysis and writing tasks (individual and pairwork)
- Group work (specific research areas): speaking tasks on results section facilitated by teaching assistants and presenter(s)
- Homework writing tasks

Key qualitative and quantitative outcomes: psychologists

Workshop 1

- High levels of satisfaction with all aspects of workshop (materials, methodology, presenter)
- Expressed need for more work on sentences and paragraphs
- 1.71 mean increase in writing confidence; 2.03 mean increase in publishing confidence from Stara of workshop, 7-pt Likert scale

Workshop 2

- High levels of satisfaction with all aspects of workshop (materials, methodology, presenters)
- Expressed desire for more time between sessions of workshop
- 2.25 mean increase in writing confidence; 2.00 mean increase in publishing confidence

Key qualitative and quantitative outcomes: applied linguists

Workshop 1

- Pre-workshop: majority uncertain of their role and insecure about their ability to participate effectively; expert informant uncertain of appropriacy
- Post-workshop: understood roles and felt they could participate effectively; all regarded materials and methods as appropriate

Workshop 2

- Pre-workshop: some anxiety about ability to adapt materials e.g. by increasing amount of sentence and paragraph level work; some anxiety about acting as presenters
- Post-workshop: high levels of satisfaction with outcomes
- 3.75 mean increase in presenting confidence

Transferability of learning

- Successful second workshop run by Applied Linguists
- Psychologists report efforts to apply what was learnt in workshops to preparation and submission of papers

Applicability of the workshop in other contexts

- Adapted version of workshop now taught in two doctoral progammes at ULL, Medicine and Philology
- Version of workshop to be included in new Psychology masters programme

Developing a publishing culture: a 3-workshop series for staff of an Australian state government agricultural research institute

By Margaret Cargill

Abstract

This paper discusses the adaptation of the approach presented in the previous paper to the needs of novice authors and their supervisors working in SARDI (South Australian Research and Development Institute). The impetus came from previous collaborative work conducted under University of Adelaide co-location arrangements. I was employed as a consultant (SciWriting: Communicating science effectively in English), and the program was set up through SARDI's HR branch in consultation with senior management. Costs were borne by individuals or work units.

Workshop profile

- 3 x half day workshops, attendances 16, 15, 12
- 1 presenter, pre-workshop collaboration with SARDI Director on needs analysis and content, model documents provided
- Participants self-selected in response to advertisement including details of content (no pre-requisites)
- Assessment of participant satisfaction through anonymous questionnaire (presenter initiated)

Presenter affiliation/expertise

- Research education developer (uni) / science communication consultant (private)
- Applied linguistics ('very applied') / academic literacies
- Extensive experience of team-teaching with scientist authors
- Personal research interest: optimising effectiveness of intersecting expertise sets for publication skill development

Key pedagogic features

- Content: SARDI Scientific Writing Development Program
  - Foundations of Effective Scientific Writing
  - Meeting Referee Expectations
  - Developing Skills as a Referee
- Method:
  - Based on (collaborative interpretation of) genre analysis results
  - Gatekeeper requirements (referee criteria) as parallel focus
  - Descriptive, not prescriptive approach
  - Task based wherever possible
  - Language development addressed in parallel with content

Evaluation outcomes

- Increased confidence noted by all participants
- Results strongly endorse these elements of the course design and targeting:
  - Equal emphasis on article structure and grammar/discourse issues
  - Checklists re referee requirements/sections of article
  - Coversheet to aid focus on different levels of review (format, content, discourse, sentence)
- Pedagogy goes beyond 'recipe' approach
  - enables course to have real energy and momentum
  - frequently noted in open-ended participant responses

Transferability / Applicability

- Location in a research workplace enables valuable insights into skills needed there and ways to develop them
- Useful washback stimulus when planning with academics in university context
- Supervisors reluctant to let students away from 'the bench' recognise value of publication skill development
- This publication skill approach enables inclusion of many generic skill components 'under the radar'
- Focus on refereeing enables inclusion of skills for supervisors to work with their students' writing
- The project can perhaps be described as 'effective professional development by subterfuge'.

New questions for research writing

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Abstract

This symposium responds to current and emergent policy pressures in research education with a specific focus on their implications for writing. The ever-tighter folding in of research training into research assessment exercises, and consequent pressures to diversify funding sources for doctoral education programs, will inevitably intensify in the near future. The changing contexts for research education require new internal and external relationships and new kinds of products as outcomes of doctoral training.

The written text, in whatever form or modality, remains the major '(ac)countable' output of doctoral training, despite growing efforts to describe and assess 'graduate attributes' that might in principle be separate from a 'text'. This places increasing pressure at the point of text production and exchange within the spaces of candidature. Writing in these circumstances becomes problematic, construed as a site of deficit or disruption to the smooth flow of punctual and effective completion of the doctorate and contribution to research productivity within the institution. Rarely is there an effective conceptual link between the current understandings of the centrality of text to knowledge production and student learning and the pragmatic problems of policy imperatives in the name of efficiency and capacity-building. In response, the authors of this symposium are increasingly called upon to investigate, theorise and resource discussion and to facilitate the provision of research writing development within our respective universities.

So what are the new questions for research writing? First, we need to consider the new and different kinds of products that are the outcomes of current and new forms of doctoral research candidature. Here we refer to portfolios, creative arts works, projects, the use of new media, etc. Second there are important new questions of 'audience' or what we might term the 'reception regimes' (Hodge and Kress 1988) for doctoral products. These include examination, funding entailments and pressures for public communicability. Third are the pedagogical responsibilities and opportunities for re-working writing and learning relationships.

Four papers take up key elements of these problematics:

Paper One

Claire Aitchison & Alison Lee's paper, titled *Writing for doctoral education: questions of theory and pedagogy,* maps the current and emergent research on research writing, focusing on the need to build institutional capacities to address broad pedagogical questions of writing in doctoral programs and beyond.

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Paper Two

Sally Knowles and Barbara Grant's paper, titled *Disturbing transparency and mystery in supervisory practices of feedback*, is concerned with the pedagogy of supervision as transacted through drafting and critique of text between student and supervisors.

Supervisors give feedback on students' writing within a web of asymmetrical power relations intersected by disciplinary norms and institutional expectations. This paper draws attention to two distinct elements found in the practices of giving students feedback on their written work: 'transparency' and 'mystery'. In the former, supervisors provide feedback according to explicit and specified criteria in a context where research-writing practices and supervision are positioned as rational and orderly, and knowledge has a specific disciplinary form. In the latter, supervisors give feedback according to implicit criteria, in a context where research-writing practices and supervision are recognised to be personal and idiosyncratic, and knowledge is seen to be tacit and open-ended. Both practices are problematic: while one oversimplifies the politics of knowledge-production, the other risks masking them.

To trace the effects of the elements of mystery and transparency, Sally presents interview data obtained from seven supervisors and their doctoral students from middle to end stages of candidature in the Social Sciences, Humanities and Education in an Australian university. She traces the contradictions embedded in the operations of mystery that offer an ambiguous terrain for students as they grapple with the demands of developing intellectual capacities in a context of apparently autonomous learning. She also considers how students attempt to disrupt the tyranny of 'transparency' which constructs the pedagogies of supervision as stable and explicit and promises the security of personal control. Barbara contributes a reflection in the form of a coda based on her ongoing experience as Sally's distance supervisor. In closing, we speculate on the possibility of refiguring these contradictory elements.

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Paper Three

Bronwyn James' paper, titled *The construction of the subject in the process and practice of research writing,* explores the idea of the research student as a complex subject engaged in the risky and dynamic process of text production and considers the implications such a view might have for writing pedagogy.

It begins with an argument for a connection between discourses of the 'entrepreneurial' university (Gallagher, 2000) as played out through a current focus on outcomes (eg graduate attributes) and text focused pedagogy surrounding academic writing at postgraduate research level. It makes a case for this connection with reference to:

1. a close reading of samples of graduate attribute statements and reference to Foucault, Gallagher (2000), Luke (2003) and others.
2. a discussion of the ways in which the written text as object has been fetishised within much current academic writing pedagogy even though this pedagogy is socio linguistically oriented.

The paper takes up Gore's (1993) argument that pedagogy is an attempt to form and reform the subject to whom and of whom it speaks and use this to develop the argument in 1(above) further by suggesting that a focus on outcomes alone or the text-as-product in academic writing pedagogy occludes a key aspect of the text production and hence of pedagogy- i.e. the complexity of becoming a subject who writes within the university at doctoral level. This argument is supported with reference to:

1. samples of research students' written drafts and redrafts from Education, Cultural Studies, Visual Arts, Commerce and what students say about those drafts. The argument is that what the student is negotiating through these drafts 'exceeds' containment in a text- as- product pedagogy. This data points to a connection between writing and subjectivity in a way that cannot be captured by a focus on text alone.
2. Butler, Grosz and others who offer a way of theorising the subject that is not incommensurate with a view of language as social practice. These views of subjectivity challenge the notion of fixed identity categories and seamlessly constituted and homogenised subjects implied or at least remaining unchallenged by a focus on outcomes driven pedagogy.

Conclusions: becoming a doctoral writer in the university involves more than knowing about the linguistic choices that are 'grammatical' within a particular discipline. Writing is a key moment in pedagogy but imagining the student writer as a seamlessly constituted subject, backgrounded and fixed in time and space by particular linguistic choices constitutes a significant absence from the discourses surrounding doctoral writing pedagogy.

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Paper four

Barbara Kamler's paper, titled *Rethinking PhD Publication practices: Pedagogies for writing from and beyond the thesis*, focuses on the problematic of poor publication records from doctoral graduates within social sciences, pointing to the need to address questions of writing within a broad reconceptualisation of doctoral pedagogy.

The focus is the problematic of poor publication records from doctoral graduates in the social sciences and the need to address questions of writing and publication within a broad reconceptualisation of doctoral pedagogy. Most

doctoral students are left to their own devices to sort out how to publish out of their doctorate research (Dinham & Scott, 2001; Engestrom, 1999) with poor results. Individual supervisors vary in the support they give to writing for publication during and after the doctorate. There are also different disciplinary traditions around the importance of writing for publication and these shape the output of students. Such questions have greater urgency given the new RQF environment, debates about impact and students publishing their work.

Kamler's framework for thinking about doctoral writing and publication as a social practice borrows from the fields of critical discourse analysis and New Literacy Studies. In particular, Norman Fairclough's (1992) three dimensional model of discourse is useful for conceptualising the tensions and demands faced by doctoral writers and their supervisors. It is a powerful heuristic for representing both the effects of broader social contexts on writing and the way writing itself is a form of social interaction, embedded in institutions and social structures

The paper briefly explicates the model of viewing any instance of writing as text, discourse practice, social practice and argues that when we think of how to support PhD publication it is crucial that we don't get caught in narrow skills-based instrumental models that reduce publication to a matter of RQF advice, tips and tricks to improve publication output and metrics (eg recent *Educational Researcher 34(8) 2005*) and ignore the complexity of the identity work, pedagogical work and political work which is at risk in doctoral text production and publication – and which is made tangible by Fairclough's model of discourse.

In the new regime of RQF, it is more important than ever to develop ethical pedagogical practices that support the production of dissertation publications and the doctoral scholar- the two are enmeshed and not to be separated. So pedagogy is critical - developing practices that foster an institutional approach to research writing that supports emerging scholars in a more explicit, strategic and generous ways than currently happens

Kamler draws on her research and teaching (and that of her colleagues) to frame the problems as 3 propositions:

> Proposition 1: Developing a pedagogy of co-authorship with supervisors as way to learn the ropes of academic publishing
>
> Proposition 2: Engaging in strategic thinking about the shape/structure of the doctorate so it is 'publishable'
>
> Proposition 3: Building institutional writing cultures that support PhD writing and publication.

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The impact of globalisation on researching research education

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Abstract

Research, and particularly research education and training, is arguably changing in many ways, not least being the impact of globalisation and the development of the internet which allows researchers to work with colleagues across the globe with almost as much ease and speed as with local colleagues. Such developments challenge the nature of research and the ways in which we in Australia approach research and research education and training, and the way in which we now operate within this emergent environment. Furthermore, it provides challenges for those who are undertaking research into research education.

This symposium examined the issues of researching research education and training across all disciplines, and combinations of disciplines. It built on current research with a view to exploring the implications of globalisation on research educations and undertaking research in this area. Abstract of the papers that were presented are provided below.

What are the issues in researching research education in a global environment?

By Margot Pearson

Two recent special journal issues on doctoral education (Studies in Continuing Education Vol 26(3), 2004; Higher Education Research and Development Vol24 (2), 2005) chart many of the changes in higher education and the research environment impacting on doctoral education in Australia and elsewhere. They contain calls for rethinking and reframing some of our current approaches to research on research training, policy and practice. Research on doctoral education in a global context requires taking a comparative and critical approach that recognises the complexity of this context and its challenges. Using the term global or globalisation uncritically as a descriptor,

in addition to, or in lieu of, international is meaningless. In a global environment the appropriate unit of analysis will not always be the nation state and its interactions with other states. Instead issues of significance in researching doctoral education will include recognising the significance of:

- context (socio- cultural/political)
- difference in cross-cultural settings
- that the legitimation of knowledge is a socio-cultural process leading to a plurality of belief systems, and
- the involvement of multi-level, multi-actors and agents (individual and agencies).

This in turn requires the deployment of multiple research methods, quantitative and qualitative; multi-level analysis that combines macro and micro level data; and the integration of research on theory, policy and practice.

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Feasibility of international comparisons of PhD program times-to-degree (TTD) and completion rates

By Fred Hall, Barbara Evans and Maresi Nerad

The full text of this paper by Hall, Evans and Nerad is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

Can one usefully compare doctoral times-to-completion and completion rates for institutions in different countries, or are there too many confounders in the national contexts of the universities for such a comparison to be useful? Based on an attempt to compare three institutions, we find that issues of definitions and data availability are the major stumbling blocks. National and institutional contexts also complicate matters. Because of these complications, comparisons are difficult to make, but it might be possible to account for those confounding issues to gain some insights from such comparisons.

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Globalisation and the doctoral research candidate experience

By Jim Cumming

Following the case study by Hall, Evans and Nerad, Sally Skinner (Council of Australian Postgraduate Associations) presented a paper prepared by Jim Cumming. The paper asked how do doctoral candidates operate in an increasingly globalised research environment? What skills do they need to come with or develop to be successful in this environment? How might this

affect the research they undertake and the research environment within which they operate?

The paper provided an example of how one doctoral candidate's blog (see http://doctoralpractices.blogspot.com/) illustrated aspects associated with the conduct of research in a global environment.

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So what does this mean in practice?

By Terry Evans

The burgeoning research in doctoral education in the 'developed' world is an encouraging sign for practitioners and policymakers. The potential exists for research-led change and development to doctoral education, with particular nation's practitioners and policymakers learning from each other. However, as the presenters in the symposium demonstrated, when one tries to make comparisons between national contexts especially between data derived from those contexts, the complexities and diversities of life emerge! These should not dissuade us from conducting comparative research, or from conversing with, and learning from, each other about doctoral practice and policy. However, it does show that we need to do so critically, and not blindly, and with due respect for the different historical, social and cultural conditions that apply. In many respects scholarly communities have always been global in the sense that ideas and knowledge have flowed more or less freely between scholars located around the world. Nowadays, the time-space compression, to which social theorists such as Anthony Giddens, have referred, often means that our exchange of ideas may occur almost instantly. We prepare our doctoral students to conduct and share their research in such a world and to derive their own benefits from their participation. For these and other reasons related to the globalisation (and localisation, as Ulrich Beck rightly insists) of social and economic life, doctoral education practitioners and policymakers may benefit by research and scholarship on doctoral education undertaken internationally within what might be called 'critical comparative' frameworks.

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University risk management and Higher Degree Research

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Abstract

This symposium draws on current work on an ARC funded Discovery Project on risk management of doctoral education in Australia to explore whether and how a more 'risk-conscious' higher education policy environment is impacting on the management of higher degree research. It foregrounds tensions that are generated when systemic demands meet intellectual demands. The team of three academics from different types of universities lead a discussion on how these tensions are played out in terms of local translations of policy and supervisory practice. The discussion also engages with recent media allegations that relate to doctoral practice in Australia, to consider what is at stake when higher degree research training becomes 'scandalous'.

Panel includes: Professor Erica McWilliam (Queensland University of Technology), Professor Alan Lawson (University of Queensland), Professor Peter Taylor (Queensland University of Technology - ex-Bond) and Professor Terry Evans (Deakin University)

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Reconceptualising the doctoral experience in Australia: A symposium on work-in-progress of an ARC Linkage Grant Project

Margot Pearson (Convenor) and Jim Cumming
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Terry Evans, Peter Macauley and Kevin Ryland
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Abstract

The symposium comprised a sequence of presentations, and discussion arising from preliminary data and analysis of an online survey of doctoral students across Australia during 2005. The survey is part of an ARC linkage project 2003-2006 entitled: Working students: reconceptualizing the doctoral experience. The industry partners are the Council of Australian Postgraduate Associations (CAPA), the Deakin University Student Association (DUSA), and the (ANU) Post Graduate And Research Students' Association (PARSA). The presentations were given by the project team comprising the Chief Investigators Terry Evans, Peter Macauley (Deakin), Margot Pearson (ANU) and the two APA(I) scholars Jim Cumming (ANU), and Kevin Ryland (Deakin) whose PhD research is central to the project. A response to the project team's presentations was given by Jason Hart (President CAPA.

The symposium provided an opportunity to present some of the data and progress on the project to date, and to give an indication of the breadth of the issues and the research. The presentations drew on the same data set but explored different perspectives using the most pertinent data.

The presentations were as follows:

1. Flexibility and diversity—what has changed? Margot Pearson
2. International candidates snapshot—Terry Evans
3. The life of candidates inside and outside of study—Kevin Ryland
4. Some key dimensions of the doctoral experience—Kevin Ryland/Margot Pearson for Jim Cumming
5. Some influences on the publishing output of doctoral candidates—Pete Macauley
6. IP/CAPA response—Jason Hart (President, CAPA)

Background to the project

Doctoral education is traditionally conceptualised in policies and practices as about young, full-time students with no work or related commitments. However, nowadays, doctoral candidates constitute a diverse population working in various institutional, community and industry sites. It is this current diversity and changing environment that the project seeks to explore to develop detailed information about the contemporary doctoral experience focusing on the interrelationship and significance of doctoral candidates' workforce participation, work training and career development. The outcomes of this research are expected to inform policy at all levels, enable the development of new tools for data collection and analysis to inform such policy making and implementation, and contribute to scholarship on doctoral education.

National Online Survey, 2005

Planning and development associated with the conduct of the national online survey was extensive. Following approval by Ethics Committees at ANU and Deakin Universities, survey trial and pilot exercises were conducted at these two institutions. With the support of the Deans and Directors of Graduate Schools (DDoGS) and the Council of Australian Postgraduate Associations (CAPA), the final version of the survey was administered over a six-week period in July-August 2005. In the last week in June, the 41-item questionnaire was uploaded to the CAPA website and invitations were extended to candidates enrolled in Australian universities to participate in this survey.

The response rate to the survey was just below 15 per cent. Anonymity was assured during the data-collection process and any findings which could possibly infer the identification of any individual participant will not be published. Access to the original data is confined to the researchers and Chief Investigators. Following a preliminary analysis of the descriptive data and some minor adjustments, the data set comprising 5,395 responses was finalised in December 2005. Data on the respondent population with national comparisons are provided in tables below.

Table 1 Field of study

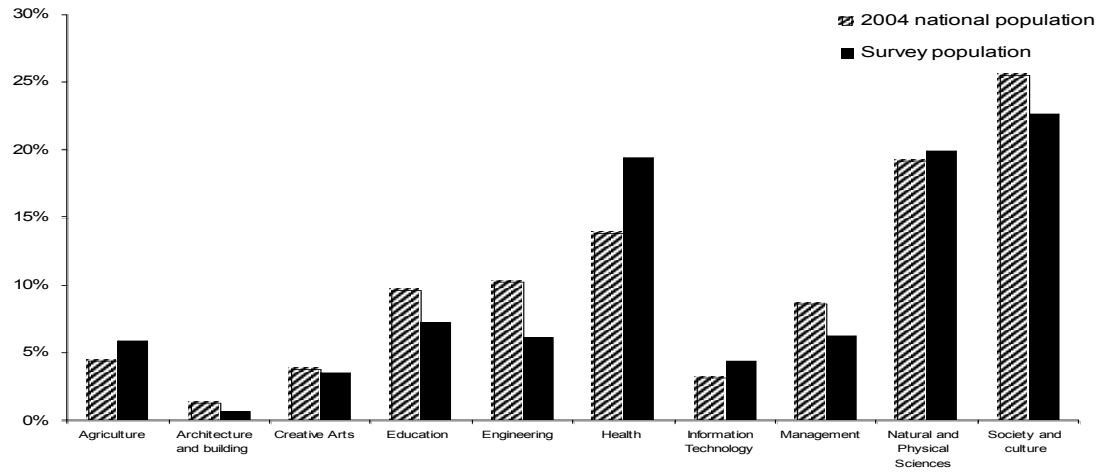

Table 2 Age

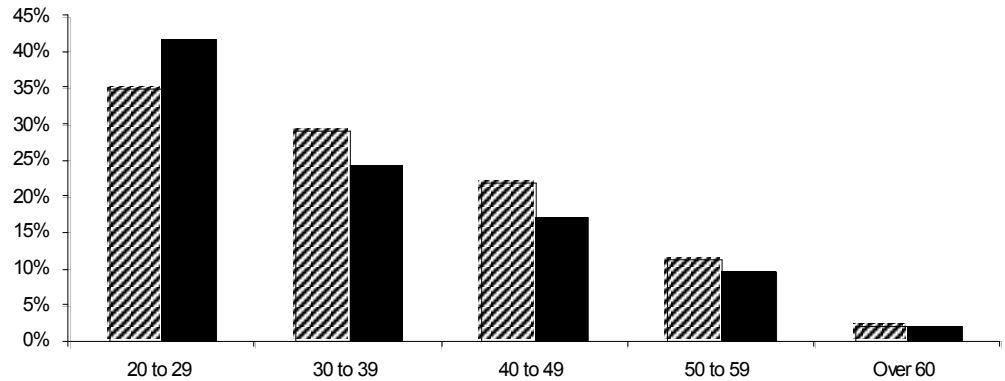

Table 3 Sex

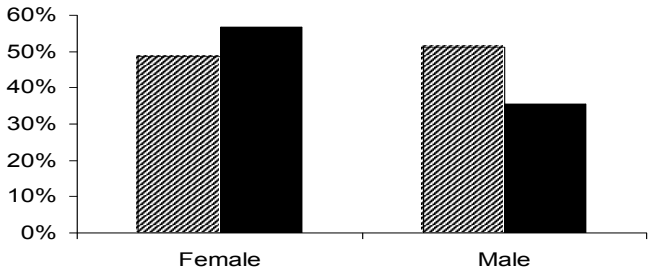

Table 4 Type of enrolment

	Full-time	Part-time	Mixed	Not entered	Total
Survey totals	3732	1414	186	63	5395
Survey percentage	69%	26%	3%	1%	100%
National totals	23540	15991			39531
National percentage	60%	40%			100%

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The role of Honours in Higher Degrees by Research

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Introduction

There is a range of models, justifications and outcomes within current approaches to Honours programs in Australian universities. Further, it is not clear what the relation of these programs is to students' interest in research and their capacity and desire to progress to a higher degree by research. Criteria against which Honours projects are to be evaluated are variable across the system. The variations in purpose and requirements both within and between universities raise issues about the nature and purpose of honours degrees. This symposium will address some of these issues.

An investigation of the nature and contribution of Honours programs in Australia

By Kylie Shaw and Allyson Holbrook

The full text of this paper by Shaw and Holbrook is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times- Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

There is growing interest world-wide in the nature of Honours programs including those that serve the transition from undergraduate to postgraduate research courses. This is at a time when there is also intense interest in the effectiveness of research training, timely research candidate completion, and in the contribution of research students to university research status. In Australia prior to the 1980s Honours programs were primarily intended to provide the link between undergraduate and postgraduate research work, but this situation changed and Honours programs evolved into a variety of forms to meet new needs. With this diversity we have lost sight of whether or not Honours research projects prove effective in attracting future postgraduate research students and in preparing them for research. In this paper the authors report research that suggests that for PhD students who have completed their thesis, having an Honours qualification does not predict examination outcome, but another highly relevant question is whether or not preparation through Honours increases the likelihood of research degree

completion. The first section of the paper provides an overview of the literature on research about Honours degrees, the second section presents data on doctoral outcomes for those who obtained Honours, and the third illustrates the type of information currently being collected to explore to what extent honours students are prepared for the expectations associated with, and the intensity of, a research higher degree.

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The place of Honours research and supervision in student research and academic careers

By Janice Orrell

Honours research and supervision is important in the careers of students and academic staff alike. For students it may be their first opportunity to investigate an issue in depth over a sustained period of time. For new academics it may be their first experience of supervising and, therefore, regarded as an apprenticeship for undertaking more demanding higher degree supervision. The tacit assumption that honours work is an effective overture for higher degree research and supervision careers is largely untested.

The focus on quality assurance for Honours education and research supervision is remarkably sparse. Research interest in Honours programmes constitutes a black hole between undergraduate and postgraduate education. It is absent from most academic development programmes, quality audit reports barely mention it and both students and academics alike express uncertainty about the purpose of honours education.

Despite a seeming invisibility of place and ambiguity of purpose, new professions-based disciplines continue to introduce Honours programmes. Furthermore, anecdotal evidence suggest that undergraduate employers prefer honours to ordinary degrees because of the opportunities provided to develop greater independence of thought and responsibility for their own learning.

So that all stakeholders have a shared meaning, the purpose and scope of honours programmes needs reassessing. This conceptual paper proposes a framework for examining current assumptions and practices in regard to honours in the lives of students and their teacher/supervisors and for public debate on the contemporary place for honours programmes and practices.

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Honours Programs for the new research agenda in Australian Universities

By Margaret Kiley, Thea Moyes and Peter Clayton

In Australia the results of Honours have generally been used as the main entry requirement into a research degree and as a means for ranking for research scholarships. Despite the critical role of Honours, particularly with regard to postgraduate research, there is little in the way of research about Honours.

To address this issue the researchers undertook a small pilot study across five Australian universities in two different disciplines, with the aim of identifying the extent to which staff and students in different disciplines and different universities held varying views about the purpose of the Honours. Honours coordinators and students in the sample universities were interviewed and the web sites, handbooks and calendars of the five universities examined.

The results indicate that indeed the aims of an Honours program and the reasons for enrolling in Honours do vary. However, more significantly there have been identifiable changes in the structure and nature of Honours programs over recent years that may not support some of the traditionally held views of Honours, particularly as a selection mechanism of enrolment in, and scholarship ranking for, higher degree by research. Student circumstances have also changed.

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What prompts Honours students to go on to postgraduate research?

By Gerry Mullins

In a survey of 355 Honours students in 2004, students were asked whether, at that stage, they intended to go on to postgraduate research: 36% did intend to proceed; 44% were not sure; and 20% did not intend to proceed. Students indicated that the timely provision of comprehensive information about postgraduate research, scholarships and career opportunities, and encouragement from supervisors and other academics and from postgraduate students would result in a significant increase in the number of Honours students proceeding to postgraduate research. This was the case even for 50% of the students who had no intention of proceeding to postgraduate research.

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The e-Grad School: opening up research education online (Australia)

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e-Grad School

Abstract

The e-Grad School (eGSA) is in the process of building a virtual graduate school to commence operating in Australia and internationally at the beginning of 2007. Focussing on the development of career enhancing skills and knowledge, it brings together a wide range of online accessible activities and resources targeted at the needs of postgraduate students and research education related staff, whatever their home university or location.

Its structure and what is on offer through eGSA stem from a long-standing collaboration between the five universities that form the Australian Technology Network: (Curtin University of Technology, Queensland University of Technology, RMIT University, University of South Australia and University of Technology Sydney). In 1999 research educators in the ATN universities joined to develop a model that links research and e-learning, supported and resourced by these partners working in close collaboration to develop online resources relevant to the research education experience of their cohort of postgraduate students. The productivity of collaborations is often difficult to sustain but the ATN partners have countered this trend, producing a range of online resources that now form the basis for eGSA. One measure of this success is that eGSA is funded by the Australian Government's Department of Education, Science and Training through its Collaboration and Structural Reform Fund. Another more local measure is that the ATN has been consistent in its support of the collaboration at every step since 1999.

What eGSA offers

eGSA provides a workable framework for assembling a suite of virtual graduate services that users can select from and use online. This element of personal choice is viewed as an important aspect of student empowerment vis-à-vis their learning and career outcomes. The resources have been in use across the ATN network universities and are included in eGSA because they have been shown to work for the students and staff who use them. Resources cover generic capabilities; career preparation; tertiary teaching for postgraduate research students; research culture enrichment through an international colloquium; information retrieval skills, and research methodology. Other activities address the issues of supervisor development

and accreditation. Jointly badged award courses commence in 2007: the Graduate Certificate of Research Commercialisation (GCRC) and the Master of Research Management (MRM). (See www.egradschool.edu.au)

Even at this stage it has become obvious that topics initially developed to target the research student cohort (such as employability skills) are attracting interest from other university audiences looking for the skills and development potential they offer. The award courses—the GCRC and MRM—demonstrate this widening of user audience. Research students, early career researchers, and research managers are all showing interest in acquiring the skills and accreditation that these courses offer. The Australian Government's recently introduced Commercialisation Training Scheme has been timely, too, adding impetus to the demand for these courses.

Broadening the research education experience: Universities and their students

Undeniably the last decade has seen substantial changes in the model of research education that universities apply to the development and training of their postgraduate research students. Government priorities and policies such as the Research Training Scheme have undoubtedly constituted a powerful force in shaping this change, particularly when it comes to universities' responsibility for their graduates' future employment. Viewed in some quarters as a constraining force in terms of PhD quality, the Research Training Scheme has assisted in focussing attention on the conceptual underpinnings of the PhD in the contemporary world.

eGSA's roots go back to the early response that the ATN universities made to the need to include explicit attention to generic capabilities in the research candidature period. By pooling their resources in 1999 and using the newly emerging online learning environment, the universities were able to assemble a high quality set of modules on generic capabilities. The modules in the Learning Employment Aptitudes Program (LEAP) cover entrepreneurship, research commercialisation, leadership and communication, project management, and public policy and have been available to all research students in the five universities.

Interest in the ATN LEAP collaboration led to a DEST commissioned study involving a national survey of generic capabilities universities were offering and an examination of the program itself (Borthwick and Wissler, 2003). Outcomes of this survey, the most recent available, indicated that only eight of the 34 responding universities were using online approaches at that time, with five of those being the ATN universities. Only two other universities were engaged in collaborations on generic capabilities programs at that time.

Results of the DEST study were presented at a symposium at the 2004 Quality in Postgraduate Conference. Symposium participants divided into interest groups to make recommendations about generic capabilities, collaboration, and the use of online approaches. (Wissler, Haseman, Borthwick, and Zander, 2004) The recommendation for collaborative projects was for DEST to invest in supporting these, "possibly through the Collaboration and Structural Reform Fund". This has come about in the inaugural 2005 round, when eGSA was awarded funding from this source.

Another interest group concentrated on the use of online approaches. The particular opportunity highlighted here was for external and part time postgraduate research students who lack flexibility in time and place access to research education services. Based on the five years that ATN LEAP now has been operating, the online environment benefits many other categories of students who also seek similar flexibility. What has also emerged is the

desirability of the online setting for second language users who find their voice in the interactions there.

Arguably, the longterm and active collaboration that has produced eGSA has positioned it to provide universities everywhere with access to a battery of resources and activities to improve further the quality of what they make available to postgraduate students. The creation of a wide range of high quality resources for the sole use of its own postgraduate student population is out of reach for some universities. When the online dimension with its high development costs is added, the creation of a range of such materials becomes quite impossible for the majority of universities operating individually, unless quality is sacrificed or development limited to only a few items. As such, eGSA augments what the home university offers and further increases the range and value of what is available to research students everywhere.

Broadening the research experience: Supporting students

Ultimately, eGSA is about supporting students to get the most possible personal and professional benefit from their research education experience. As described, the resources support their research now by contributing significant new perspectives on the current project and by adding an element of scaffolding to the research process. The resources also look to the long term, emphasising future careers and employment.

Its online delivery opens up possibilities for involvement that would not otherwise be possible for research students constrained by time, place, or other commitments. The online model also encourages networking and the establishment of communities of scholars, Australia-wide and internationally.

These matters are of obvious direct benefit to research students and challenge the existing notion of the Australian PhD. Additionally, eGSA content is directed to key persons in the research experience. There are resources for supervisor development, for research managers and administrators, and for researchers working outside the university environment.

Conclusion

Diverse strategies are called for when universities and their students look to respond to the range of opportunities emerging from changes to what have been the traditional expectations of research education outcomes. eGSA represents one strategy and carries with it the resources and activities to further improve the research environment in Australia and internationally.

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Abstracts

Both student and employee PhD studies in Sweden

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Abstract

Key words: Postgraduate training, employment, revitalizing

Postgraduate training in Sweden has undergone major changes in the last decades and is increasingly regulated in national legislation. In order to be admitted an applicant must be guaranteed financial support for the entire four-year period of study. The department thus employs the PhD student, who earns an average salary. The purpose of this is to ensure that PhD students have a good social and economic standard of living, which is expected to improve PhD-completion rate. This means that graduate students are both employees and students. Can this double-roll help to revitalize the academy, or does it merely create problems? In our presentation we share our experiences of this system and discuss its consequences for the PhD student, the university and for research and academic development.

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Being a researcher

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Abstract

For PhD candidates, a key part of their doctoral experience involves coming to think of themselves as a researcher, and developing a sense of what being a researcher means. In this article, I report on a recent study that I have conducted exploring what it means to be a university researcher.

Based on semi-structured interviews with a varied sample of 28 researchers—including PhD candidates and academic staff—from a research-intensive university in Australia, the following variation in views of the nature of being a university researcher emerged:

1. Being a researcher as fulfilling external or 'job' requirements;

'I think the basic aim is to keep my job. OK? I won't keep my job if I don't get external funding.'

2. Being a researcher as creating a sense of personal achievement;

'I must admit that my ego is tied up at the moment very much in trying to get a book contract. If I get a book, I will feel a sense of achievement about that.'

3. Being a researcher as extending one's personal understanding of an issue/area;

'I just try to understand what is happening...I am just curious, I just want to know.'

4. Being a researcher as providing an impetus for change to benefit the larger field or society.

'Being able to practise your discipline in a way that will change the paradigms or parameters of the way your discipline is practiced—the world view.'

I will expand on each of these views in turn.

1. Where individuals experience research in terms of fulfilling a set of external requirements or expectations, their focus is on research as a technical process of identifying and solving a problem using a set of specific research procedures or skills. With respect to publication of research, there is again an external focus on the benefits which may arise from publication, such as establishing academic credibility, meeting job requirements, and increasing one's chances of receiving external funding.

2. Where individuals experience research primarily in terms of opportunities for personal achievement, their focus is on discovering something new in the disciplinary area that would lead to becoming well-known (or even famous) in one's field. Publication of research is again undertaken for extrinsic reasons, but this time primarily in order to make one's research known to others and to gain credibility (or fame) amongst other researchers in the field.

3. Where individuals experience research primarily in terms of opportunities for extending their personal understanding, their focus is on investigating questions of personal interest to them, with the underlying intention of

resolving a question that has been puzzling them. Publication is undertaken for more intrinsic rather than extrinsic reasons, primarily to gain feedback from other researchers in order to improve one's own understanding of the issue.

4. Where individuals experience research primarily as a route to benefiting the larger field or society of which they are a part, their focus is on making a contribution towards change. Research is seen as a means of addressing broader social or disciplinary issues of importance to the researcher's field or society. This might include advancing a particular social cause, for instance, encouraging conservation, combating racism, etc. The primary purpose of publication is seen as providing an avenue for spreading the knowledge required for change. In line with this, there may also be a focus on publication in non-academic arenas, with the aim of reaching a broader audience.

With only 28 participants from one university in my interview sample, I cannot comment on the frequency of these different views amongst university researchers. Nor can I comment in quantitative terms on associations between research experience, career stage and the view of being a researcher that was held. However, I can say that the junior researchers in my sample expressed views representing all four categories, and more experienced researchers, views representing three of the four categories (2-4). This indicates that lack of experience does not necessarily restrict a researcher to particular views of the nature of research (even if they are more likely to experience being a researcher in terms of categories 1 and 2). More importantly, it also indicates that increasing experience does not necessarily lead to a change in views of being a researcher.

Based on these findings, I think that we, as supervisors, need to carefully monitor the messages that we send and model for our research students about what it means to be a university researcher. Miscommunications at this stage may have a lasting effect. In the current higher education climate of increasing pressures on completion times for PhD students, there may be a tendency as supervisors for us to concentrate on the need for students to meet these external requirements. Furthermore, novice researchers will inevitably be missing key data collection and analytical skills. This may lead us to be over-focused in our interactions with students on the acquisition of these skills, perhaps inadvertently sending messages that research is primarily a technical process.

Of course, there are key technical skills that must be acquired, and external requirements that must be met. However, research is much more than this, and it is important that we also send these messages to our students. The implication is not that we cease to focus on acquiring skills and meeting requirements in our interactions with research students, but that we ensure that our students' introduction to these aspects of research are suitably mixed with an introduction to broader research foci.

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Building momentum in an online doctoral studies community

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Abstract

The full text of this paper by Albion is available in Kiley, M., & Mullins, G. (Eds.). (2006). Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers. Canberra: CEDAM, Australian National University (see http://qpr.edu.au).

Doctoral programs have been evolving over recent years to meet the needs of students seeking access to advanced study while continuing in full-time employment. Recent developments in distance and online education support the offering of doctoral programs at a distance but entail additional challenges around the initiation of distance students into the wider academic community in ways equivalent to those available to traditional on-campus students. One possible response is the development of online communities that support equivalent interactions to what might be experienced in an on-campus doctoral program. This paper describes the beginnings of such a community and the early efforts to initiate and maintain momentum.

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A model for assessing the quality of PhD theses

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Abstract

This paper presents a grounded approach to identifying and measuring the quality of PhD theses. From a total of 601 theses from 6 universities, sub-sets of 48 theses of high quality (generating 108 examiner reports) and 32 theses of marginal quality (84 reports) were identified using examiner recommendations and the University's decision on the thesis. Text content categories were then compared for the two groups of theses. Ten categories were identified based on their ability to discriminate between the high quality and marginal theses. Examples of text were extracted from examiner reports to typify each of the selected categories, and are provided as illustrations.

The next phase tests the categories as identifiers of thesis quality. First, a sample of examiners will be asked in the course of a normal examination to rank the thesis compared with other theses they have read. Subsequent to their report and thesis ranking being received, they will be asked (using a structured response) to indicate their satisfaction with each of the 10 identified categories. The relationships of the categories with the overall relative ranking of the thesis will be determined as a first check on the validity of the categories as quality measures. An overall measure of thesis quality will then be developed from the examiner responses to the 10 categories, or a sub-set of them if not all the categories contribute to the quality construct. The validity and reliability of the quality construct will be estimated

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Postgraduate Retreat: Interaction, knowledge and support

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Abstract

A retreat was held for all University of Adelaide, Discipline of Soil and Land Systems Postgraduate students (masters and PhD). Organised primarily by the Postgraduate student representatives the goal of the retreat was to foster a sense of community and an understanding of the disparate topics being researched within the discipline.

The three days of the retreat included:

1. Three guest presentations by ex-University of Adelaide postgraduate students who have moved on to successful careers

2. Short oral presentations by each student either relating to their research progress or on a topic of interest that had arisen from their research

3. Two workshops covering topics of interest to Postgraduate students, one about difficulties international students encounter while settling in Australia, the second was a discussion about what the possibilities are after a PhD.

A quiz was organised for the middle night of the retreat as a less formal vehicle for promoting conversation and interaction between parties that would not usually interact during work hours. Teams were structured to ensure cliques were reasonably dispersed.

The retreat identified a number of gaps in Postgraduate student knowledge regarding career opportunities after the completion of their thesis. Identification of these gaps was seen as the first step in addressing them. A series of workshops held for students within the discipline are now being organised to overcome this knowledge gap.

A post-retreat survey was conducted and revealed that the majority of students that attended found the experience helpful and would like to see it introduced as an annual event. Information regarding the model used for the retreat and its improvement (from feedback) will be presented.

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Pathways for decolonisation: Indigenous students in the Academy

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Abstract

Indigenous students at Australian universities currently are confronted with a range of practices, requirements and assumptions that reinscribe principles of colonialism. The many ways in which all students are required to 'write like the colonial center' (Owens 2001) serve to thwart the recognition of Indigenous views, voices and paradigms within the Academy; ethics applications draw sharp lines of division between researcher as 'expert' and Indigenous community members as 'subject'; oral and artistic forms of knowledge transmission cannot be validated within requirements to contextualise the research in 'previous literature'.

At the cutting edge of international Indigenous research, all of the above and more is old news. Directions in the 'Indigenous methodological revolution' (Rigney, 2001), as well as in whiteness theory, Indigenous Cultural and Intellectual Property and other related fields, are establishing vital alternative models for research. These alternatives interrogate the points at which standard practices of research are implicated in epistemological racism, and develop pathways for decolonisation in which 'conformity to white regimes of knowledge can also enable resistance' (Moreton-Robinson, 2005, discussing Kurtzer, 1998).

It is crucial that universities take up the challenges posed in this research revolution and support its development by Indigenous research students. Such a move will be an important contribution to strong and productive outcomes, both for the students themselves and for the research potential they bring to their respective fields.

In this paper we argue that universities need to:

- actively recognise the processes of confrontation and response to the neo-colonialist aspects of research faced by Indigenous students, and
- develop avenues through which Indigenous students can facilitate and establish theoretical and methodological bases which adequately address their research needs; as individuals, as members of communities, and as Indigenous people working through and out of colonisation.

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Testing music performance as postgraduate research: Knowledge creation in the Ph.D. in Music Performance at the University of Adelaide

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Abstract

As a community of musicians involved in the development and delivery of music performance in a University context the bureaucratic labels of the artistic outcomes of such endeavours have recently taken on increasing significance for funding and quality assessment. In the sciences, publication of the outcomes of the work done in the laboratory context retains primacy over the subsequent secondary or tertiary evaluations. In the performing arts, it is the performer who can move beyond technical reiteration to offer new insights into aesthetic knowledge as well as text-based documentation.

This paper investigates knowledge creation through the Ph.D. in Music Performance at The University of Adelaide. The first students in the degree enrolled at the Elder Conservatorium in Adelaide in 2005. The specialization has attracted great interest because it successfully achieves recognition of performance as research, an area that has had heated debate in DEST and professional circles. The program of study involves a high level of performance within the broad academic context. It culminates in the submission of four CD/DVD recordings each of 60 minutes duration and an exegesis which provides a commentary on the ways on which the research has underpinned the recorded performances.

Discussion reflects on the specific aims and process in the performance areas in order to establish the ways these training programs meet the criteria for research and experimental development as defined by the OECD. It argues that the systematic investigation of music performance is expanding and changing to reflect on the meaning of knowledge itself.

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Supporting international postgraduate student publication through mentoring

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Abstract

Through a cultural inclusivity initiative at Flinders University, a multi-level mentoring program was implemented to support postgraduate students from language backgrounds other than English to prepare research papers for conference presentation and peer-reviewed publication.

Postgraduate students have difficulty 'breaking in' to the world of publishing: This problem is compounded for students with language backgrounds other than English. Publication is important for students' career advancement and for the sharing of knowledge, skills and understanding. Publication can increase graduates' visibility in their home countries, and can contribute to ongoing research activity. To assist students to maximize their research endeavours, adequate preparation for publishing should be regarded as an essential component of postgraduate training and capacity building.

The mentoring project reported here was constructed as a four-level program to include:

1. facilitated workshops to support constructive peer review of papers

2. seminars on writing for publication presented by invited speakers

3. negotiated support for supervisors to guide review of their students' manuscripts, and

4. establishment of a mentoring team consisting of journal editors of the International Education Journal and selected reviewers.

Though this initiative, the scholarly development of international postgraduate students is more fully addressed, our academic community benefits from the cross-cultural exchange of ideas and the increased focus on inclusive practice, and the publication of the students' work invites ongoing scholarly communication from a global audience.

Documentation and publication of the justifications, processes and results of the mentoring program, such as in this presentation, form an essential part of the initiative in order to facilitate its sustainability and generalisability.

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Organisational, management and technological skills do matter: Behind-the-scenes aspects of good research

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Abstract

Over the last three decades new technologies have emerged which have the capacity to considerably streamline the research and publication process and enhance the efficiency and effectiveness of research. To achieve high quality research training in the context of today's government and industry priorities, there must be a renewed focus on the organisational, management and technological skills that are appropriate for research. A survey of both researchers-in-training (higher research degree students) and early career researchers was undertaken across a number of Australian institutions to determine levels of confidence in regards to these skills. The study revealed moderate levels of confidence but also found strong evidence that researchers see these behind-the-scenes aspects of research as very important and that they require greater knowledge, skills and support in these areas. The study concluded that inclusion of these organisational and technological aspects of research in research training programs is essential for quality research outcomes. Furthermore, supervisors need to take seriously the importance of the organisational, management and technological aspects of research and not assume that their students are already adequately trained in these skills. Drawing on the findings of this study, the authors have written a book titled Organising and Managing Your Research which addresses such themes, to be published by Sage (London) later in 2006. (More details of the study referred to in this abstract will be published in the May 2006 issue of the Australasian Journal of Educational Technology).

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Generic Capabilities, Research skills and the e-environment: A collaboration that keeps on growing

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Abstract

The ATN Learning Employment Aptitudes Program (LEAP) was an early entrant to the e-environment, using a collaborative approach to offering postgraduate research student opportunities to engage in online modules on generic capabilities. In 1999 the Deans and Directors of Graduate Studies at the five Australian Technology universities (Curtin University of Technology, Queensland University of Technology, RMIT University, University of South Australia, and University of Technology Sydney) made initial plans to put together such a program.

The original ATN LEAP program offers five moderated online modules on key generic capabilities. To date the program has engaged over 1200 research students across the five universities in the acquisition and enhancement of these skills, and also encouraged networking with peers across universities. The success of the initial online program has led the ATN DDoGS to set up a further online collaboration and 2005 sees the launch of five Modules on Research Education which focus on research methodologies.

The innovative nature of the collaboration and its outcomes was recognised by DEST in commissioning a report on generic capabilities and the ATN LEAP approach: Postgraduate Research Students and Generic Capabilities: Online Directions (Borthwick and Wissler 2003, http://www.dest.gov.au/NR/rdonlyres/F22D7ECA-435D-4AE5-B8C4-4B8528C77B06/1212/post_research.pdf

Subsequently the two suites of modules have served as two of the building blocks in the range of virtual graduate school services that will be offered through e-Grad School (Australia). Services from this school will be made available to universities and other research providers in Australia and internationally, with funding being provided towards its further development in the inaugural round of the Collaboration and Structural Reform.

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Canadian practices related to the examination of PhD theses

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Abstract

The full text of this paper by Hall is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

Differences among Australia, Canada, and the US in outlook and practice regarding the examination of research doctoral theses led to a survey of Canadian graduate deans to clarify the most common practices in Canada. The results from the survey offer some potential ideas for Australian universities with regard to an oral defense or examination (*viva voce*), and to the inclusion or not of external examiners in that oral.

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Understanding the postgraduate research experience: The candidate's view

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Abstract

The Research and Training Agenda has significant implications for students who are expected to complete their research programs in a timely fashion and at a high level of performance. They need to bring to their training an aptitude for intellectual inquiry and a commitment to years of hard work and self-motivation. Yet this group of students come from a number of different backgrounds. Some have mainly workplace experiences and undergraduate research training while others have further research experience; some have strong foundational knowledge in their research topic area while others are branching out from their original educational focus to embrace new areas. For these reasons HDR students have many different learning needs and challenges. Identifying these learning needs and the pathways these students take in pursuing their research and research training goals, both successes and difficulties, can identify strategies for effective supervision and individual training as well as group training needs. This paper reports on a research project investigating the experience of HDR students in the current RTS system and discusses ways of enhancing the postgraduate experience.

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Changing supervisor practice using on-line communities of practice

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Abstract

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When academic staff who supervise research students are encouraged to de-privatise their research supervision practice by sharing it in communities of practice, they open that practice to critical peer review. This can create an opportunity to move from acquiring knowledge about supervision, to improving one,s practice of research supervision.

For the past twelve months Queensland University of Technology has been making use of an on-line moderated discussion to create communities of practice in which research supervisors share their practice and comment on each other,s practice. The early responses indicate that when participants engage in conversations with each other and the moderator about elements of their supervision practice they are affirmed and encouraged to continue in this or other forms of reflective practice about their supervision

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Examiner Stories: Knowledge creation for the testers

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Abstract

The full text of this paper by Hill, Sankaran and Swepson is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

Higher Education literature has in the past benefited from practitioner stories. These have particularly come from research students and research supervisors, but there is a notable scarcity of examiner tales. Those that are there tend to focus on improving the quality of the thesis rather than improving and making transparent the quality and practices of the examiner. In the current climate of improving supervision quality it can be argued that deconstruction of examiner tales is not only helpful for examiners, but can also assist the supervisor in offering more thesis centred assistance to their students through accessing their examiner insights.

Geof Hill, Shankar Sankaran, and Pam Swepson were drawn together over a thesis from the university at which Shankar was research co-ordinator, that Pam and Geof were examining, and a mutual interest in the broader questions of examining action research theses. As they bonded in their informal community of practice they saw the benefits in terms of professional development of making transparent their examination practices. This led them into a more formal storytelling process, the outcomes of which have led to their own focussing on quality issues for thesis examinations and have the potential to be generate conversations between other thesis examiners towards similar deprivatisation of higher education research examiner practices (Sankaran, Swepson and Hill, 2005). Prompted by Schon's (1987) description of the swampy ground in practitioner investigation, and continuing to use a community of practice, they revisited their 2005 stories to use them as a basis for exploring some of the problematic terrain in the examiner practice topography.

They are advocating storytelling and communities of practice around examiner practice as viable professional development contexts for research supervisors.

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The Invisible Supervisor? Supervisory Relationships and 'Insider' Applied and Action Research in Business

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Abstract

Postgraduate Doctoral research programs in Business/Management may include projects and theses undertaken by part-time students who are full-time members (insiders) in senior executive roles in public or private organisations. 'Insider' postgraduate research can advance academic knowledge while at the same time contributing to improved business practices. Academic supervisors of research candidates who are doing insider research in their own organisations may need to be aware of a range of political, ethical and practical issues associated with this approach, and certain differences in expectations as to the nature of the supervisory relationship.

Postgraduate 'insider' researchers have a primary work role, and so may view their role as a researcher as secondary, and their position as a 'student' or research candidate as tertiary. They are not likely to be undertaking programs with a view to becoming either academics or researchers. They may regard academic supervisors as a form of personal coach and/or as an external consultant to their research project. They may view themselves more as a 'client' of the supervisor than as a 'student' who needs to be able to produce original academic work that will makes a significant contribution to the discipline.

When supervisors successfully 'coach' doctoral research candidates to become independent researchers they may come to believe that their successful progress and completion is solely due to their own skills and expertise. When a supervisors advice is kept 'invisible' to others this may enable individuals to succeed in meeting personal and organisational goals which appear to be due to their own skills and expertise. The role of the advice provided by their academic supervisor may not be recognised or acknowledged, and so contribute to supervisors feeling as well as appearing to be 'invisible'.

There could be many reasons to want to keep supervisors invisible. Candidates may not want it to appear as if they need outside help to do their job. They may not want the supervisor, who they may see as an 'outsider', to get too close to inner secrets of their organisation, or for reasons related to commercial in confidence, organisational culture, or personal loyalty. This may mean that the supervisor does not have the opportunity to gain first hand knowledge about the organisation and its key players. Yet to do their role as a supervisor they need to challenge the view of the world as seen by the candidate.

Prospective postgraduate insider researchers may have impressive levels of expertise and enthusiasm, a well developed rationale for a substantial research project and be in a role with access to a potential treasure trove of useful information. They may be highly motivated to address an organisational problem that is also a significant academic issue. Because they may have strong views about the research focus, process and desired outcomes they may not appreciate the need to explore alternative research questions, methodologies, methods, or practices. If they have a research

sponsor and research team involved in planning research issues and options decisions may be made without direct involvement with the academic supervisor. They may not view their academic supervisor as the most central or primary adviser in their research but rather as someone who can give expert, personal and perhaps private advice.

Postgraduate 'insider' researchers may find themselves paired with an academically oriented supervisor who wants to focus on literature and theory and if so may resist being regarded as an 'apprentice'. They are likely to prefer to work with a supervisor who is able to take on the role of a mentor/coach to help them to explore theory and practice and to develop skills of both cognitive and 'emotional' intelligence'. They may feel most comfortable taking the research journey with an experienced 'guide' who they trust to take them to a desired ending. Insider research may involve higher than usual risks of becoming lost, in terms of time, revenue and credibility within the organisation, and the consequences are likely to impact more on the candidate than their supervisor. While a 'failed' organisational research project may form the basis of an excellent thesis it may also be a career limiting experience.

The final stage of candidature may involve a focus on academic writing, and reflection and at this time the supervisory relationship may have less to do with advice related to their workplace and more about their personal insights and development. Well after the organisational component of the report has been circulated deeper understandings may still emerge. Postgraduate candidates who undertake 'insider' research may initially choose to do so because of perceived advantages related to time and relevance to their workplace. Academic supervisors may contribute significantly to both organisational outcomes and personal development, but may need to be able to accept that this may not necessarily be acknowledge or appreciated.

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Working in the new postgraduate research environment: Supervisory challenges for workplace research

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Abstract

The full text of this paper by Hodges, Malfroy and Vaughan is available in Kiley, M., & Mullins, G. (Eds.). (2006). Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers. Canberra: CEDAM, Australian National University (see http://qpr.edu.au).

The pressures of the new postgraduate research environment to produce contextualised and workplace based research have created a pedagogical framework that entails challenges for research supervisors. This paper uses four case studies to explore the tensions and dilemmas for supervisors and students, and identifies challenges about representation of knowledge; the challenges of supervising community or organisational based research; the challenge of responding to dynamic workplace research projects and the challenges for the supervisor as coach and mentor. Each case study also highlights the large personal investment by both supervisor and students in the research process. The paper also raises questions as prompts for ongoing debates about the role of the supervisor, the purpose of workplace based research, the tension between university and workplace requirements, and the representation of new knowledge. The case studies illustrate the way in which supervisors and students working in these degrees are constantly negotiating around 'traditional' university practices, forging new practices and questioning the value of other practices.

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Taking the sting out of assessment: The application of behaviour-anchored rating scales to thesis examination

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Abstract

The role of assessment and evaluation in postgraduate research has been and will always be a bone of contention and a potential area of conflict. One of the reasons for this could be varying perceptions of standards and criteria of what is expected of a postgraduate research thesis.

An attempt to improve the standard of evaluation of theses and dissertations has been made by developing a set of criteria and behaviour-anchored rating scales for each of the criteria. These criteria and behaviour-anchored rating scales were 'tested' by more than 200 academics in several workshops on assessment and evaluation of theses and dissertations at different universities in South Africa At each workshop the criteria were applied to the same thesis. The outcomes were compared to the evaluation of the formally appointed examiners of that thesis.

The findings from these applications have shown greater consistency in the application of the criteria, a more holistic and comprehensive coverage of all the criteria, greater accountability by the examiner and a much easier process in writing an examiner's report. The behaviour-anchored rating scale provided a much more standardised approached across disciplines, but also proved to be less lenient (stricter) to the candidate.

This paper provides a clear perspective on the nature of the problem of maintaining standards in the evaluation of theses and dissertations. The methodology used to do the research is explained and the findings presented, analysed and interpreted. Conclusions are drawn from the findings and recommendations made for the improvement of the practice of evaluation of theses and dissertations.

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PhD: The emotional journey

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Abstract

A journey of discovery, a marathon, a nightmare. PhD candidates and their supervisors use many metaphors to describe the PhD process. However most of these metaphors fail to capture emotional commitment, the highs and the lows and the intensely personal experience of undertaking a PhD.

Although the more personal or psychological aspects of PhD study have yet to be explored fully, much of our recent research suggests emotions play a crucial role in the completion of PhDs. At Flinders University we have developed a simple graphical instrument that allows the candidate to track their emotional response at the various stages of their candidature. The instrument is quick and easy to administer and immediately provides a visual illustration of a candidate's emotional response at the various stages of candidature. The instrument has been used with over 100 students and has been used as part of workshops with students and their supervisors. It has proven to be very effective in identifying danger periods for example when the candidate is feeling very isolated or may be considering dropping out.

This poster outlines the development of the instrument, how it has been used with students and their supervisors and possible future uses. In particular the poster will highlight the educative role of the instrument for candidates in the early stages of their study.

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Testing knowledge? Doctoral candidates' perception of the oral examination

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Abstract

Key words: Doctoral examination, viva, oral exam

In 2003 the policy and statute regulating the degree of Doctor of Philosophy at the University of Auckland underwent significant change and, in particular, the form and function of the oral examination was altered. Unlike most Australian universities, the University of Auckland has retained the oral examination, otherwise known as the viva, as a vital part of the examination process for the PhD. Picking up the discussion of the examination process from the 2004 Quality in Postgraduate Research conference (McEachern, 2004), this paper offers insight into doctoral candidates' experience and perception of the oral examination. Participants in the study, all of whom sat an oral examination at the University of Auckland between 1 January and 30 June 2005, have been invited to complete a questionnaire about the examination: the preparation stage, the exam itself, and its aftermath. Specific matters participants are asked to comment on include the role of the candidates' supervisor/s in the examination process; the interaction with examiners; the candidates' understanding of the purpose of the oral examination, whether it is to test knowledge, to verify authorship or has another purpose; and the impact that feedback from the examiners has on the candidates' perception of their academic competence and career choice. This paper will make a significant contribution to the debates around the function and purpose of the examination of research higher degrees

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Expressive feedback on PhD drafts

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Abstract

Providing quality feedback is essential in developing the writing and thinking skills of a PhD candidate. This paper offers an analysis of written feedback and reflection on three complete drafts of a PhD thesis before it was submitted for examination. In this self-reflective study, we first investigated two sources of data: in-text feedback and overall feedback provided by members of a supervisory team.

Our first analytical task in this data driven approach was to develop categories. Realising that the feedback could be most adequately explained by describing its function, i.e. what the comments do, we based our coding on three fundamental functions of speech: referential, directive and expressive. From a pragmatic perspective, any interaction includes the message/the feedback (referential), the addressee/supervisee (directive), and the speaker/supervisor (expressive). We developed the categories further to include referential comments focussing on editorial, organizational and content matters; directives which included suggestions, questions and instructions, and finally expressive utterances which fulfilled the functions of offering praise, criticism and opinion.

Upon reflection by the supervisors and the supervisee, it was found that expressive feedback benefited the supervisee the most. This paper then suggests further pragmatic analysis and reflection on feedback by taking into consideration the role of expressive feedback, individual supervisory practices and learning styles of supervisees. This paves way for the possibility of developing a taxonomy of good practices in providing feedback. With such feedback, it seems reasonable to suggest that a PhD candidate may be able to gain membership to a demanding academic community.

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Supporting research-readiness in PhD candidates through undergraduate research skills development

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Abstract

'Many students (myself included) feel like you're expected just to somehow acquire (as if by magic) good research skills, without really being clear on exactly what constitutes such skills.' (Michelle Phillipov: Research PhD candidate)

The emphasis on timely completion arising from the Research Training Scheme means that students now have to begin their Masters and PhD candidatures 'research ready', but clearly, this is not always the case. Longer-than-desirable completion times and failures to complete reveal that students frequently enrol in PhD programs without a supportive set of research skills that they can utilise systematically. Honours, given its brevity and intensity, does not always develop the research skills students need to sustain long-term, large-scale projects, and few students now complete a Masters before attempting the PhD. Explicit development of research skills through the undergraduate years is thus emerging as an important means of supporting PhD students' subsequent success as self-directed researchers.

The pilot project described here tested a specific strategy designed to address this issue. Two trials were conducted using undergraduate assessment tasks in different disciplines from Humanities and Sciences, to investigate the effectiveness of annotated bibliographies in developing students' literature research skills. Student perceptions of the value of the exercise were assessed by survey. Surveyed students included PhD students who had experienced the assessment as tutors, Honours research students who had experienced the assessment as undergraduates, and undergraduate students. A strong majority of respondents identified the exercise as potentially valuable in helping students develop systematic and rigorous approaches to literature research projects

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Creating and sustaining an inter-professional higher degree research student community

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Abstract

Higher degree research students have been reported as perceiving themselves 'as at the centre of a constellation of others' (Cullen et al 1994, p.41). This aligns with a goal in health professional education to develop networks within and across health professions. Mature-age postgraduate research students often enrol part-time, and may also be studying at a distance, while continuing to meet their professional, family and community responsibilities. This poses pedagogical and logistical challenges for higher research degree programs generally, and more specifically in using a communities of practice (Wenger et al 2002) approach to support HDR students.

A supervision and support model founded on an orientation to health practice and has been trialed for the past eighteen months in the Work Dimensions Research Group with allied health students. Dimensions of the model include:

- Professional, academic and social relationships
- Professional and academic expertise and experience
- Communication and information flow
- Research questions and methodologies

The core group activity is a quarterly meeting using telephone conferencing, with other information technologies also in use to bridge spatial and temporal separations. Lessons learned in implementing the model with students and supervisors located in three Australian states and guidelines for good practice will be presented.

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Power and desire in team postgraduate supervision pedagogy

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Abstract

Team supervision is currently regarded as best practice throughout Australasia and the UK. Most RHD students are now no longer subject to the vicissitudes of the sole supervisor model. Yet few researchers have studied the effects of team supervision or confirmed its expected benefits. This paper outlines the conceptual framework for a study of team supervision within the Humanities and Social sciences, where this form of supervision is not a normalised practice. This research project aims to explore how power and unconscious knowing and desires are enacted in team postgraduate supervision pedagogy. It will investigate how these hidden features of supervision pedagogy are revealed in team interactions through the analysis of transcripts of team supervision meetings, students' and supervisors' notes about these meetings and separate interviews with each team member. Recent critical and postmodernist research on supervision pedagogy challenges the current dominant liberal discourse that postgraduate supervision is a form of mentoring, which is a neutral, innocent and collegial practice based on rationality and the intellect. Instead, these theorists argue that supervision pedagogy is a political, embodied practice imbued with multi-directional flows of power and desire. None of these researchers, however, have investigated the effects of team supervision on supervision pedagogy. This paper will draw upon postmodernist and post-colonial theories and poststructuralist discourse analysis methodologies to investigate whether team supervision exacerbates or ameliorates the power dynamics between research students and their supervisors and among the supervisors within the team. Preliminary results from the study will be presented at the conference.

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Assessing the industry-readiness of PhD graduates from CRCs

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Abstract

Australia's Cooperative Research Centre (CRC) program enables research higher degree students to access research training in an interdisciplinary, industry-based research environment. The influence of this environment on graduates' satisfaction with research training is yet to be adequately determined, as is the overall effectiveness of these training programs. Given the importance of these issues for government, industry, and the higher education sector, there has been surprisingly little development of adequate methodologies to assess these outcomes. This study uses a questionnaire to explore graduates' research training experiences, attainment of their graduate attributes, and their longer-term employment outcomes. The questionnaire was administered to past students associated with several UQ and University of New England CRCs who were awarded their PhD in the four years leading up to 2003. Participant responses were then quantified and compared to those of a matched sample of students from the same discipline areas, who were not involved with a CRC or research centre. This research will permit conclusions about the viability of the chosen methodology to assess the education training power of CRCs and areas in which future research may be directed. It will demonstrate whether CRC research training programs have successfully produced industry-ready, interdisciplinary research graduates capable of engaging with and solving the problems of industry. Finally, it will make recommendations for the modifications and improvements of CRC research training programs, with the added potential to identify quantitative indicators to evaluate research training quality.

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Academic literacies, communities of practice, discourse models and genres: A teaching and research framework for writing advisors of second language research students

Gavin Melles
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Abstract

The full text of this paper by Melles is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

This paper outlines an ethnographic approach to researching (and teaching) academic literacies, employing cultural models and an understanding of the socially-situated production of the thesis as genre as a robust theoretical and methodological framework for examining and teaching second language academic literacy. The academic literacies approach investigates the socially situated production of written academic genres in the disciplinary discourses of the supervised writing process. In conjunction with the anthropological concept of cultural or discourse models, academic literacies is explored here primarily as the most compatible framework for qualitative research into second language writing of research genres. This paper discusses the relevance of the academic literacies approach to postgraduate writing pedagogy and aims to establish the theoretical and applied relevance of the academic literacies framework and cultural models to higher education research into discipline specific thesis writing practices.

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From autobiography to case study: supervision learning and development through writing

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Abstract

In this paper, we draw on recent discussions and movements in ethnographic research to describe, interpret and problematise the program for the scholarly and professional development of research higher degree supervision we offer at The University of Sydney. These discussions centre on the process of writing. The Development Program for Research Higher Degree Supervision, particularly what we have called the Recognition Module (Brew & Peseta, 2004) provides an opportunity for research higher degree supervisors to write a case study of their whole experience of supervision (including being supervised) supported by cycles of reflection, speculation, feedback, challenge and future action planning. The Program joins and responds to those conversations in the scholarly literature that seek to unearth and recognise the lived complexity of supervision and what it means to develop it in a changing higher education context.

Our turn to ethnographic frameworks for describing supervisors, learning and development is about making central the process of „writing‰ itself as an exploration of academic practice. For many supervisors ˆ both new and experienced, the case study structure has been the only occasion for systematic sense-making about their practice, contexts and challenges as supervisors. With now over 30 supervisors having completed the program, we report on their experiences of the writing and learning process. We also share our reflections of coordinating a development program that makes writing the centre of supervisors, learning. We argue that any re-imagining of research education must account for the learning of supervisors.

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Help in developing materials for supervision development: An opportunity

Peggy Nightingale and Margot Pearson
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Abstract

Would you like to get your supervision development materials enhanced with professional assistance for web publication and face-to-face use?

At this showcase members of the fIRST (improving research supervision training) website Steering Group will provide :

- a brief explanation of the process for submitting and reviewing materials submitted to fIRST
- detail on content development of materials and enhancement with the assistance of the web expertise of IML staff at UTS on contract to fIRST.
- answer questions about ownership, copyright etc.

Bring along any ideas or materials you might have for discussion with Peggy Nightingale who undertakes the initial development work in consultation with authors.

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AUQA findings on research education: Learning from the examples of others

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Abstract

This session will give participants an oversight of Australian University Quality Audit (AUQA) findings on research education as well as a new tool to analyse their quality assurance systems.

The AUQA Council produces a report for each of their audits of universities. Each contains a section on research education. As part of the School of Graduate Studies, preparation for The University of Melbourne,s AUQA visit, it undertook a review of the findings of AUQA in the area of research education A matrix was developed to analyse these comments in order to categorise the commendations and recommendation made by AUQA and identify recurrent themes. In addition specific examples of good practice and areas that could be improved were identified.

This session will present the finding of this review undertaken by the School which has been updated to reflect all current reports by AUQA. The session will also showcase the matrix developed to analyse AUQA,s findings, as it may be a useful device to analyse the quality assurance processes used in the administration of research education operated by institutions themselves.

The session will allow participants an opportunity to share their reactions to the AUQA review outcomes.

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Benchmarking a graduate school: An opportunity to measure and learn

Kevin Ryland and Fiona Zammit
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Abstract

This session will give participants some tools for and ideas on how to undertake a benchmarking exercise in the area of research education.

Benchmarking is a term that is often used in the management of complex operations, such as the management of research education, but there often little consensus as to its meaning and use. For example is it an opportunity to learn or measure? Thus, when it was decided to undertake a benchmarking exercise of the School of Graduate Studies at the University of Melbourne, the first stage was to come to a mutual understanding of what was meant by the term. The journey from this inception to the execution and analysis of a benchmarking instrument was an interesting and, at times, a surprising one. As is often with such journeys, the final destination for this project was quite different from what was conceived at the beginning. Indeed, although the original needs have been meet, the benchmarking project continues to develop in ways that were never conceived of when the idea was first muted.

This session will explore and showcase the journey of this project and will illustrate some of the critical decisions and issues that made the project successful. Key issues that will be covered include how the benchmarking instrument was developed and agreed upon, the role of the university in developing, leading and managing the benchmarking partners, the levels of resources and commitment required and the extended life of the project beyond its original purpose.

The audience will be invited to contribute to the session by sharing their experience of this and other benchmarking exercises with which they have been involved.

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Knowledge creation and research training: Meeting the academic development needs of postgraduate students

James Sillitoe, Elaine Martin, Nicole Drage, and Diane Clingin
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Abstract

The full text of this paper by Sillitoe, Martin, Drage and Clingin is available in Kiley, M., & Mullins, G. (Eds.). (2006). *Quality in Postgraduate Research: Knowledge creation in testing times-Part 1 Refereed Papers*. Canberra: CEDAM, Australian National University (see **http://qpr.edu.au**).

In postgraduate research, students are typically seen as the major mechanism for research training and a major vector for knowledge creation. But when there is no obvious well-functioning postgraduate school or research community, the research student experience is often reported to be a lonely and isolating one, where students struggle to complete a useful thesis or develop research skills, connections and networks. What we at Victoria University and the University of Ballarat are attempting to do is to facilitate the development of a 'community of practice' for postgraduate research education that will provide an environment in which a productive and growing research culture can be sustained and research skills and knowledge can be developed and shared. In this paper we describe a rationale for, and a description of, some work-in-progress at the two Universities (one small, one new). We finally make brief comment on the experiences of students and supervisors in engaging with our developing 'research community' and suggest possible extensions to the program

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e-opportunities and challenges

Teresa Tjia and Jeanette Fyffe,
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Abstract

This symposium will explore use of various web-based and electronic tools and platforms such as learning management systems, wikis and blogs by and for research postgraduates. Some of the issues to be explored include: how are research students and supervisors using these technologies, institutional resources and support, impact on quality of experience and educational outcomes, and sustainability. Good practice examples, emerging developments, local initiatives, pitfalls and challenges will be shared and discussed.

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Investigating the interplay between the doctoral experience and familial relationships

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Abstract

Since the late 1980s, academics employed in Australian universities have faced, what for many has been, the unanticipated expectation that they earn a doctorate. While for some this development has brought welcomed opportunities, for others it has created pressures and dilemmas as they strive to balance significant responsibilities across their major life roles (Goode 1960) of academic, doctoral student and family member.

It is widely recognised that a doctoral study is a long and arduous undertaking for even so-called 'traditional students' (Hockey 1994). However, the challenges faced by candidates who are academics and are aged 35 years and more, are likely to be magnified because this is a time in life when not only will career responsibilities be significant, but the range, complexity and intensity of familial demands are probably at their greatest (Huston-Hoburg and Strange 1986; Riddle 2000). There are strong indicators that large numbers of academics in Australia may be combining demanding and incongruent roles now, and in the future (DEST 2003; ABS 2002, 2003).

The participants in this study were mid and late-career academics employed in Australian universities and members of their families. The importance of gaining multiple perspectives when researching family life has been stressed by Gale and Vetere who argue ŒΣ all family members [original italics] need to provide data about family life, if one seeks to describe the family‚s experience in any comprehensive fashion‚ (1987 p. 37). Individual, in depth interviews were used to explore various family members‚ perspectives. Data collection and analysis are underpinned by a Symbolic Interactionism framework and role strain theory (Burr, Leigh, Day and Constantine 1979).

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A diagnostic and planning framework for research skill development toward the PhD proposal

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Abstract

A well-developed PhD proposal positions students on the precipice of cutting-edge research, and such early positioning can be a major factor in successful PhD completion. The Research Skill Development framework, (Willison & O'Regan, 2006) University of Adelaide, may be useful to make explicit the move towards a quality PhD proposal by providing post-graduate supervisors and their students with a powerful conceptual and pedagogical tool.

The Research Skill Development (RSD) framework presents 6 facets of the research process along a continuum of 'degree of student autonomy'. This framework has been successfully used by lecturers to anticipate, develop and assess undergraduate research skill development (Willison & O'Regan, under review). It may provide a useful conceptual underpinning for PhD supervision.

In a pilot study, PhD supervisors were interviewed to determine their perspectives about the potential usefulness of the framework for supervision up to proposal submission. Findings suggested that the framework may be especially useful for the supervisors of:

- students whose undergraduate study was in a related but different discipline.
- international students enrolling directly in postgraduate studies
- students from undergraduate programs that do not explicitly and/or coherently develop research skill until honours.
- Qualitative and quantitative research is necessary to determine the efficacy of the framework in these situations.

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Supporting the completion of RHD students through communities of practice

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Abstract

Undertaking postgraduate research can be a very isolating experience which the current further enhancement of research development programmes in the UK and Australia aims to overcome. Based on ongoing action research and experience of working with research degree students and development programmes aimed at both students and supervisors, this paper and session considers the effectiveness of:

- cohorts
- guardian supervisors
- support and development strategies

to grow and nurture supportive communities of practice for both postgraduate students and their supervisors.

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