Coursework in Australian doctoral education:  
What’s happening, why, and future directions?

The Australian National University

Final Report 2014

Report Author: Margaret Kiley
Coursework in Australian doctoral education: What’s happening, why and future directions?

Final Report 2014

Lead institution: The Australian National University

Project partner: Council of Deans and Directors of Graduate Studies Australia (DDoGs)

Project Leader and report author: Dr Margaret Kiley

<chelt.anu.edu.au/doctoral-coursework>
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Office for Learning and Teaching
Department of Education

GPO Box 9880,
Location code N255EL10
Sydney NSW 2001

<learningandteaching@education.gov.au>

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## List of acronyms used

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACU</td>
<td>Australian Catholic University</td>
</tr>
<tr>
<td>ACSPRI</td>
<td>Australian Consortium for Social and Political Research Inc.</td>
</tr>
<tr>
<td>ALTC</td>
<td>Australian Learning and Teaching Council</td>
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<tr>
<td>AQF</td>
<td>Australian Qualifications Framework</td>
</tr>
<tr>
<td>ATN</td>
<td>Australian Technology Network</td>
</tr>
<tr>
<td>CSU</td>
<td>Charles Sturt University</td>
</tr>
<tr>
<td>DIICCSRTE</td>
<td>Department of Innovation, Industry, Climate Change, Science, Research and Tertiary Education</td>
</tr>
<tr>
<td>DIISRTE</td>
<td>Department of Innovation, Industry, Science, Research and Tertiary Education</td>
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<tr>
<td>DoGS</td>
<td>Dean of Graduate Studies</td>
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<tr>
<td>DDoGS</td>
<td>Council of Deans and Directors of Graduate Studies Australia</td>
</tr>
<tr>
<td>ECRs</td>
<td>Early Career Researchers</td>
</tr>
<tr>
<td>ECU</td>
<td>Edith Cowan University</td>
</tr>
<tr>
<td>FTE</td>
<td>Full-time Equivalent</td>
</tr>
<tr>
<td>HASS</td>
<td>Humanities, Arts and Social Sciences</td>
</tr>
<tr>
<td>HDR</td>
<td>Higher Degrees by Research</td>
</tr>
<tr>
<td>HESP</td>
<td>Higher Education Standards Panel</td>
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<tr>
<td>JCU</td>
<td>James Cook University</td>
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<tr>
<td>MCD</td>
<td>Melbourne College of Divinity</td>
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<tr>
<td>MRES</td>
<td>Masters of Research</td>
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<tr>
<td>PREQ</td>
<td>Postgraduate Research Experience Questionnaire</td>
</tr>
<tr>
<td>QUT</td>
<td>Queensland University of Technology</td>
</tr>
<tr>
<td>RMIT</td>
<td>RMIT University</td>
</tr>
<tr>
<td>RTS</td>
<td>Research Training Scheme</td>
</tr>
<tr>
<td>STEM</td>
<td>Science, Technology, Engineering and Mathematics</td>
</tr>
<tr>
<td>TEQSA</td>
<td>Tertiary Education Quality and Standards Agency</td>
</tr>
<tr>
<td>UniMelb</td>
<td>The University of Melbourne</td>
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<tr>
<td>UniSA</td>
<td>University of South Australia</td>
</tr>
<tr>
<td>UNSW</td>
<td>The University of New South Wales</td>
</tr>
<tr>
<td>UoND</td>
<td>The University of Notre Dame</td>
</tr>
<tr>
<td>UoW</td>
<td>University of Wollongong</td>
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<tr>
<td>USyd</td>
<td>The University of Sydney</td>
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<tr>
<td>UWA</td>
<td>The University of Western Australia</td>
</tr>
<tr>
<td>UWS</td>
<td>University of Western Sydney</td>
</tr>
<tr>
<td>VU</td>
<td>Victoria University</td>
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</table>
Executive summary

Until recently there has been little in the way of coursework in the Australian PhD, despite it being commonplace in the United States, Canada and Europe. However, interest amongst Australian universities is gradually increasing. Universities are starting to consider the introduction of formal and informal coursework into the PhD, including in parallel with a range of professional doctorates which generally include coursework.

This shift has taken place in a changing context. The revised Australian Qualifications Framework (AQF) has been implemented and the Tertiary Education Quality and Standards Agency (TEQSA) has been established. These two developments have caused all universities to examine curriculum, program articulation, and pedagogical implications at the undergraduate, postgraduate and research education levels. Reforms have also been proposed to Australian higher education, however, the possible impact of these has not been explored as part of this project. The evolution of the sector has presented a tremendous opportunity to investigate different designs and requirements relating to the Australian PhD before they are entrenched.

In conjunction with the Australian Council of Deans and Directors of Graduate Research (DDoGs), this project has aimed to provide a comprehensive picture of the development, and possible implementation of a more structured approach to the doctoral curriculum by providing an understanding of the pedagogical, curriculum, organisational and funding issues suitable for Australian PhD programs. From this understanding, evidence-based principles have been developed that will support Australian universities intending to introduce coursework into their PhD programs over the next few years.

Another constructive outcome from this project includes an online resource of examples of different approaches adopted across Australian universities. The project collected 11 case studies from Australian universities which are available on the project website http://chelt.anu.edu.au/doctoral-coursework/presentations. These findings have come from two sources. The first was from working with staff, candidates and early career researchers (ECRs) in a sample of the participating universities. The second derived from extensive workshops in states and territories. A particularly beneficial outcome of the project was the excellent response rate to an online survey asking doctoral candidates questions regarding coursework and skill development.

One other outcome which caused considerable discussion was the differing, often negative understandings of the term ‘coursework’ when it was mentioned in conjunction with the term PhD. The analysis of the research and discussions suggests that there is general agreement that the learning experiences of doctoral candidates in Australian universities could be considerably enhanced by the development of an integrated doctoral curriculum. However, it was also agreed that using the term ‘coursework’ was unhelpful as it distracted from the actual purpose of understanding candidate learning.

Through the work of the project it has been possible to propose an aligned doctoral curriculum model (pp. 13-16) that includes aims, learning outcomes, learning activities, pedagogy, assessment and evaluation. While the curriculum outline has been discussed during dissemination activities, it will be important that further activities are undertaken to engage institutions in its implementation.
With the introduction of a structured approach to doctoral education there was considerable interest in the development and introduction of learning needs assessments and plans. Further work in this area could engage key stakeholders in critical discussions of the nature and purpose of learning in the Australian PhD and flexible and individualised ways of supporting candidate learning.

Recommendations
The following recommendations have arisen from the project:

- It is recommended that further work is undertaken to support institutions with the implementation of their doctoral curriculum and to evaluate the impact of coursework/a structured curriculum approach to the PhD. Through such work universities could be encouraged to take into account the principles outlined in this report, the AQF requirements for Level 10, and the specific aims of each university. The Australian Deans and Directors of Graduate Research have been actively involved in the current project and it is suggested that they would make an effective focus for follow-up work.

- It is recommended that work is undertaken, either in conjunction with the above recommendation or separately, to identify the implications and practices related to the development and implementation of approaches involving a learning needs assessment and learning plan for each doctoral candidate.

- It is recommended that doctoral education continue to be explicitly included and supported through OLT grant schemes.

- It is recommended that discussions between relevant government departments and key stakeholders take place regarding the funding model for doctoral training within Australia and its impact of candidate learning.
### Table of Contents

Acknowledgements ........................................................................................................... 3
List of acronyms used ........................................................................................................ 4
Executive summary ............................................................................................................ 5
Tables and Figures ............................................................................................................ 8
Chapter 1: Background and introduction ........................................................................ 9
Chapter 2: Approach and methodology .......................................................................... 10
Chapter 3: Project outcomes ............................................................................................ 13
Chapter 4: Impact of project ............................................................................................ 22
Chapter 5: Critical success factors and impediments ....................................................... 23
Chapter 6: Evaluation ....................................................................................................... 26
Chapter 7: Conclusions ..................................................................................................... 34
Chapter 8: Recommendations ......................................................................................... 35
References .......................................................................................................................... 36
Appendix A The “Macquarie” Model ................................................................................ 38
Appendix B Interviews with Deans of Graduate Studies .................................................. 40
Appendix C Workshop/focus group findings .................................................................... 43
Appendix D Online survey results report ......................................................................... 49
Appendix E Survey Questions .......................................................................................... 53
Appendix F Report of state-based workshops .................................................................. 59
Appendix G Powerpoint presentation to state-based workshops Sept – Oct 2013 .......... 70
Appendix H Approaches to Research Graduate Capability Development .................... 76
Tables and Figures

1.1 Tables

Table 1: State-based workshops by location, university and participants......................12
Table 2: Dissemination events and locations.......................................................................20

1.2 Figures

Figure 1: Possible model for the development of an Australian PhD curriculum..............................14
Chapter 1: Background and introduction

Unlike similar programs in North America and parts of Asia and Europe, until recently there has been little in the way of coursework in the Australian PhD. While the professional doctorate, initially introduced into Australia in the 1980s, did include coursework this practice has had limited influence on the PhD.

However, with changing enrolment patterns and staffing profiles, interest has developed over the past couple of years as Australian universities have started to work with the idea of introducing formal and informal coursework into the PhD. This project has, therefore, not only taken place at an exciting and thought-provoking time in this new environment, but has also provided an opportunity to look at different curriculum designs and requirements.

The "Coursework in Australian doctoral education: what's happening, why, and future directions?" project had a number of aims related to the doctoral curriculum. Firstly, it aimed to provide an understanding of the pedagogical, curriculum, organisational and funding issues related to the introduction of coursework within the Australian PhD. Additionally, the project aimed to examine the issues that are deemed necessary for the possible implementation of formal coursework in the Australian PhD in its many and varied forms.

The project was undertaken in conjunction with the Australian Deans and Directors of Graduate Research (DDoGS) and so, with their assistance, the project set out to provide a comprehensive picture of the development and possible implementation of formal coursework in the Australian PhD. With this understanding the project then aimed to provide widely researched principles suitable for Australian PhD programs which Australian Deans can consider if developing award courses and programs.

Noteworthy is that the project was undertaken within a clear framework of support and organisation surrounding such developments, for example, the revised Australian Qualifications Framework (AQF), and the recently introduced Tertiary Education Quality and Standards Agency (TEQSA), requirements.

Furthermore, the project was undertaken from a curriculum perspective leading to related curriculum outcomes and deliverables. For example:

- Pedagogical and curriculum principles that can be used as a basis for universities wanting to develop formal coursework within the PhD, taking into account the new AQF and TEQSA requirements;
- The provision of a range of curriculum models for use in Australia;
- An online resource of examples of coursework, including international outlines where they might be considered appropriate for Australia;
- Examples of teaching and support available to academic staff offering doctoral level coursework;
- Workshops, seminars, published papers and reports that debate the issues and provide for educational, organisational and funding considerations.
Chapter 2: Approach and methodology

An overall curriculum framework was adopted as the theoretical approach to this project which involved interviews with Deans of Graduate Studies, workshops and focus groups with staff and candidates, and online survey of candidates and state-based workshops.

2.1 Interviews with Deans of Graduate Studies

Prior to the interviews, an informal email survey of Deans of Graduate Studies from 20 Australian universities (over half of the total) provided information regarding the following questions.

- Has your university introduced formal coursework into the PhD program? Or
- Do you have plans to do? Or
- Do you have plans to introduce a Masters of Research (MRES)? Or
- Do you have no plans for coursework/MRES?

Over 75 per cent reported that they either had introduced some form of coursework or were in the process of discussing the possibility.

During the second half of 2012 interviews were undertaken with the project’s six participating Deans of Graduate Studies, and sometimes some of their senior staff.

The interviews covered the following questions:

- What do you currently have with regard to formal coursework?
- What are the principles that underlie your programs?
- If you currently don’t have coursework in the PhD, are you planning to do so soon? If so why? If not, why not?
- Have you evaluated your coursework? Responses? Results?
- What lessons have you learned?
- Are there other examples of coursework that you think might be of interest to the project?

The institutions and their Deans of Graduate Studies demonstrated the wide range of thinking and of models that was then reflected across the sector when the findings were presented at a meeting of the Australasian Deans and Directors of Graduate Research.

Common to all institutions in the study was the need to balance:

- Flexibility with structure
- Accountability with individuality
- Disciplinarity with multi/inter-disciplinarity
- Research skills with personal/employability skills
• Front-ending research training with integration across the full PhD program
• Institutional models with a national higher education system
• The role of Masters programs with the role of the PhD

Of the six universities involved, Macquarie University had developed a substantially different program with the implementation of their own “Macquarie” model. The details of this innovative model are provided in Appendix A with the full report of all the other interviews in Appendix B.

2.2 Workshops and focus groups

In the first six months of the project seven workshops/focus groups were held with candidates, postdoctoral fellows/early career researchers (ECRs) and academic staff in two of the project’s universities. University A is a new generation university that has grown and developed strength in doctoral education over the past ten years. Supervisors and candidates across the range of Humanities and Social Sciences (HASS) and Science, Technology, Engineering and Mathematics (STEM) disciplines were involved in the research. In comparison, University B is a research-intensive university belonging to the Group of Eight universities. Only the Science supervisors and candidates were involved as the Social Sciences at this university had already introduced coursework and the study was aimed at working with those universities introducing or planning to introduce coursework.

The aim of the workshops and focus groups was to facilitate participants in their discussions of the various issues related to why they might want to introduce coursework, how they might do that and what the content might address. Overall, 70 candidates and supervisors assiduously took part in the workshops/focus groups.

See Appendix C for full report.

2.3 Online survey

During late 2012 to mid 2013 an online survey was conducted with research candidates from five universities. In one university the survey was conducted with two different sectors: Science, and then Arts and Social Sciences, resulting in six data sets which have been amalgamated for the report.

Approximately 5017 candidates, with an average Female:Male ratio of 50:50, were invited to complete the survey. There were 724 usable responses giving a response rate of 14.4%.

The survey asked 71 questions in the areas of: “Aspects of your doctoral program”; “Plans for the future” and “About you and your enrolment”.

See Appendix D for full report and Appendix E for survey questions.

2.4 State workshops

As part of the project dissemination and as a means of contributing to the findings, five workshops were conducted in different state capitals involving participants from 54% of the Australian universities. The aims of the workshops were to share the findings of the project to date and then to seek participant input into what the findings might mean in practice.
The first hour of the workshop presented an overview of the project and a report on findings to date (see Appendix F and Appendix G for presentations at state-based workshops). Following a break to allow participants to catch up and meet with colleagues from other universities, they were invited to work in small groups to discuss the issues outlined in the presentation. Some university groups chose to work in institution-specific groups and others chose to work in mixed groups.

Table 1: State-based workshops by location, university and participants

<table>
<thead>
<tr>
<th>Location/State</th>
<th>Universities represented</th>
<th>Participant Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The University of Sydney - New South Wales</td>
<td>FIVE – The University of Sydney, University of Western Sydney, Charles Sturt University, University of Wollongong, The University of New South Wales</td>
<td>19</td>
</tr>
<tr>
<td>The University of Western Australia - Western Australia</td>
<td>FOUR – The University of Western Australia, Edith Cowan University, Murdoch University, The University of Notre Dame</td>
<td>13</td>
</tr>
<tr>
<td>Victoria University - Victoria</td>
<td>SEVEN – Victoria University, La Trobe University, Australian Catholic University, RMIT University, Deakin University, Monash University, The University of Melbourne</td>
<td>44</td>
</tr>
<tr>
<td>Queensland University of Technology - Queensland</td>
<td>TWO – Queensland University of Technology, Griffith University</td>
<td>21</td>
</tr>
<tr>
<td>University of South Australia - South Australia</td>
<td>THREE – University of South Australia, The University of Adelaide, Flinders University</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
<td><strong>127</strong></td>
</tr>
</tbody>
</table>

The Project Leader and manager coordinated the workshops in conjunction with key personnel in each of the host universities.
Chapter 3: Project outcomes

While the project aims outlined earlier provided the focus for the project, it became very clear early in the research that three important issues would require reconceptualising. The first was the much speedier implementation of coursework in a number of universities. As noted in Appendix F by the time the project commenced 75 per cent of universities had, or were discussing implementing some form of coursework.

The second issue was the overall negative response to the term ‘coursework’ and yet a positive response to a structured curriculum for PhD students.

The third issue related to the development and implementation of the “Macquarie model”, a program that commenced during the project. An outline of the Macquarie model has been provided in Appendix A. Of interest was the positive response to this model by many of the Australian Deans of Graduate Studies.

Recognising these three developments resulted in the project taking a slightly different focus, and that was to consider how universities might provide a more structured approach to the learning of their PhD students with the various implications of different models using a curriculum model as a framework.

The main outcomes, as identified in the project proposal include:

- A soundly researched set of pedagogical and curriculum principles that can be used as a basis for universities wanting to develop formal coursework within the PhD taking into account the new AQF and TEQSA requirements
- An online resource of examples of different models of ‘coursework’
- The findings from working with staff and candidates in a sample of the participating universities
- Extensive workshops in states and territories to:
  - disseminate information and at the same time
  - collect examples of practices and concerns
- Workshops, seminars, published papers and reports that debate the issues and provide for educational, organisational and funding considerations.

3.1 Curriculum principles

From the study is was clear that a curriculum model provides an excellent framework for the education of future researchers, particularly an aligned curriculum which is one where the learning activities and assessment strategies align with the aims and espoused learning outcome (Biggs, 2003).

So what does this mean for doctoral education?

A possible doctoral curriculum is outlined in Figure 1 and, while very simple, it is suggested that such a model could be helpful for universities as they restructure their doctoral programs. To take into account the many changes and developments of the previous few years.
3.1.1 Aims

From the study we suggest that the aim of the Australian PhD is to educate candidates so they can:

- produce quality research
- be well rounded researchers who can clearly articulate the knowledge and skills that they have developed during candidature
- identify how their doctoral education supports future endeavours including employment, career development and contribution to society, and
- know the world and themselves as researchers.

3.1.2 Learning outcomes

The Australian Qualifications Framework (2013 p. 63) states that successful doctoral graduates that is those working at “Level 10” will have the following knowledge, skills and application:

**Knowledge**

- A substantial body of knowledge at the frontier of a field of work or learning, including knowledge that constitutes an original contribution
- Substantial knowledge of research principles and methods applicable to the field of work or learning.

**Skills**

- Cognitive skills to demonstrate expert understanding of theoretical knowledge and to reflect critically on that theory and practice.
• Cognitive skills and use of intellectual independence to think critically, evaluate existing knowledge and ideas, undertake systematic investigation and reflect on theory and practice to generate original knowledge.

• Expert technical and creative skills applicable to the field of work or learning.

• Communication skills to explain and critique theoretical propositions, methodologies and conclusions.

• Communication skills to present cogently a complex investigation of originality or original research for external examination against international standards and to communicate results to peers and the community.

• Expert skills to design, implement, analyse, theorise and communicate research that makes a significant and original contribution to knowledge and/or professional practice.

Application of knowledge and skills

• Intellectual independence.

• Initiative and creativity in new situations and/or for further learning.

• Full responsibility and accountability for personal outputs.

• Plan and execute original research.

• Ongoing capacity to generate new knowledge, including in the context of professional practice. (AQF, 2013 63-64)

3.1.3 Prerequisites

There are two different considerations when addressing the pre-requisites for doctoral candidates.

The first consideration suggests that universities and supervisors expect that candidates should start candidature “research ready” and able to “hit the ground running”? This implies that there are no specific requirements for undertaking research-related courses during candidature, but rather applicants will have learned about research and have already demonstrated the skills necessary to undertake doctoral level research.

The second consideration suggests that universities and supervisors expect that applicants are “ready to learn how to be researchers” and that the doctorate is a time to educate candidates to be able to undertake research.

3.1.4 Learning Activities/Content

Keeping in mind the aims of the doctorate, the learning outcomes, and the prerequisites outlined above what learning activities should be provided for candidates? For example:

• Advanced disciplinary knowledge?
• Introductory research methods and skills?
• Advanced research methods?
• Generic skills e.g. teamwork, project management?
3.1.5 Pedagogy/Teaching approaches

When considering the appropriate pedagogical approaches for doctoral education it might be timely ask whether our traditional models of research supervision, particularly the 1:1 model, provide candidates with the learning assistance they require? During the project those involved were invited to consider is there were creative/alternative ways in which we can assist candidates with learning for example:

- Effective panels
- Peers
- Collaborations across research groups.

One particular approach that received considerable attention was the use of Learning Needs Assessments and Learning Plans (Gough & Denicolo, 2007). These activities allow candidates and supervisors to:

1. Understand what is expected of learners at the various stages of their program
2. Assess her/his strengths, existing knowledge and skill against expectations
3. Use some form of judgment regarding the quality of that skill e.g. Expert/competent/beginner
4. Identify the areas where additional skill/knowledge required, and
5. Develop a learning plan for various stages of candidature.

3.1.6 Assessment

“Assessment drives learning” is a phrase commonly heard in curriculum discussions. One might ask if this holds true for doctoral education. At an institutional and national level does our current doctoral assessment align with the espoused aims, learning outcomes? For example, Kiley (2009, 38) suggests that:

The notion of alignment would suggest that different forms of assessment might be appropriate if candidates engaged in different learning experiences through their program and that there were different aims for the program outcomes.

In light of the above might be some of the additional/alternative forms of assessment noted below be appropriate at the doctoral level:

- Self assessment/reflection?
- Milestones that include assessable activities?
- Assessment of key activities during candidature?
- A portfolio?
- An oral component?
- Requiring a number of publications?
- Thesis by compilation?
- Exegesis?

3.1.7 Evaluation

When considering curriculum at any level it is important to ask the question: Are our curriculum offerings appropriate? Additional questions that arise specifically at the doctoral level include the following:

- Nationally we have the Postgraduate Research Experience Questionnaire (PREQ). Does this tell us anything about the “Curriculum”?
- Does our current focus on candidate satisfaction, attrition and completion times and rates tell us enough?
- What might be other appropriate forms of evaluation?

In summary, using a curriculum model to think through how we might better support and educate our PhD candidates can assist in highlighting areas of alignment and misalignment.

3.2 An online resource of examples

The project has collected 11 case studies from Australian universities and these are available on the project website [http://chelt.anu.edu.au/doctoral-coursework/presentations](http://chelt.anu.edu.au/doctoral-coursework/presentations)

3.2.1 Graduate Research Programs for UWA
Prof Alan Dench, University of Western Australia

This model enables coursework/formal learning to be distributed throughout candidature. Coursework falls into the following categories:

- Enabling: First year candidature units to fill knowledge gaps eg: advanced statistics, project planning and management and research integrity training
- Enriching: Participation in interdisciplinary masterclass, seminar/workshop series. External internships for example, government, industry and business
- Articulating: Later stages of candidature offering formal modules eg: media training, tertiary teaching, and business planning

3.2.2 Integrating Coursework into Research Programs at University of Canberra
Prof Deborah Blackman and Dr Joelle Vandermensbrugghe, University of Canberra

UC has approved a flexible program offering specific entry pathways and in many cases has adopted the existing coursework from its professional doctorate programs as part of its PhD coursework.

3.2.3 A Cross-University Model for Coursework in the Initial Year of the PhD
Prof Helen Borland, Victoria University

Victoria University has introduced courses of 12 credit points including:
- Conceptualising and Contextualising Research
- Research Integrity and Ethics
- Electives

3.2.4 PHD@JCU and program (draft brochure)
Prof Helene Marsh, James Cook University

James Cook University has introduced two major components:

- Confirmation of Candidature which comprises two graded subjects to be completed in the first 12 months FTE: 1) Developing the Research Plan, and 2) Situating the research.

- The Transferrable Skills Program which is offered as an ungraded subject comprising a series of professional development workshops, with core and elective components tailored to the needs of individual students based on a formal needs assessment.

3.2.5 RMIT PhD Research curriculum framework
Dr Inger Mewburn, Dr Sarah Stow and Prof Denise Cuthbert, RMIT

RMIT is encouraging schools to develop their research foundations and design courses in the form of a 12-week course to be offered flexibly to meet the learning needs of candidates.

3.2.6 Doctoral curriculum for candidates at Edith Cowan University, A case study
Prof Joe Luca, Edith Cowan University

Edith Cowan University has adopted a learning needs assessment and personal learning plan approach to their structured program.

3.2.7 Rethinking the PhD at the University of Sydney
Prof Marie Carroll, University of Sydney

The University of Sydney has introduced a mandatory Training Needs Analysis for each candidate followed by the development of a learning plan.

3.2.8 Electives and Mandated Subjects: Coursework for Research Students at MCD University of Divinity
Dr Mark R. Lindsay, MCD University of Divinity

From 2012 all commencing HDR students, irrespective of degree type, must undertake in their first year of candidature a semester-length Research Methodologies subject.

3.2.9 Integrating Coursework into Research Programs
Prof Nick Mansfield Dean HDR Macquarie University

The Macquarie model with a two-year Masters of Research is described in detail in Appendix A.

3.2.10 The ATN approach to enhancing research professionals’ skills to facilitate best practice research management and broaden individual career opportunities
Prof Paul Burnett and Dr Paige Maguire, Queensland University of Technology
The ATN approach utilises the courses and resources on the e-Grad school (eGSA) which provides online non-award and award courses for research students. Candidates, in conjunction with their supervisors, determine the modules that are the most appropriate for them.

3.2.11 Ancora Imparo - towards the Monash PhD (Ancora imparo is the University motto - "I am still learning")
Prof Rod Devenish, Monash University

The Monash PhD program is made up of two elements: a thesis component and a training component. The training component includes skills development opportunities and/or a mandatory coursework component. All students being required to undertake (or gain exemption from) a selection of these elements, which combine to 192 hours to be taken at appropriate stages during candidature.

3.3 Findings from focus groups and survey

Based on responses from participants in the focus groups it became clear that they considered the term ‘coursework’ to be inappropriate and that a more appropriate term appeared to be “structured program” or “structuring the PhD curriculum” (See Appendix C). Critical aspects of this structure included:

* a clear set of learning outcomes
* an overall framework within which candidates and supervisors can identify and develop their own individualised program; and
* the importance of supervisor involvement.

There was also variation on what participants thought such “structured programs” might cover. For example: content, timing and individual learning needs. There was also considerable discussion on issues such as academic skills (generic and/or discipline specific) and employability skills (generic and/or discipline-specific). Furthermore, should the content relate to research knowledge and skills or more to advanced disciplinary knowledge? Another model proposed by some, was the development of a combination of academic and employability skills throughout candidature.

Timing was also an issue that was frequently raised, for example should courses and coursework be in the first year (full-time equivalent) of candidature with the expectation that the courses will be completed successfully to allow progression through the doctorate, or should these learning opportunities be throughout candidature.

A popular approach in a number of universities was the implementation of learning needs analysis and the development of personal learning plans.

Appendix D provides greater detail from the analysis of the online candidate survey, however, in summary 57% of respondents agreed that there should be some coursework, mostly in the first year of candidature. It was clear from the responses that the universities involved in the survey were providing some excellent opportunities for candidates to develop research–related knowledge and skills, but far less so opportunities to develop employability knowledge and skills.
3.4 Workshops seminars and published papers

The various opportunities where the findings from the project have been shared are outlined in Table 2 below. These include workshops, conferences, and journal papers.

Table 2: Dissemination events and locations

<table>
<thead>
<tr>
<th>Date and Location</th>
<th>Event and brief description</th>
<th>No: of attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 9-11 July</td>
<td></td>
<td></td>
</tr>
<tr>
<td>June 2014</td>
<td>Submitted to Higher Education Research and Development Kiley, M. (Submitted). <em>Don’t mention the war</em>: Introducing ‘coursework’ into the Australian PhD</td>
<td></td>
</tr>
<tr>
<td>Nov 2013 Hobart</td>
<td>DDoGS Meeting: Presentation to Australian and New Zealand Deans and Directors of Graduate Research Schools</td>
<td>60 46* 3**</td>
</tr>
<tr>
<td>Oct 2013 Melbourne</td>
<td>State based workshop: Dissemination of project findings and address further questions</td>
<td>45 7*</td>
</tr>
<tr>
<td>Sep 2013 Adelaide</td>
<td>State based workshop: Dissemination of project findings and address further questions</td>
<td>30 3*</td>
</tr>
<tr>
<td>Sep 2013 Brisbane</td>
<td>State based workshop: Dissemination of project findings and address further questions</td>
<td>21 2*</td>
</tr>
<tr>
<td>Sep 2013 Sydney</td>
<td>State based workshop: Dissemination of project findings and address further questions</td>
<td>19 6*</td>
</tr>
<tr>
<td>Sep 2013 Perth</td>
<td>State based workshop: Dissemination of project findings and address further questions</td>
<td>12 4*</td>
</tr>
<tr>
<td>May 2013 Brisbane</td>
<td>DDoGs Meeting including NZ DoGs: Discussion regarding doctoral coursework.</td>
<td>58 43* 45**</td>
</tr>
</tbody>
</table>
### Coursework in the Australian doctoral education: What’s happening, why, and future directions?

<table>
<thead>
<tr>
<th>Date</th>
<th>Conference/Event</th>
<th>Location</th>
<th>Authors</th>
<th>Paper/Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr 2013</td>
<td>Research Workforce Forum Invited paper: Kiley, Margaret. (2013). Improving the quality of research supervision and enhancing the role of supervisor training. The 2nd Research Workforce Forum 2013 - Sustaining research skills for a strong Australian research workforce, Supported by: Round Table Business/Higher Education. Sydney 29-30 April: Informa.</td>
<td>Sydney</td>
<td>Kiley, Margaret</td>
<td></td>
</tr>
<tr>
<td>Nov 2012</td>
<td>DDOGS Meeting: Presentation of project findings</td>
<td>Melbourne</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*higher education institutions represented **other institutions represented estimated

In addition to the dissemination outlined in Table: 2 due to her previous work on coursework masters (OLT CG10-1706) and her current project, the Project Leader, Dr Kiley was invited to address the Association of Chartered Teachers of Scotland [http://acts.edublogs.org/] when she was in Edinburgh. Fifteen members attended the after-work meeting and for two and a half hours discussed issues related to pathways into a doctorate and learning experiences within doctoral programs.

Also, following the her presentation at the meeting of the Deans and Directors of Graduate Research in Brisbane, the Project Leader was invited to meet with staff from the Research Outcomes and Policy Branch of DIICCSRTE in May 2013 to elaborate on the project and suggest implications of the findings. Later that year in December Dr Kiley was also invited to meet with the Deputy Vice-Chancellor (Research) and members of the Higher Degrees Committee at the University of Western Sydney (UWS) to discuss details of this project and of the preceding coursework masters project.

Finally, we have been able to disseminate information through the project website [http://chelt.anu.edu.au/doctoral-coursework].
Chapter 4: Impact of project

Through the workshops and focus group, participants indicated that the term ‘coursework’ meant many different things to them, for example: research processes, advanced discipline-specific knowledge, employability, lectures, exams and the ‘US model’. There was also considerable variation regarding the timing of coursework from being in the first year only through to being throughout candidature. Issues were also raised with regard to funding any coursework, particularly exit options (e.g. Graduate Certificate). Furthermore, there was concern that coursework might extend the already tight timeline for completion.

Addressing the various issues related to ‘coursework’ using a simple curriculum model provided opportunities to discuss the following:

- The overall aims of the Australian PhD
- The integration of the learning outcomes identified by the AQF along with those of organisations such as Vitae in the UK
- The appropriate content, teaching approaches and time for courses so that it aligns with the aims and learning outcomes; and
- Assessment that aligns with the above.

One of the main curriculum issues that was not fully addressed related to evaluation, that is, strategies for evaluating the implementation of coursework. Fortunately Nigel Palmer, a member of the project reference committee also worked with Luca and Wolski in trialing their Good Practice Framework for Research Training project framework (Luca and Wolski) [http://www.ecu.edu.au/centres/graduate-research-school/good-practice-framework-for-research-training](http://www.ecu.edu.au/centres/graduate-research-school/good-practice-framework-for-research-training). This involvement has helped inform some of the outcomes regarding the move towards some structuring of candidate learning experiences.

As a result of discussions and a presentation at the Deans and Directors of Graduate Research (DDoGs) meeting, Dr Kiley was invited by the then Director of the Research Outcomes and Policy Branch of DIICCSRTE, Lisa Schofield, to meet with staff of the Branch and then to provide two background papers. The first was related to the current OLT project and its implications for government policy and the second regarding pathways into the PhD which drew upon the findings of the two previous OLT projects, *Honours in Australian Higher Education* [www.aushons.anu.edu.au](http://www.aushons.anu.edu.au) and *I’ve done a coursework masters, now I’d like to do a doctorate: Can I?* [http://courseworkmasters.anu.edu.au](http://courseworkmasters.anu.edu.au). The papers were intended for internal use within the Branch as staff develop their Discussion Paper related to HDR funding, however, aspects of the papers have been used for other dissemination activities, including conference papers.

Following the DDoGs meeting where Emeritus Professor David Siddle from the Higher Education Standards Panel (HESP) spoke about the standards relating to doctoral education, the Project Leader, with the agreement of the Convener of the DDoGs, approached HESP with the offer to share any information from the project that might be relevant. As a result she invited to join the HESP mailing list so that she could respond to the discussion papers being distributed for example, the Draft Standards for Research, Research Training and Learning Outcomes, presented in July 2013.
Chapter 5: Critical success factors and impediments

5.1 Lessons learnt

Six main lessons have been learned from the project.

5.1.1 Previous project experience had alerted the Project Leader to the benefits of having a website available early in the project. This not only provides prompt dissemination of information, but also attracts new and early interest in the project. While the OLT requires projects to initiate and maintain a website there are a number of issues which are associated with this, for example:

- What happens to the website if the Project Leader leaves the institution during or soon after completion of the project?
- What happens when the Project Manager, who might have established and managed the site, is no longer employed on completion of the project? Particularly if she/he has the access passwords etc.

5.1.2 On reflection, it may have been helpful to have conducted an additional survey pilot study, and include more students in the setup and question ideas, along with more students surveyed in this additional pilot study.

5.1.3 During the focus groups and discussions it became clear that a particular need at the HDR level, was some means of identifying the individual strengths and needs of doctoral candidates at the commencement of, and during candidature. With the opportunity to attend doctoral education conferences in Edinburgh and Stellenbosch to present findings and encourage discussions on “coursework in Australian doctoral education” a number of useful resources were identified. Edith Cowan University offered to support work related to the development and implementation of learning needs analysis strategies and models of personal learning plans. The University has kindly agreed to allow findings from this work, that is work additional to the original OLT-funded project, to be made available for dissemination through this project.

5.1.4 Perhaps the single most important learning from the above is the need to network, to be involved in talking with colleagues, and presenting ongoing work so that suggestions can be taken into account early on in the development of the project.

5.1.5 The state-based workshops have been an excellent way of learning about possible changes to the project and particularly modifications in terminology. For example, it has become clear that the term ‘coursework’ has negative connotations within the context of the Australian PhD. However, the terms ‘structured approached’ and ‘integrated curriculum’ in the PhD were well received.

5.2 Challenges met

Not quite enough responses were received in one survey to make definite conclusions. However, the initial responses helped us to construct more specific and targeted questions and the University involved agreed to rerun the survey.
As usual with official paperwork, ethics approvals can provide some challenges, however in anticipation of delays, the Project Leader began the ethics approval process early enough to obtain timely clearances. There were delays when changes/updates were required by ethics to include more universities to be surveyed, as well as the changes to some survey questions.

5.3 Factors critical to the success

There were a number of factors critical to the success of the project including:

- Appointing a Project Manager very soon after the project was approved. This provided an opportunity for her to attend the OLT’s “leading and managing projects” workshop.

- Presenting early project findings at the Australian Council of Deans and Directors of Graduate Research (DDOGS) helped in defining further enquiry from the project.

- Keeping close attention to how challenges had an impact on outcomes, timeline and budget.

- Employing a statistical analyst to carry out further in depth analysis of the survey data.

- Early engagement of the evaluator and reference committee.

- Keeping close and open communications with all participating universities by providing them with their individual university data from the survey and workshops.

- Receiving enthusiastic responses when conducting the questionnaire to Deans and Directors of Graduate Research.

- Through formal and informal meetings and discussions with Deans of Graduate Research (in Australia and New Zealand) the Project Leader has been able to check that the project is heading in a direction that will enable findings to make a useful contribution to Australian, and possibly New Zealand Higher Education.

5.4 Factors that impeded its success

Two factors which might be seen as impediments are noted below as there appear to be answers to each of them which other projects and universities might find helpful to consider. The first is the use of Project Managers/Research Assistants and the second project websites.

There is a widespread and ongoing need for skilled project managers and research assistants. However, with this need comes a succession of project managers and research assistants looking for another contract/job before completing the present position/grant they are in. With the last six months of projects being the time when all components of the project are brought together for completion and final report writing, this is the time when retaining staff is crucial. But at the same time it is important to be able to employ experienced Project Managers and Research Assistants at the beginning stage of projects.
We believe that by universities having a central pool of skilled Project Managers/Research Assistants coordination could result in the more effective practice for all involved.

We also see a similar practice required with website production and maintenance for some OLT projects. Having a central pool of experienced staff to call on to help with the establishment and maintenance of project websites would be very helpful as at present the practice is to ‘reinvent the wheel’ for each project, possibly an avoidable exercise.
Chapter 6: Evaluation

The project team is very grateful to the evaluator, Dr Rachael Pitt, for her detailed and very helpful report outlined below.

6.1 Background

The Office of Learning and Teaching (OLT) funded this project under the competitive Leadership for Excellence in Learning and Teaching Program grants scheme. These grants facilitate scholarship and research into learning and teaching, and aim to promote systemic change in the sector. The aim of this project, to examine issues around the introduction of coursework into the Australian PhD within a consideration of the purposes of the PhD, clearly aligns with this grant scheme. The discussion that this project facilitated has sector-wide implications and provides a framework and shared language for taking forward the doctoral curriculum conversation.

This impetus for this project was the identification of a growing trend and discussion amongst Australian universities to introduce coursework into the PhD. At the time the project commenced this trend was gathering pace and appeared in danger of taking on a self-generating nature—whereby no university could afford to not consider the introduction of some coursework elements into what had traditionally been considered a ‘coursework free zone’. To do so meant facing a potential loss in market share or perceived prestige, with those universities providing PhD coursework offerings perhaps signifying greater support, opportunities, and graduate outcomes. This project identified the tensions generated from this situation, particularly that ‘The introduction of coursework into the Australian PhD is a development that is being undertaken in the absence of a set of pedagogical, curriculum, organisational and funding principles suited to the Australian context.’

The final three words, ‘the Australian context’ are key to this project, along with the identification that potentially major changes are being implemented without a well-grounded consideration of why. The project identifies that the Australian PhD system is in the same position as systems across the globe, of needing to recognise where it has come from, why it has developed to this point as it has, and how to deal with the challenges of an increasingly globalised and mobile world.

There is an urgent need to ensure that the Australian PhD remains ‘fit for purpose’ and to engage in critical debate on what that purpose now is. This provides the main question guiding this project – ‘what are the intended outcomes of doctoral programs’ (project proposal, p. 4) and where does coursework fit in realising these aims? Getting this wrong has ramifications for Australia’s higher education as a major export, our competitiveness in the ubiquitous innovation and knowledge economies, and the outcomes for all those undertaking a PhD.

Despite the Australian higher education’s heritage from the UK’s Oxbridge model, there are distinct differences, particularly when considering the PhD. For example, the multi-institution Doctoral Training Centres and funding brought about from the Robert’s Review creates different tensions to those in Australia, where funding is centred at the individual institution. The support provided to UK-wide support organisations such as Vitae, are another distinguishing characteristic of the environment in which coursework is being discussed in each system. The primary unifying group for discussing coursework within Australia are the Deans and Directors of Graduate Studies (DDoGS). This group has
identified various concerns which were incorporated into this project. These included how the current funding model permits/limits the potential for coursework and how to conceptualise and address the increasing diversity in the Australian PhD.

6.2 The Evaluation Approach

A multi-pronged approach was used to evaluate this project. Firstly, the Project Team undertook to be reflective and responsive to the feedback of participants and stakeholders in determining the ongoing focus and approach of the project. This included participants in the state/territory-based workshops and those who provided data for the project. It also included two key groups whose involvement was included throughout the project.

The first of these was the DDoGS group and their involvement ensured the continued relevance and timeliness of the project. This approach was sensible as the Deans and Directors of Graduate Studies ‘promote excellence in research training and scholarship and ... seek to maintain and continue to improve national standards for all graduate research degree programs’ (http://www.ddogs.edu.au/#labout/c20r9). The cooperation and feedback of the DDoGS enabled examples of current (and planned) PhD coursework to be collated and to gain critical insights into the rationales in place at various institutions.

The Reference Committee was another group identified as providing important feedback throughout the project. This group had worked together on the earlier funded ALTC project ‘I’ve done a coursework masters now I want to do a PhD: Can I?’ The group brought together a range of expertise in the purposes, forms, and pedagogy of research education along with knowledge of the Australian research training funding and policy landscape. The Reference Committee, Project Team, and Evaluator were brought together in May 2012 to discuss progress and provide feedback and suggestions for future directions. The group at critical points in the project provided further input remotely.

The Project Team and Reference Committee worked very well together. The Chief Investigator has a collaborative approach that seeks out the opinions and input of diverse stakeholders and incorporates, at times, discordant views into the overall discussion. The Project Manager likewise was collaborative, well organised, and provided a strong focal point for those engaging with the project. The Reference Committee was generous in their provision of ideas, networks and resources.

The place of the Evaluator in this project was that of critical friend involved throughout the project, with the following questions being used as the terms of reference for this report:

- How do the planned processes relate to what was actually put in place for the project? What caused the variations from the processes that were initially proposed?
- How is the involvement of participating universities being managed to enable the most effective communication and outcomes?
- What have been the observable short-term outcomes? Which of these were intended project outcomes, which were unintended outcomes?
- What factors help and hinder the achievement of the outcomes?
- To what extent is the project methodology considered appropriate, efficient and effective? How might it be improved for the next stage of the project?
• Are there lessons learned from this project that might be useful for other institutions and projects?

• How has the project facilitated collaboration and networking amongst those working on similar projects?

• What measures, if any, have been put in place to promote sustainability of the project’s focus and outcomes?

• What are the implications of this project for similar, future OLT projects?

6.3 Project Outcomes

A number of outcomes were proposed as the intended consequences of this project. These are outlined below, along with the results from focusing on these areas.

A soundly researched set of pedagogical and curriculum principles that can be used as a basis for universities wanting to develop formal coursework within the PhD taking into account the new AQF and TEQSA requirements

Comment: The project has clarified the concerns of the sector regarding the inclusion of coursework within the Australian PhD. It has also provided recommendations that a doctoral curriculum should take into account the development of the individual (not just ‘the PhD’) within the context of their university, broader societal expectations and needs, and regulatory/governance frameworks.

An online resource of examples, including international outlines where they might be considered appropriate for Australia

Comment: The website contains case study examples of current (or planned) PhD coursework programs provided by participating universities. These highlight the variety of approaches being taken within the Australian context.

The findings from working with staff and candidates in a sample of the participating universities where, in the discipline groups, they have answered the following questions—arising from the Carnegie Initiative on the Doctorate (2006) Regarding doctoral graduates completing their program:

• What do you want them to be able to do?
• What will they have experienced?
• What habits of mind will they have developed, especially regarding being lifelong learners?
• What skills will they have developed?
• What content knowledge should they have when they leave the program?

Given these answers, then what curriculum, recruitment, assessment, coursework etc. do you need to develop to enable this to occur?

Comment: Participants and stakeholders in this project touched on issues of ‘what do we mean by PhD readiness’ and if candidates are ‘ready’ then why would
they need to do a PhD? The place of the individual and their development was also foregrounded, in that we can usefully go beyond ‘the PhD’ as an outcome that is examined to more broadly consider the individual in the process and their development.

**Extensive workshops in states and territories to a) disseminate information and b) at the same time collect examples of practices and concerns**

**Comment:** The feedback collected through the state/territory-based workshops around the above questions nicely highlights the plethora of rationales being used in arguing both for and against the introduction of coursework into the PhD. It also provided an opportunity for stakeholders to hear Australian examples where coursework has already been introduced. And to consider the purpose of the PhD in a massified higher education sector where innovation, interdisciplinarity, and mobility are governmental imperatives and the PhD is no longer a passport to an academic career.

**Examples of teaching and support available to academic staff offering doctoral level coursework**

**Comment:** The case studies compiled through this project provide an excellent starting point for those thinking about introducing coursework into the doctorate. The identification of the sites and approaches being used means that those considering similar approaches are able to make contact to ask of the challenges and wins encountered. They also provide different viewpoints for what can or should be included.

**Workshops, seminars, published papers and reports that debate the issues and provide for educational, organisational and funding considerations**

**Comment:** The project has already resulted in conference presentations, papers prepared for governmental departments, and briefings of the DDoGS. More outcomes will follow as opportunities arise.

### 6.4 Project Activities

**Part 1 - Background information**

**Purpose** To understand:

- the range of possible models internationally
- the qualities and principles that might be applicable in Australia

To provide:

- a sound educational base for any recommendations

**Activities** A web-based search of programs used overseas, particularly in the US, Canada and the UK.

A review of the literature related to curriculum and pedagogical issues in the area of doctoral education.

**Comment** The information collected through this stage of the project would be very useful to administrators, practitioners, and researchers both domestically and
Benefits (or detractions) of international models of doctoral education are often put forward without due consideration of the Australian context. An assessment of models would be a valuable tool for considering the likely implications of approaches before they are implemented. The information collected here is also essential in furthering discussions with policy makers to provide an evidence base for recommendations.

### Part 2 - AQF and TEQSA work

**Purpose**
To determine the potential ramifications of the new AQF and TEQSA

**Activities**
Work through all AQF and TEQSA requirements and if possible meet with representatives on issues related to postgraduate pathways and program design

**Comment**
The information collected through this stage of the project would be very useful to all those working in Australian research education, as the implications of the new regulatory framework are considered and implemented. It could also be used to open dialogue with TEQSA regarding the unique characteristics of the Australian PhD and the likely future directions required for its continued sustainability and international success.

The implications of the AQF are also important, as the sector needs to consider whether the current assessment of the PhD as an end result (i.e. the dissertation in whatever form) permits adequate alignment with AQF standards of what should have been learnt through the process (and the development of the individual as a researcher).

### Part 3 - Australian Universities practices through partner universities

**Purpose**
To identify:
- influences on thinking re coursework
- programs that have been/are being developed
- views of administrators, supervisors and candidates on coursework in the PhD

**Activities**
- Interviews with Deans and Directors of Graduate Research (DDoGs)
- Focus groups with doctoral candidates and relevant staff (supervisors and administrators)

**Comment**
The involvement of the DDoGS highlights the timely nature of this project and the buy-in of key stakeholders in investigating the place of coursework in the Australian PhD. It also speaks to the collaborative nature of the project team and the Chief Investigator’s standing within the doctoral education community.

The examples of current, and planned, doctoral coursework in several Australian universities gathered through this project are very valuable. They highlight the impact that underlying principles and assumptions have on the scope, purpose, and timing of coursework options. And point to the lack of a sector-wide consideration of the pedagogical place of coursework within the Australian context.

The information collected through the focus groups and interviews nicely
highlights the tensions surrounding coursework in the Australian PhD. Aspects of coursework that create concern for some are viewed in a positive frame by others, and vice versa. These tensions suggest that a cross-road has potentially been reached whereby a critical discussion on the nature, purpose, and form of the Australian PhD is now required.

The approach taken—of engaging with a wide variety of stakeholders to draw out their views and gather examples of what is currently being done—provides the background for that critical conversation to take place.

**Part 4 - Student experiences of research-related coursework**

**Purpose**

To identify the views of students re coursework undertaken in previous programs, e.g. Honours or Masters that might throw light on possible programs in PhDs

**Activities**

Online survey of doctoral candidates. Two surveys used in earlier ALTC-funded projects provided the basis for this survey (See ‘The role of honours in contemporary Australian higher education’ and ‘I’ve done a coursework masters, now I’d like to do a doctorate: Can I?’)

**Comment**

The survey of current research candidates provides voice to this heterogeneous group of key stakeholders. By reminding us that student profiles are often different across disciplines, it highlights that there is likely no ‘one size fits all’ model to coursework in the PhD and that pedagogical considerations of candidate needs must be firmly at the centre of any discussions.

It also reminds us that, whatever other (and higher) purposes the PhD has, a large proportion of those undertaking a PhD have hopes/expectations that it will assist them gain employment in their chosen area. And that the majority of this sample indicated that they could see they would need additional training past this pinnacle of academic achievement in order to be competitive in the current employment market.

**Part 5 - Sector involvement**

**Purpose**

To canvass broad opinion across the sector and to share ongoing findings through State-based workshops

**Activities**

Working with groups of staff regarding the questions identified above i.e. for graduates of your doctoral program:

- What do you want them to be able to do?
- What will they have experienced?
- What habits of mind will they have developed, especially regarding being lifelong learners?
- What skills will they have developed?
- What content knowledge should they have when they leave the e?
- Link the findings from this activity to possible curriculum/coursework

**Comment**

State/territory-based workshops have been found by the Chief Investigator on previous projects to be an excellent way of disseminating findings and
obtaining further data and clarification. This approach was utilised here to great effect. A member of the Reference Committee and I attended the Melbourne workshop. This workshop was well attended by doctoral education practitioners, administrators, and researchers from across the Melbourne universities. The discussions were engaged, informed, and challenging. The findings of the project were well received and generated a great deal of discussion that again highlighted the tensions around the issue. The discussions suggest that the tensions, in great part, arise due to the lack of clarity as to the current purpose of the PhD. This was identified in the project plan as a key element of the difficulties surrounding the introduction of coursework in the Australian PhD.

### Part 6 - Informing policy makers and funders

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To disseminate findings and activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>Focus groups with the Deans of Graduate Research at one of their biannual meetings</td>
</tr>
<tr>
<td></td>
<td>Discussion with representatives of the Research Funding and Policy Branch of DIISRTE</td>
</tr>
<tr>
<td>Comment</td>
<td>The Chief Investigator is recognised domestically and internationally in the doctoral education community. As such, she has been able to access the DDoGS group throughout the project and garner their support for the project. As Project Evaluator I anticipate that this working relationship will permit further beneficial discussions with this group. Findings from the project have also been presented to relevant governmental bodies. Further discussions with both groups are needed to ensure that the implications—for students, staff, universities, employers, government, notions of the PhD itself—of coursework in the PhD are adequately discussed. This project has provided a solid foundation on which to base these discussions and shown the direction of conversation needed.</td>
</tr>
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</table>

### Part 7 - Informing the broader sector

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To disseminate findings and implications nationally and internationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>Conferences, journal papers, talks, report, website</td>
</tr>
<tr>
<td>Comment</td>
<td>Presentations have been made by the Chief Investigator to various conferences, including the UK Council for Graduate Education <em>Developments in Doctoral Education and Training conference</em> in Edinburgh, April 2013. This presentation was attended by the Project Evaluator and a member of the Reference Committee and disseminated information on the project to an international audience of doctoral education practitioners and researchers. The project website (<a href="http://chelt.anu.edu.au/doctoral-coursework">http://chelt.anu.edu.au/doctoral-coursework</a>) succinctly and clearly outlines the aims, methods, and findings of the project. It provides valuable information for those considering coursework within the Australian PhD. This includes the case-study material from several universities who have, or are considering, implementing coursework, the findings of the survey, and a list of related OLT projects.</td>
</tr>
</tbody>
</table>
6.5 What can be learned from this project?

There is no common understanding or definition of what ‘coursework’ is within the PhD. Within the same institution it can be taken to mean, and implemented, as widely varying beasts. This situation causes confusion.

A key outcome of this project has been to highlight the extent of the confusion and discussions occurring at cross-purposes. Further, it has brought together key stakeholders in a collaborative endeavour to draw out some of these tensions and confusions. For example, the project has found examples, or proposals, of coursework at early-, mid-, and late-candidature falling at various places on multiple spectrums, including:

- Generic ↔ discipline-specific
- Process ↔ content
- Academic ↔ employability
- Individual ↔ cohort
- Deficit ↔ value-add
- Structured ↔ unstructured
- Formal ↔ informal
- Compulsory ↔ self-determined
- Charged ↔ free
- Hurdle/milestone ↔ just-in-time
- Credited ↔ not for credit/Award ↔ non-award

The project has drawn together key stakeholders and information from multiple vantage points to suggest an approach for moving the PhD coursework discussion on. The ongoing sustainability of the project and its outcomes is likely as all those involved are active in the doctoral education field and engaged with the topic. The issues uncovered by this project are not likely to disappear soon and the work undertaken here will be of great value in providing a language and framework around future discussions.
Chapter 7: Conclusions

The Australian PhD is changing, and changing quickly. Not only are the candidates who are undertaking a doctorate changing, for example, the increase in international enrolments, changing entry qualifications and potential employment/futures, but also from the recent budget it appears that there are substantial funding changes on the horizon. This project has taken one specific approach to this change and that is to examine curriculum developments. In some cases these changes have involved the introduction of formal coursework, but more broadly these changes have involved a more structured approach to doctoral education.

The project found that there was wide-spread support for varying types of coursework in the PhD but there was not such support for the use of the term ‘coursework’ itself. Hence, the project has moved to the use of terms such as ‘structured program’.

Within this structured program there were several different understandings as to what the learning opportunities might include. For some their thoughts immediately turned to courses such as research methods and other research-related programs. For others, the discussion related more closely to providing advanced disciplinary knowledge and for others the focus was more on employability skill development. The conclusion is that while research-related skills were agreed to be the most critical of these different skills, all are likely to be appropriate for different candidates, in difference disciplines, at different stages of candidature.

A number of benefits arising from some form of structured candidate learning were identified with one of the most commonly reported being cohort building as a means of lessening candidate isolation. Another benefit included a more comprehensive provision of research-related education for candidates thereby lessening the reliance on individual supervisors.

While a number of different models for structuring programs were identified, perhaps the most popular approach that developed during the period of the project related to the implementation and development of a learning needs assessment and then learning plan for each candidate. Such an approach has gained support in a number of UK universities and has already been adopted in some Australian universities. Further work on this approach is strongly recommended.

This project has just been the first step in examining the doctoral curriculum. Assisting institutions in the development, implementation and evaluation of these new programs is a critical next step as outlined in the recommendations provided in Chapter 8.
Chapter 8: Recommendations

The following recommendations have arisen from the project:

- It is recommended that further work is undertaken to support institutions with the implementation of their doctoral curriculum and to evaluate the impact of coursework/a structured curriculum approach to the PhD. Through such work universities could be encouraged to take into account the principles outlined in this report, the AQF requirements for Level 10, and the specific aims of each university. The Australian Deans and Directors of Graduate Research have been actively involved in the current project and it is suggested that they would make an effective focus for follow-up work.

- It is recommended that work is undertaken, either in conjunction with the above recommendation or separately, to identify the implications and practices related to the development and implementation of approaches involving a learning needs assessment and learning plan for each doctoral candidate.

- It is recommended that doctoral education continue to be explicitly included and supported through OLT grant schemes.

- It is recommended that discussions between relevant government departments and key stakeholders take place regarding the funding model for doctoral training within Australia and its impact of candidate learning.
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Appendix A The “Macquarie” Model

Abstract

Macquarie University made a policy decision in 2011 for implementation in 2013 whereby they would change the standard entry PhD qualification at the University from Honours to a Masters of Research (MRes). This model brings Macquarie more into line with the Bologna 3+2+3 model i.e. three year undergraduate, two year masters and three year doctoral es.

For more information see http://www.hdr.mq.edu.au/information_about/research_training_degrees/Domestic/mres_program_structure.

A number of particular issues have been addressed in this development including:

- aims and learning outcomes
- course content
- pedagogical issues
- funding; and
- recognition of prior learning.

A number of challenges have also had to be addressed.

Aims and learning outcomes

With much of the research training being placed in the Masters of Research (MRes) the University considers that it will be able to provide more specific support for candidates and in particular reduce candidate isolation.

By offering coursework in the MRes, the university hopes that candidates will be able to complete their PhD in the required three years.

Course content

Courses include disciplinary knowledge as well as research skill development. In the first year of the Masters much of the focus is on disciplinary knowledge and then in the first part of the second year the focus is on:

- Developing a research plan
- Starting the literature review
- Identifying research issues in the sub-discipline
- Project management.

By the second half of the second year students are working on their research project with the intention that by the time they start their PhD they will be able to go straight into their PhD research project.
Pedagogical issues

When students commence the MRes they are under the supervision of a panel and then as the planning and work develops students identify a couple of specific supervisors with whom they want to work. By the second half of the second year when they are working on their project the student usually has identified one supervisor with whom they will want to undertake their PhD.

Funding

Macquarie negotiated with the Government that they would fund this model from existing funds including the one year HECS income for Honours, which will now be considered to be the first year of the MRes and then Research Training Scheme (RTS) funding for the second year as candidates will be submitting a thesis for examination.

Recognition of Prior Learning

Overseas doctoral applicants who come with very good Masters qualifications will be accepted straight into a PhD. Domestic students who come with Honours will be given one year credit in the MRes. Others will be handled on a case-by-case basis.

Challenges

There were a number of challenges with this strategy with one of the main ones ensuring that ‘double-dipping’ is avoided. A second challenge was to identify an equitable workload model for staff, particularly with teaching courses and being involved as panel members. At the moment the model rests on the professionalism of staff and presumably the possibility of being able to nurture and then take over well prepared and known doctoral candidates (akin to the Honours model).
Appendix B Interviews with Deans of Graduate Studies

During the second part of 2012 interviews were undertaken with five of the project’s six participating Deans of Graduate Studies, and sometimes some of their senior staff. The sixth is reported under Appendix A: The “Macquarie” Model.

Following ethics approval, each interview was recorded, noted and the notes returned to the interviewee for checking. The interview, which was conducted more in the form of a discussion, covered the following questions:

1. What do you currently have with regard to formal coursework? Details of:
   - Assessment
   - Timing
   - Content
   - Exit point equivalence

2. What are the principles that underpin your programs?

3. If you currently don’t have coursework in the PhD, are you planning to do so soon?
   If so why? If not, why not?

4. Have you evaluated your coursework? Responses? Results?

5. What lessons have you learned?

6. Are there other examples of coursework that you think might be of interest to the project?

Unsurprisingly given that the institutions were invited to participate because they either had different practices related to the possible introduction of coursework into the PhD, or were at different stages, there was substantial variation in the analysis. Given this variation the analysis is reported by each institution as short case studies.

University 1

Here the institution argues that faculties are responsible for coursework within the overall AQF framework which allows up to one year of coursework within the PhD. Different disciplines have different numbers of courses ranging from two to four.

This approach to coursework seems to work well within an institution that has very tight milestones and good completions with the aim being completion within 3.5 years and with a focus on the doctorate being the creation of new knowledge rather than perhaps some of the more generic or employability skills. The overall learning outcome at this institution is “becoming a scholar and being able to contribute to a better society”.

However, the university has a generic skills checklist and candidates can self assess and if they want to they can link into a wider range of learning opportunities e.g. the Australian Consortium for Social and Political Research Inc. (ACSPRI), courses, and the Australian Technology Network (ATN) modules. Furthermore, the institution provides a range of additional support programs that candidates, in consultation with their supervisors, can undertake.
University 2

At the moment there is no university-wide move to develop and implement formal coursework in the PhD, although there has been discussion in various departments and there has been some semi-formal work e.g. online modules in research methods. What the Dean of Graduate Studies thinks would be popular is the idea of giving students an easier road map to the start of their PhD e.g. research methods that they can self-manage.

One interviewee suggested that instead of using the term ‘coursework’ it might be more appropriate to use “Extension”. Another suggestion from the same interviewee was that it would be fruitful to have discussions with staff in Cooperative Research Centres (CRCs) to see how they support candidates.

Staff at this regional university raised a significant issue related to the range of different programs across the country that might cause difficulties for candidate transfers between universities. Another issue raised was workload, both as a positive and negative. Positively, sound coursework might reduce some of the workload on individual supervisors, on the other hand, were there sufficiently qualified staff to teach formal coursework if introduced?

It was also suggested that Masters programs have a role to play in any decisions related to coursework in the PhD as it was suggested that if these programs are well enough designed and articulated then much of the need for some of the coursework in the PhD becomes unnecessary.

University 3

This institution took a strategic approach to consideration of coursework by analysing their Postgraduate Research Experience Questionnaire (PREQ) data and examiners’ reports to identify specific areas where they felt their candidates needed support. Additionally, they wanted to offer a particular focus on cohort building and on candidates having a broad multi-disciplinary understanding of research as well as the knowledge and skills to undertake their specific project. As a result, with the aim of setting-up students in the first year for a good experience, they developed two core units that are provided for all commencing candidates: integrity and ethics; and situating the research in a broader context. Assessment for the Integrity and Ethics course involves candidates designing a poster related to ethics in their research project, and for the Situating Research course candidates participate in a mini-conference where they present their work in 15 minutes.

The Dean reported that there tended to be two different views across the university when it came to coursework:

- Those who want most of the coursework ‘front-ended’ although they argue that the coursework is not compensatory. It has definitely been designed to be at AQF Level 10 and so usually there are no exemptions as it is seen as integral to the project.
- Those who want the coursework to be ‘drip-fed’ that is a little bit at a time as the candidate progresses through candidature where they can accrue credit points for various activities.

University 4

At this institution there is a wide range of models where each part of the university has something different. For example, in one area candidates undertake a year of formal
discipline related coursework which they must complete prior to progressing onto the research project. In another, there is the equivalent of six months of research-related coursework that is integrated within the candidate’s project. And in others, there is no formal coursework, although some thought is being given to this.

University 5

The Dean of Graduate Studies at University 5 was very keen to introduce coursework across the institution as one way of providing a more even learning experience for all candidates rather being fully reliant on the quality of the individual supervisors.

Learning Plans were seen as an effective way of providing both structure and flexibility. With the institution providing a wide range of programs and faculties providing discipline specific learning opportunities each candidate, in conjunction with supervisors, could determine a plan for their own learning.

Summary

The five institutions and their Deans of Graduate Studies demonstrated the wide range of curriculum principles and models. These were then reflected across the sector when the findings were presented at a meeting of the Australasian Deans and Directors of Graduate Research.

Common to all institutions in the study was the need to balance:

- Flexibility with structure
- Accountability with individuality
- Disciplinarity with multi/interdisciplinarity
- Research skills with personal/employability skills
- Front-ending research training with integration across the full PhD
- Institutional models with a national higher education system
- The role of Masters programs with the role of the PhD.
Appendix C Workshop/focus group findings

Background

Over a six-month period in 2012-13 seven workshops/focus groups were held with candidates, post doctoral fellows/early career researchers (ECRs) and academic staff in two universities. These two universities were chosen as they represented different types of universities. University A is a new generation university which has grown and developed strength in doctoral education over the past ten years. Supervisors and candidates across a range of Humanities and Social Sciences (HASS) and Science, Technology, Engineering and Mathematics (STEM) disciplines were involved in the research. In comparison, University B is a research-intensive university belonging to the Group of Eight universities. In University B only the Science supervisors and candidates were involved as the Social Sciences at that university had already introduced coursework and the study was aimed at working with those universities introducing or planning to introduce coursework in both universities. The workshops and focus groups were noted and reported back to participants for clarification.

The aim of the workshops and focus groups was to facilitate participants in their discussions of the various issues related to why they might want to introduce coursework, how they might do that and what the content might address. As Table C1 outlines overall, 70 participants took part in the workshops/focus groups (31 at University A and 39 at University B).

Table C1: Candidate/Early Career Researchers and Staff by institution

<table>
<thead>
<tr>
<th></th>
<th>Candidates and ECRs</th>
<th>Staff</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>University A</td>
<td>10</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>University B</td>
<td>21</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>Totals</td>
<td>31</td>
<td>39</td>
<td>70</td>
</tr>
</tbody>
</table>

Methods and findings

To commence the sessions the questions posed by the Carnegie Foundation (Walker, Golde, Jones, Bueschel, & Hutchings, 2008) were presented and in groups participants were invited to come up with their thoughts. The questions included:

- On graduation, what skills will candidates have developed?
- What content knowledge should they have when they leave the program?
- What will they have experienced?
- What habits of mind will they have developed, especially regarding being lifelong learners?

Responses to the first question: On graduation, what skills will candidates have developed? have been clustered into four main categories: research skills, employment skills, generic/transferrable skills and personal skills.
Research Skills

- Write in scholarly manner and ability to publish acceptable scholarly papers
- Present a coherent argument and think logically and in a scholarly and educational way
- Undertake independent enquiry and solve problems
- Present work – including to a general audience
- Translate research into commercial research bids and/or policy development
- Summarise the state of knowledge in the discipline and write a literature review
- Pose a testable hypothesis and/or frame good research questions and projects
- Critically analyse and then be able to ‘sell the analysis’
- Understand the role of different perspectives in research—particularly in qualitative research
- Able to do effective social science research including qualitative research

Employment skills

- Be able to teach
- Be a team player and also able to work individually
- Contribute to global and national economy
- Be able to supervise
- Plan a career
- Effectively manage time and work
- Network and become part of an educated population
- Sensible budgeting of money and resources
- Apply for grants

Generic/transferrable skills

- Transfer the skills developed to other situations
- Teach oneself new things
- Put into practice some of the things that have been learnt; and
- Have improved English.

Personal skills

- Curiosity
- Being ethical, and
• Doing something useful to pay back for all the help and support received during candidature.

Content knowledge
• Be recognised as the world leader/specialist in that area of knowledge; and
• Have discipline-specific knowledge as well as knowledge of the broader context.

Experiences
• Self change
• That change is incremental; and
• Having experienced what it takes to do research.

Habits of mind
• Raised awareness of self as a learner and so influence others
• Habits of self discipline
• Develop the habit of academic scholarly thinking
• Persistence and resilience – ability to deal with setbacks and failure
• Awareness of acquired skills.

Following discussion related to the specific Carnegie questions participants were invited to suggest how they might ensure that candidates actually developed the above knowledge, skills and habits of mind. Responses have been categorised under: developing a framework; individuality and learning plans; timing; provision of learning opportunities; assessment; and the role of supervisors.

However, it should be noted that with each focus/discussion group with staff, (and to a very minor extent with candidates) the most common responses very early in discussion in a workshop related to the possible introduction of coursework into the PhD, were negative, for example:

• If students were ‘off doing coursework’ that would take time away from their ‘research’ requiring additional candidature time but there was no additional funding for this
• Coursework implied a lack of individual learning and development opportunities if candidates were all required to undertake the same coursework
• When should coursework be offered, should it be at the beginning, at the end or throughout candidature?
• How could the disciplinary nature of research degrees be addressed if there was some form of faculty of university-required coursework?
• Who would teach these courses when staff already had full teaching loads and would they have the expertise and who would handle the additional administrative loads?
Once these issues had been aired, participants began to actively suggesting a range of ideas and strategies for a more structured curriculum approach in the PhD.

Developing a framework

Based on the knowledge, skills and attitudes above, groups were invited to consider organising them into some form of framework, taking into account an institutional set of desirable outcomes for doctoral candidates. The recently revised Australian Qualifications Framework (Australian Qualifications Framework Council, 2013) and the UK Vitae Framework (Vitae, 2011) were provided as examples, as well as the framework from Michigan State University (2009). Participants then drew up matrices of types of knowledge and skills ranging from early in candidature through until the later stages of candidature. Participants suggested that within this matrix, schools, faculties and the university could indicate programs e.g. courses, coursework, seminars, professional activities that already exist, and identify gaps for development by them and the institution.

Individuality and learning needs analysis and plans

Given the diversity of candidates it is not surprising that an issue that arose strongly in any workshops with research supervisors and candidates was the passion with which those involved addressed the importance of recognising and accommodating the individual needs of candidates. Furthermore these variations had to take into account the school and disciplinary idiosyncrasies which shape the candidate’s experience.

However, one suggestion that was strongly supported as a way of ensuring candidates had access to the learning they needed, while at the same time maintaining individuality was the introduction of a learning needs analysis and the development of a learning plan, sometimes known as personal development profiles (Gough & Denicolo, 2007). It was argued that the keys to the learning plans was the negotiation between candidate and supervisor/s and regular review, and that candidates needed to be encouraged to be more proactive in terms of determining their own learning needs and required training and development.

Timing

Views here ranged from: Progressive development throughout candidature with courses/programs/workshops integrated into the candidate’s research program; through to provision of foundation courses to get candidates off to a good start with their research; and the integration of research education from Bachelor-Masters-PhD. However, one view that was generally supported was the need to provide support for candidates throughout candidature.

Provision of learning opportunities

Participants suggested a range of learning opportunities from university-wide seminars and coursework to assist in understanding a broader context, through to the faculties developing their own particular way of ‘packaging’ the candidate experience in line with the overall principles of the university and taking into account the specific needs of their cohort.

It was argued that one of the benefits of institution—or faculty-wide programs was the provision of opportunities for candidates to develop strong peer networks and to learn
about other approaches to research e.g. different methodological approaches, ways of viewing knowledge and conceptions of research.

There was agreement that the universities should build on the successful programs already in place in their schools/faculties and determine ways in which they could be shared while being aware of disciplinary and interdisciplinary practices. Other participants suggested the alternative, that is, existing institutional provisions that are of a more general nature be modified to suit the needs of disciplines. Part of this development would involve determining any learning experiences considered to be required/mandated and those that were individualised.

Additionally, there was general agreement that there are many ways in which candidates can learn and develop e.g. through structured, semi-structured and unstructured activities (Cumming & Kiley, 2009). See Appendix H for diagram of approaches.

Another way of thinking about the provision of different types of coursework was discussed and included enabling, enriching and articulating courses.

Enabling courses have two aims, depending on the candidate’s needs. For example, enabling courses can assist candidates in ‘getting off to a good start’ and/or they can accommodate candidates who are underprepared in research. These courses might have a focus on research processes or advanced level disciplinary knowledge which are front-ended into the first six to nine months of candidature.

Enriching or value-adding courses provide specific experiences for candidates that are beyond the standard ‘completion of a PhD’. These experiences might relate to the nature of the university, for example the values of social justice or ensuring that one’s research contributes to the region. Or, they might be designed to enable candidates to gain experiences by studying in another country or institution for part of their candidature.

Articulating courses are generally made available later in candidature or on completion of the degree and might include experiences such as teaching, project and financial management or six-months in an industrial/commercial setting that provides assessable skill development in an authentic setting beyond the university.

Assessment

Participants suggested that existing milestones might provide suitable assessment points e.g. successful completion of the Confirmation Seminar. There was also a suggestion that introducing an oral exam would provide opportunities for assessing some of the identified skills.

The Role of Supervisors

Participants were very clear in their views that for anything to work effectively it was critical that supervisors were involved at all stages of program development. Additionally, it was suggested that supervisors be actively involved in skills assessment/entry pathway of candidates and it was suggested that a program of supervisor support and discussion be developed in conjunction with the new programs for candidates.
Summary

Based on responses from participants it became clear that the term ‘coursework’ was inappropriate and a more appropriate term is a ‘structured program’ or ‘structuring the PhD curriculum’. Critical aspects of this structure include: a clear set of learning outcomes; an overall framework within which candidates and supervisors can identify and develop their own, individualised program; and the importance of supervisor involvement.

Acknowledgement

I wish to thank Dr Anna Cowan, Professor Joe Luca and Dr Natasha Ayers for their contribution to compiling these findings.

References

Appendix D Online survey results report

Background

During the second half of 2013 an online survey was conducted with research candidates from five of the universities involved on the project. In one of the universities the survey was conducted with two different sectors: Science and then Arts and Social Sciences resulting in six data sets which have been amalgamated for this report. The responses per data set are outlined in Figure 1. The survey had been trialled with a small number of staff and candidates prior to being implemented.

Approximately 5017 candidates, with an average Female:Male ratio of 50:50, where invited to complete the survey. There were 724 useable responses outlined in Figure D1 giving a response rate of 14.4%.

Figure D1: Responses by institution

Section 1: Demographical Statistics

Sixty two percent of all respondents were female and of all the respondents 93% were undertaking a PhD followed by 3.5% enrolled in a Professional Doctorate. Forty-four percent of respondents reported that they were in the final third of candidature, with 30% in the first third and the remainder mid-way.

Almost 75% of the respondents were domestic although as Table D1 below indicates there were more female international than domestic students.
Table D1: Cross-tabulation of gender and domestic/international profile

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Domestic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>350</td>
<td>190</td>
</tr>
<tr>
<td>%</td>
<td>64.8%</td>
<td>35.2%</td>
</tr>
<tr>
<td>International</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>56.0%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>271</td>
</tr>
<tr>
<td>%</td>
<td>62.6%</td>
<td>37.4%</td>
</tr>
</tbody>
</table>

There was an almost 50:50 representation of respondents by broad area of study i.e. Science, Technology, Engineering and Mathematics (STEM) and Humanities, Arts and Social Sciences (HASS).

When asked about entry qualifications to their doctoral study 36% reported that they had entered on an Honours qualification (almost exclusively domestic candidates), 27% with a coursework masters and 25% a research masters (See Figure D2).

Figure D2: Entry qualification and domestic/international profile

It is worth noting that 56% of respondents (made up of 53% of the domestic cohort and 63% of the international respondents) had been employed full-time prior to enrolling in their doctorate. Of those employed, 40% of the domestic respondents along with 59% of the international cohort had been in Education (mostly higher education). Of the domestic respondents 24% had been in government employment, as had 22% of the international cohort.

Regarding employment status during candidature, 27% of the domestic cohort and 52% of the international respondents reported that they were not employed at all. Of those who were employed during candidature 60% were in Education.
Section 2: Current situation

Respondents were asked to comment on whether they had been required to undertake coursework and their views more generally about coursework. Thirty-nine per cent had or were undertaking coursework. Of those undertaking coursework it was a requirement for 77% that they complete all aspects of their coursework. Almost 80% of respondents who had to undertake coursework reported that it was assessed and fully or mainly face-to-face.

Of all respondents, 57% agreed that there should be some coursework in the PhD, with 32% suggesting it should be 20% of the total program and 30% suggesting it should be 10% of the total program, with most suggesting it should be in the first year of candidature.

Respondents were asked to comment on the opportunities they had been given during candidature to develop particular skills. The skills outlined in Table D2 are those that respondents reported they had minimal to moderate opportunities to develop. Some of them, we anticipate, will disappoint the universities involved.

Table D2: Minimal to moderate opportunities provided to develop skills

<table>
<thead>
<tr>
<th>Questions</th>
<th>Extensive (%)</th>
<th>Moderate (%)</th>
<th>Minimal (%)</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial skills related to research</td>
<td>8.4</td>
<td>20.8</td>
<td>61.3</td>
<td>22</td>
</tr>
<tr>
<td>Grant writing</td>
<td>14.8</td>
<td>24.4</td>
<td>53.4</td>
<td>14</td>
</tr>
<tr>
<td>Leadership skills</td>
<td>20.7</td>
<td>31.5</td>
<td>44.2</td>
<td>20</td>
</tr>
<tr>
<td>Project management</td>
<td>31.1</td>
<td>32.5</td>
<td>34.7</td>
<td>16</td>
</tr>
<tr>
<td>Working as part of a team</td>
<td>24.4</td>
<td>29.5</td>
<td>42.9</td>
<td>18</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>29.1</td>
<td>40.4</td>
<td>29.0</td>
<td>16</td>
</tr>
<tr>
<td>Teaching skills</td>
<td>36</td>
<td>21</td>
<td>42.6</td>
<td>71</td>
</tr>
<tr>
<td>Contribute to the development of professional practice</td>
<td>35.1</td>
<td>35.4</td>
<td>27.9</td>
<td>18</td>
</tr>
</tbody>
</table>

What stands out in Table D2 is the particularly low reporting of opportunities to develop financial management and grant writing skills. Those topics which respondents reported having been given extensive opportunity to develop are in Table D3.

Table D3: Extensive to moderate opportunities provided to develop skills

<table>
<thead>
<tr>
<th>Questions</th>
<th>Extensive (%)</th>
<th>Moderate (%)</th>
<th>Minimal (%)</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent research skills</td>
<td>81.6</td>
<td>13.5</td>
<td>4.8</td>
<td>11</td>
</tr>
<tr>
<td>Knowledge about designing and undertaking research</td>
<td>78.1</td>
<td>16.5</td>
<td>4.9</td>
<td>11</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>74.8</td>
<td>20</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Skills/knowledge in using appropriate research tools</td>
<td>69.3</td>
<td>24</td>
<td>6</td>
<td>37</td>
</tr>
<tr>
<td>Knowledge of specific PhD disciplinary area</td>
<td>69.1</td>
<td>23.1</td>
<td>6.8</td>
<td>19</td>
</tr>
<tr>
<td>Up to date knowledge in substantive area</td>
<td>66.6</td>
<td>24</td>
<td>9.3</td>
<td>12</td>
</tr>
<tr>
<td>Problem solving</td>
<td>60.1</td>
<td>29.4</td>
<td>10.1</td>
<td>14</td>
</tr>
</tbody>
</table>
Section 3: Plans for the future

Sixty seven per cent of international and 41% of domestic respondents reported that they anticipated working outside their home country as outlined in Table D4. Note that 36% of the international students would like to seek employment in Australia/New Zealand and more than 50% of domestic students want to find a job outside Australia/New Zealand with 22% of them hoping to go to Europe.

Table D4: Cross-tabulation of domestic and international respondents re country of future employment

<table>
<thead>
<tr>
<th>Country</th>
<th>Total</th>
<th>A/Z*</th>
<th>Asia</th>
<th>Europe</th>
<th>N/Am</th>
<th>S/Ame</th>
<th>Africa</th>
<th>MidEast</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Count</td>
<td>89</td>
<td>45</td>
<td>35</td>
<td>43</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>35.7%</td>
<td>18.1%</td>
<td>14.1%</td>
<td>17.3%</td>
<td>3.6%</td>
<td>3.6%</td>
<td>4.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Domestic</td>
<td>Count</td>
<td>283</td>
<td>53</td>
<td>131</td>
<td>92</td>
<td>6</td>
<td>15</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>47.2%</td>
<td>8.8%</td>
<td>21.8%</td>
<td>15.3%</td>
<td>1.0%</td>
<td>2.5%</td>
<td>2.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>372</td>
<td>98</td>
<td>166</td>
<td>135</td>
<td>15</td>
<td>24</td>
<td>24</td>
<td>15</td>
</tr>
</tbody>
</table>

*A/Z=Australia/New Zealand; N/Am=North America; S/Am= South America; MidEast=Middle East

When asked about plans for the future, 56% reported that they were planning on seeking new/different employment. Forty-eight per cent of international and 40% of domestic candidates reported that they expected to be working in Education. Of those anticipating working in the university sector, 14% were looking at university teaching 22% university research and 53% university teaching and research.

Of all the respondents 63% commented that they needed additional training to be competitive for employment with the main areas in which they thought they needed help as outlined in Table D5 below in order of need.

Table D5: What sort of additional preparation do you need?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Percent</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>More publications</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>183</td>
<td>32.3%</td>
</tr>
<tr>
<td>Teaching experience</td>
<td>102</td>
<td>18.0%</td>
</tr>
<tr>
<td>Ability to translate existing skill set to a new job</td>
<td>95</td>
<td>16.8%</td>
</tr>
<tr>
<td>Networking</td>
<td>91</td>
<td>16.0%</td>
</tr>
<tr>
<td>Presentation communication skills</td>
<td>69</td>
<td>12.2%</td>
</tr>
<tr>
<td>English language</td>
<td>27</td>
<td>4.8%</td>
</tr>
<tr>
<td>Total</td>
<td>567</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Appendix E Survey Questions

### Learning in the doctorate -

#### Section 1. Aspects of your doctoral program (Questions marked * are mandatory)

<table>
<thead>
<tr>
<th>Q1. *</th>
<th>As part of your doctoral program are you undertaking or have you undertaken formal/award coursework or courses? (Note: Formal/award coursework/courses refers to university courses in which you enrol and for which you need to satisfactorily complete course requirements.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No (Go to Question 15)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q2.</th>
<th>If yes, please list the courses/subjects below</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q3.</th>
<th>In order to continue in your PhD was it a requirement that you satisfactorily completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>all of these courses</td>
</tr>
<tr>
<td></td>
<td>some of these courses</td>
</tr>
<tr>
<td></td>
<td>none of these courses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q4.</th>
<th>How did/do you access the majority of these courses/subjects?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully face-to-face</td>
</tr>
<tr>
<td></td>
<td>Mainly face-to-face</td>
</tr>
<tr>
<td></td>
<td>Mainly online</td>
</tr>
<tr>
<td></td>
<td>Fully online</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q5.</th>
<th>How is your coursework assessed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>graded (e.g. credit, distinction)</td>
</tr>
<tr>
<td></td>
<td>ungraded pass or fail</td>
</tr>
<tr>
<td></td>
<td>other (please specify)</td>
</tr>
</tbody>
</table>

### Do you agree or disagree with the following statements about formal/award courses required to complete your doctorate?

<table>
<thead>
<tr>
<th>Q6.</th>
<th>They helped me with concepts/theory required for my doctoral research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q7.</th>
<th>They provided background knowledge required for my doctoral research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q8.</th>
<th>They increased my knowledge about my field of study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q9.</th>
<th>They took time away from my doctoral research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q10.</th>
<th>They had no relevance to my doctoral research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q11.</th>
<th>They were too difficult to follow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q12.</th>
<th>They covered material that I already know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q13.</th>
<th>They will help me solve problems related to my field of study in the future</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q14.</th>
<th>They will help me to be competitive when applying for jobs following graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q15.</th>
<th>In your opinion, should a percentage of your doctoral study involve formal/award coursework?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No (Go to Question 16)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q16.</th>
<th>What percentage?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 10%</td>
</tr>
<tr>
<td></td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>
Q17. In your opinion, during which year(s) of your candidature (based on full-time equivalent) should formal/award coursework be offered?
- First year
- Second year
- Third year
- Throughout

If you need to seek help with the following, what is your preferred source of assistance?

<table>
<thead>
<tr>
<th>Question</th>
<th>My Supervisory Panel</th>
<th>Other academics or peers in my discipline</th>
<th>Support Services in my university</th>
<th>Resources external to my university</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q18. Advice on academic reading related to my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19. Research activities to support my project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20. Computer activities related to my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q21. The writing of my thesis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q22. Oral presentation of my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q23. Journal article publication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q24. Please use the space below for any additional comments relating to your learning experiences.
### Section 2. Plans for the future (Questions marked * are mandatory)

#### Q25.* Following graduation do you plan to:
- [ ] Remain in your current employment
- [ ] Seek new/different employment
- [ ] Not applicable (Go to Question 31)

#### Q26. Do you anticipate working in a country other than your home country after graduation?
- [ ] Yes
- [ ] No (Go to Question 28)

#### Q27. Do you anticipate that your future employment will be in:
- [ ] Australia/New Zealand
- [ ] Asia
- [ ] Europe
- [ ] North America
- [ ] South America
- [ ] Africa
- [ ] Middle East
- [ ] Other

#### Q28. Please indicate which of the following skills and knowledge you feel you need to update to help you with the task of finding appropriate employment?
- [ ] Information about the job market for doctoral candidates
- [ ] Networking
- [ ] Preparing a CV
- [ ] Writing to selection criteria
- [ ] Relating doctoral research experience to employer need and criteria (e.g. thesis research = problem solving, research group = team work)
- [ ] Interview skills

#### Q29. What area(s) of employment do you expect to work in after graduation?
- [ ] Government
- [ ] Education
- [ ] Private
- [ ] Self-employed
- [ ] Non-profit or other

#### Q30. If you indicated Education (in Q29) can you indicate whether you hope to have work in:
- [ ] University teaching
- [ ] University research
- [ ] University teaching and research
- [ ] The school sector
- [ ] The TAFE sector
- [ ] Other
What opportunities have you been given during candidature to develop the following:

<table>
<thead>
<tr>
<th>Q31.</th>
<th>Problem solving</th>
<th>Extensive</th>
<th>Moderate</th>
<th>Minimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q32.</td>
<td>Critical thinking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q33.</td>
<td>Independent research skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q34.</td>
<td>Teaching skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q35.</td>
<td>Data analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q36.</td>
<td>An understanding of ethical values in research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q37.</td>
<td>Creativity and innovation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q38.</td>
<td>Up-to-date knowledge and skills in your substantive field</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q39.</td>
<td>Up-to-date knowledge and skills about methodological issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q40.</td>
<td>Contribute to scholarship in your discipline or field</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q41.</td>
<td>Contribute to the development of professional practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q42.</td>
<td>An understanding of inter-disciplinary research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q43.</td>
<td>Skill in writing reports/articles/books</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q44.</td>
<td>Skill in grant writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q45.</td>
<td>Skill in oral communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q46.</td>
<td>Working as part of a team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q47.</td>
<td>Assertiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q48.</td>
<td>Leadership skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q49.</td>
<td>Knowledge and skills in project management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q50.</td>
<td>Financial skills related to research</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate the extent to which you think the following will be useful in your future career

<table>
<thead>
<tr>
<th>Q51.</th>
<th>Teaching experience/skill</th>
<th>Extensive</th>
<th>Moderate</th>
<th>Minimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q52.</td>
<td>Knowledge about designing and undertaking research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q53.</td>
<td>Knowledge of your PhD disciplinary speciality area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q54.</td>
<td>Skills or knowledge in using research tools, instruments, archives, data sets, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q55. Do you think that you will need additional training to be competitive for your desired employment?
- Yes
- No (Go to Question 57)

Q56. If yes, what sort of additional preparation do you need?
- Presentation communication skills
- English language
- Networking
- Teaching experience
- More publications
- Ability to translate existing skill set to a new job

Q57. Please use the space below for any additional comments relating to your future plans.
### Section 3. About you and your enrolment (Questions marked * are mandatory)

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q58. *</td>
<td>What is your gender?</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>Q59. *</td>
<td>What is your age?</td>
</tr>
<tr>
<td></td>
<td>&lt;19</td>
</tr>
<tr>
<td></td>
<td>20-24</td>
</tr>
<tr>
<td></td>
<td>25-29</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
</tr>
<tr>
<td></td>
<td>40-49</td>
</tr>
<tr>
<td></td>
<td>50-59</td>
</tr>
<tr>
<td></td>
<td>60+</td>
</tr>
<tr>
<td>Q60. *</td>
<td>Are you enrolled in a</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
</tr>
<tr>
<td></td>
<td>Professional doctorate</td>
</tr>
<tr>
<td></td>
<td>Practice doctorate</td>
</tr>
<tr>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>Q61. *</td>
<td>Are you enrolled as a domestic or an international student?</td>
</tr>
<tr>
<td></td>
<td>Domestic student</td>
</tr>
<tr>
<td></td>
<td>International student</td>
</tr>
<tr>
<td>Q62. *</td>
<td>What is your field of study?</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Q63. *</td>
<td>Please indicate which degree you used as your entry qualification to your doctorate.</td>
</tr>
<tr>
<td></td>
<td>Bachelor</td>
</tr>
<tr>
<td></td>
<td>Honours</td>
</tr>
<tr>
<td></td>
<td>Grad Cert/Dip</td>
</tr>
<tr>
<td></td>
<td>Masters - coursework</td>
</tr>
<tr>
<td></td>
<td>Masters - research</td>
</tr>
<tr>
<td></td>
<td>Doctorate - coursework</td>
</tr>
<tr>
<td></td>
<td>Doctorate - research</td>
</tr>
<tr>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>Q64. *</td>
<td>How is your doctoral program funded?</td>
</tr>
<tr>
<td></td>
<td>International Candidate - full scholarship</td>
</tr>
<tr>
<td></td>
<td>International Candidate - partial scholarship</td>
</tr>
<tr>
<td></td>
<td>International candidate - self-funded</td>
</tr>
<tr>
<td></td>
<td>Domestic Candidate - scholarship</td>
</tr>
<tr>
<td></td>
<td>Domestic Candidate - no scholarship</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>
Q65. Are you enrolled as a part-time or full-time candidate?
- Part-time
- Full-time

Q66. Roughly, how much of your doctoral program have you completed to date?
- 30% or less
- 31% - 60%
- 61% or more

Q67. Were you employed before enrolling in your doctoral program?
- Not at all (Go to Question 69)
- Casual
- Part-time
- Full-time

Q68. Which of the following BEST describes the employment sector in which you were working?
- Government
- Education
- Private
- Self-employed
- Non-profit or other

Q69. Are you currently employed i.e. during candidature?
- Not at all (Go to Question 71)
- Casual
- Part-time
- Full-time

Q70. Which of the following BEST describes the employment sector in which you are currently working?
- Government
- Education
- Private
- Self-employed
- Non-profit or other

Q71. Please use the space below for any additional comments relating to you or your enrolment.
Appendix F Report of state-based workshops

Overview

As part of the project dissemination and as a means of contributing to the findings, five workshops were conducted in state capital cities, details of which are provided in this report. The main findings from the workshops are summarized below.

An informal survey of University Deans and Directors of Graduate Research (DDoGs) had suggested that 75% of DDoGs had or were thinking of introducing coursework into their PhD programs. However, the term ‘coursework’ appears to be inappropriate at the doctoral level in Australia and the terms ‘Integrated doctoral curriculum’, ‘Structured program’ or ‘Structured approach’ are suggested as more appropriate. Within the structure, alignment was very important where courses align with milestones, expectations, administration, student systems, graduate outcomes, and assessment.

A particular concern arose throughout the project and at the workshops related to the potential loss of a focus on the individual candidate if formal coursework were to be introduced.

While not specifically articulated at any one workshop, previous work by the Project Leader and discussions in workshops and presentations suggest that the aims of an Australian doctoral education are to enable candidates to:

- Produce quality research
- Be well rounded researchers who can clearly articulate the knowledge and skills that they have developed during candidature
- Identify how their doctoral education supports future endeavours including employment, career development and contribution to society, and
- Know the world and themselves as learners and researchers.

Introduction

Five workshops were conducted in different state capitals involving participants from 54% of Australian universities. The aim of the workshops was to share the findings of the project to date and then to seek participant input into what the findings might mean in practice. The Project Leader and manager coordinated the workshops in conjunction with key personnel in each of the host universities.

Table 1: State-based workshops by location, university and participants

<table>
<thead>
<tr>
<th>Location/State</th>
<th>Universities represented</th>
<th>Participant Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The University of Sydney - New South Wales</td>
<td>FIVE – The University of Sydney, University of Western Sydney, Charles Sturt University, University of Wollongong, The University of New South Wales</td>
<td>19</td>
</tr>
<tr>
<td>The University of Western Australia - Western</td>
<td>FOUR – The University of Western Australia, Edith Cowan University,</td>
<td>13</td>
</tr>
</tbody>
</table>
Workshop format

The first 50-60 minutes of the workshop included an overview of the project and a report on findings to date (see Appendix G: Powerpoint presentation from workshops).

Following a break to allow participants to catch up and meet with colleagues from other universities, participants were invited to work in small groups to discuss the issues outlined in the presentation. Some university groups chose to work in institution-specific groups and others chose to work in mixed groups.

From the different sources of data (focus groups, workshops, interviews and surveys) the following general issues and concerns were raised.

It was clear that participants have been very concerned not to treat all PhD students the same. As a result many universities who are introducing some form of coursework are moving towards adopting a needs analysis and a learning plan approach to enable each candidate to have a personalised program. For example, as part of its learning plan Edith Cowan University is developing an online tool, which also doubles as an online portfolio. This tool will integrate with milestones such as confirmation of candidature.

Workshop participants also indicated that the term ‘coursework’ meant many different things to them, for example: research processes, advanced discipline-specific knowledge, employability, and the US model. There was also considerable variation regarding the timing of coursework from being in the first year only through to throughout candidature. Issues were raised with regard to funding any coursework, particularly if it were to be used as an exit option (e.g. Graduate Certificate) model. Another issue raised in the research was the possibility that any form of coursework might extend the already tight timeline for completion. (Note: There is some research that shows that coursework can reduce, rather than extend completion times, particularly when the coursework is framed around helping with the actual PhD research. See Humphrey, R., N. Marshall and L. Leonardo (2012)).

One particular advantage of coursework that was discussed related to part-time students, where it was suggested that coursework might be even more important in building cohorts for these candidates. However, there were challenges for staff in providing for off-campus/part-time candidates.
Comments regarding the Professional Doctorate compared with the PhD suggested that there were examples where some universities had extended their Professional Doctorate coursework to all doctoral programs.

**Specific Issues raised in the state-based workshops**

The main issues discussed in the workshops are elaborated below.

**What is coursework in the Australian doctoral context?**

Each workshop commenced with a discussion of what the participants thought coursework in the PhD was or meant, for example: *When I say 'coursework in the PhD' what springs to mind?*

- Marking
- US model
- Resource implications: setting it up, administration, who pays?
- Adding things to the PhD and extending timelines
- Making sure it truly at doctoral level i.e. Level 10
- What is the end point?
- Generic vs discipline-specific
- Academic vs employability
- Timing i.e. Pre-, early-, mid-, late-, post-candidature
- *Thank goodness* because we’ve got all these students coming in ill prepared vs. *thank goodness* because we have a chance to value add and equip our excellent candidates.

**Possible motivation for introducing coursework**

There was considerable discussion about why we are ‘fiddling around’ with something that’s been working for 50-60 years? A specific comment that gained considerable support related to developments:

Things have changed. In 1948 when the PhD was first awarded in Australia we were driving 1948 Holdens. But now we are driving 2014 cars (power steering, airbags, seatbelts etc) can we expect the award to stay the same?

1948 model or 2013 model
It was also suggested that you can’t remove a PhD program and discussions of it from the context in which you are placed, in other words it would be difficult to say what the ideal PhD would look like if they were starting from scratch without institutional and governmental barriers (or staff preconceptions). Therefore, possible reasons for the changes included:

- There is a sense that students are going into PhDs without the same discipline and methodological backgrounds that they might have had 10-20 years ago particularly given the decrease in Honours enrolments;

- Funding models are requiring attention to completion;

- More people are doing PhDs now than 20+ years ago with greater diversity and so more actual supervision required;

- Many academics in Australia have come from the USA and Europe and so are looking to implement what they know and understand;

- Student Associations suggest that developments might be student driven as they are feeling a little tentative about commencing a PhD and having coursework can assist in formal ways;

- Using coursework as a filter where it supported confirmation milestones and provisional enrolment and that coursework could be thought of as a threshold requirement.

There seems to be a range of different courses at different universities for example:


- At VU there are no credit points, no cost, but coursework is compulsory. Two units are provided: conceptualising research and research integrity/ethics - both related to the candidate’s own project. The assessment is integrated into the thesis. It was reported that while there is a massive workload in coordinating and tracking assessment the assessment has changed candidates’ level of engagement with the content (so much deeper than from a workshop) and they present their work at the annual postgraduate conferences. While at the start there were many requests for recognition of prior learning, now there are very few because candidates see the benefit of it.

Curriculum

In line with a curriculum model there were many comments about the need for structured alignment for example with candidature milestones, supervisor expectations, administration, student systems, and graduate outcomes and assessment. Issues related to Australian doctoral examination processes were raised at each workshop, however, the topic was deferred as it was considered likely to have side-tracked the overall discussion. The notion of a core curriculum was also raised i.e. Are there ‘must-have skills’ for all candidates or at least all in a particular discipline: What are they? How are they
delivered/received? This discussion lead to the question of the level of coursework where some participants suggested that most of the coursework on offer currently is at Masters and Honours level and so does not accord with AQF.

As a result of this discussion the rest of the report follows the curriculum outline.

The purpose/aims of doctoral education and the coursework within the program.

A number of reasons were put forward to support the aims outlined on page 59. A common one related to the idea of ‘the PhD being bigger than the thesis, the thesis may be only 20-40%, the development of the whole researcher is the rest’. So for example, Monash University has explicitly worked on building the researcher, not just the thesis. Ancora Imparo—towards the Monash PhD. Helpful models that were suggested were the League of European Universities Doctoral degrees beyond 2010:

- The UK Researcher Development Statement and Framework [http://www.vitae.ac.uk/researchers/291411/Manage-your-career-with-the-Vitae-RDF-Planner.html](http://www.vitae.ac.uk/researchers/291411/Manage-your-career-with-the-Vitae-RDF-Planner.html) and

Participants in the workshops identified the following as benefits of coursework:

- Cohort building or development of a cohort, especially at a satellite campus;
- Developing advance disciplinary knowledge;
- Developing generic skills;
- Providing opportunities for candidates to learn how to do research in more areas than just their own, as it is likely that they may not get work researching in their own field;
- Focusing on research methods and advanced disciplinary knowledge: “Sometimes research seems too abstract for new students teaching research methods early in candidature is a good idea” (Workshop Participant).

Learning outcomes for Individuals

Perhaps the strongest issue to arise from the study was the desire to maintain the individual nature of the doctoral learning experience for example:

- To what extent can coursework be generic or tailored ... supervisor(s)-student relationship is vital to filling in gaps and steering students to the best training for them
- ‘Beneficial research’ should be part of a long term plan or program i.e. joining a research team, being aspirational and aligning yourself as a student in that place
- Given each candidate has different motivation, including career goals, it will be important to address these issues early in candidature and then assess in an
ongoing basis taking into account that aspirations of individuals are likely to change as they recognize and develop capabilities

- An issue raised was that it is not just individuality for candidates but also recognising the challenges that different universities face as well as the great variability across disciplines.

While the AQF learning outcomes were generally agreed to be suitable, there was discussion around the rather limited nature of the outcomes in comparison with other frameworks such as the Vitae’s. However, the AQF outcomes were used as a basis for the discussion [http://www.aqf.edu.au/aqf/in-detail/2nd-ed-jan-2013/](http://www.aqf.edu.au/aqf/in-detail/2nd-ed-jan-2013/) (note: page 63).

**Readiness, Recruitment/Candidate pre-requisites**

What is the influence of readiness? Should we expect candidates to be ready to undertake a PhD or is it something we see as our role as supervisors that we teach candidates to be researchers? ‘Research readiness’ of students is important to determine. However, why do we keep talking about PhD students needing to be ‘ready’ to do a PhD?

If we were brilliant what would we be doing at university? If you knew how to research why would you be undertaking a PhD as a way of learning? It doesn't mean that you have a deficiency, you are here to learn. (Participant comment)

**Content**

With regard to content there was considerable variation regarding content across and within the groups and even within universities with some of this variation being of a disciplinary nature, however, there was general agreement on the following:

- Research methods;
- Research Integrity and ethics;
- Contextualising and conceptualising research;
- The philosophy of ‘science’/knowledge (in its broadest sense).

**Learning activities**

There was considerable interest in the different ways in which learning activities could be provided. The work of the previously funded ALTC Research Graduate Skills Project [http://www.gradskills.anu.edu.au](http://www.gradskills.anu.edu.au) was very helpful here. In particular, the way of conceptualising the different ways in which doctoral candidates can experience learning was shared with participants at each workshop (see Appendix H).

It was suggested that the threshold concepts approach could form the basis for a learning plan/milestones.

**Pedagogy**

One of the issues that gained interest was the notion of ‘pedagogic continuity’; are we simply replicating the pedagogy that we experienced? In fact, this point was taken further with the suggestion that some supervisors might be threatened with the introduction of coursework as it might expose their relatively limited expertise.
In order to meet the needs of providing coursework within a restricted financial environment there were suggestions for trying to find economies of scale which included:

- Combining student cohorts
- Sharing teaching across the faculty
- Cross-institutional work-shopping/training
- Discipline-specific training
- Mapping of what is available and ensuring that each student compiles their own map of what they need to do linked with milestones
- Semi-structured rather than more formal training
- Student-organised training.

However, as others were quick to remind the group, coursework in the PhD needs to be at AQF level 10.

One group suggested that they had the ideal solution: self-directed learning with a map and a plan. For example at QUT a student can do one year of coursework, as long as that does not interfere with milestones. Plus there are the ATN eGrad School offerings e.g. project management, research methods. So there is a combination of coursework units, research, eGrad school units [http://www.egradschool.edu.au](http://www.egradschool.edu.au).

**Assessment**

In keeping with an aligned curriculum there was discussion about assessment in doctoral education, e.g.: “It will be interesting articulating to the examiners the new model and formalising policy. For example, if students do the coursework will they have a shorter word limit in the thesis” (Workshop participant). In the ensuing discussion, the idea of shortening the thesis was generally discounted. There was general agreement that the skills developed during candidature contributed the final outcome although the question was raised: Does the assessment of the thesis actually allow us to comply with the AQF of showing what a doctoral student should know/do?

There was general agreement that there could be some form of preliminary assessment where candidates could demonstrate competence rather than having to undertake all core requisites. Also, participants considered that there should be some ongoing monitoring of candidate and project development particularly involving self assessment. However, whatever is put in place should not be graded but be more along the lines of the confirmation of candidature processes.

**Evaluation**

The question was asked: If we were to introduce some form of structured approach to the doctoral curriculum how would we know we were doing it well? Possible answers included:

- Improved completion times and rates;
- Comments from thesis examiners;
- ‘Happier’ supervisors and candidates;
• Improved ratings in PREQ/internal surveys;
• Fewer grievances;
• Improved graduate employment outcomes;
• Increases in publications during and immediately following candidature.
• The University of Melbourne asks examiners to provide a second report to the institution on what skills the candidate demonstrated within the thesis.
• Another thought is whether candidates get the career they want? Does that tell you about indicator of success of the degree?

Organisational issues

There were a number of organisational issues that were discussed as being important in any decisions related to coursework or a stronger, integrated structure to the doctoral curriculum. It was also suggested that any discussion needed to consider the demographics of students coming through e.g. age, type of enrolment, and previous experience. The main issues included:

• Enrolment dates that are fixed at the census dates, or where candidates can enroll any time. The flexibility of enrolment can make it difficult for students regarding coursework especially where there is a cohort view of candidature;
• Placing research training back before the PhD so that the PhD is only three years as demonstrated by the Macquarie model;
• Ensuring that candidates are not unnecessarily repeating work;
• Opportunities for collaboration, e.g. the ATN eGrad School, and Inspire (ECU);
• Whether the decision to incorporate coursework into the PhD should be left to the candidate? This has particular implications for international students who are sponsored by their home country;
• Convincing industry funded partners that coursework won’t take researchers away from the project;
• The possible risk of stifling creativity through the tightening of completion times.

Funding

There was general agreement that ideally any coursework would be paid for through Research Training Scheme (RTS) funding since this is for research-training, but how the funding is allocated is often unclear and staff reported that they did not know how it was distributed. Various funding issues were raised, for example, in one university you can apply for a scholarship for one course – but that is all, if you want to do any other courses then you pay.

Workload recognition was another issue, for example: Victoria University is looking at resourcing supervisors to provide advice and support tailored to individual candidates,
LaTrobe is looking at having a central point of advice through the graduate school, and RMIT is placing increased emphasis on supervisors and academic units to address candidate learning.

Involvement of supervisors

One of the matters that received considerable discussion was the importance of involving supervisors in any developments: “Unless you get supervisors on board, it won’t work. There must be buy-in from staff” (Workshop participant) There was also the issue of ensuring that supervisors are aware of the support that is available; for candidates and helping supervisors evaluate the benefits of coursework. An example of how supervisors have been involved included Murdoch that has set up a system where there is an Advisory Committee for each candidate which is independent and additional to the supervisors.

Possible ‘Learning Plan’

Learning Plans were seen as one way in which universities could support the individual learning of each candidate as well as provide a structure within which that learning can occur. A participant reported trialing the Vitae Research Development Framework and found it very helpful, especially as it is very visual. It was suggested that this could be further developed through social media.

Other issues

As to be expected there were a number of “other” issues including:

We can’t say that we’re a first rate university if we don’t get some of the basics right in terms of systems to facilitate the underlying processes that would support research education. (Workshop participant)

A concern raised related to the competence of academic staff to provide some of these services and yet there are very few academics in Australian universities who might be considered as truly expert in research methods in comparison with their US and European colleagues. There was also concern that too much coursework might make the PhD ‘just another degree’ and that we might be inflating the base requirements for entry into many industry groups. A further concern was that candidates might use coursework as a form of procrastination, in that they will just do more and more coursework and not get onto their actual research. With regard to international students there was a concern that they might not want to come to a University that runs coursework in the PhD. Furthermore, what happens when candidates object to doing certain courses even when universities might think that they will eventually benefit?

A number of other issues were raised. For example, coursework can be about innovation as it can take away from ‘simply’ replicating the supervisor’s methodology with effective coursework that can see a range of options. There was also comment that the development of clear pre-entry requirements and preparation is very important along with the strengthening of confirmation of candidature. This comment was made in relation to the increasing use of confirmation of candidature as the main assessment focus for the curriculum e.g. Research Methods, Occupational Health and Safety, statistics etc.
Discussions related to interdisciplinary research degrees suggested that there can be some real difficulties with inter-disciplinary research, partly because supervisors may not have the range of skills and knowledge required, and also it is difficult to find appropriate examiners. However, questions were raised as to what sort of coursework can be developed to support interdisciplinary research? For example we could have activities that are designed to help candidates with their ‘creative juices’ to encourage ways of thinking. Further suggestions included whether we should be moving from the implicit to explicit with inter-disciplinary research. An example given was the Southampton Doctoral Training Centre on Web Science run by Les Carr where they have a very explicit approach to interdisciplinary research education.

Conclusion

The analysis of the research and discussions at the five workshops suggests that there is general agreement that the learning experiences of doctoral candidates in Australian universities could be considerably enhanced by the development of an integrated doctoral curriculum.

This curriculum would align university aims for its doctoral education, candidate learning outcomes, content, activities, pedagogy and assessment in ways that conceptualised the doctorate as a program, which enabled each candidate to:

- Produce quality research
- Be able to clearly articulate the knowledge and skills that they have developed during candidature
- Identify how their doctoral education supports future endeavours including employment, career development and contribution to society, and
- Know the world and themselves as learners and researchers.

Reference


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Professor Alistair McCulloch, Head of Research Education, Learning & Teaching Unit
Coursework in the Australian PhD: Issues and Implications

Margaret Kiley
Margaret.kiley@anu.edu.au
http://chelt.anu.edu.au/doctoral-coursework

Overview
• Findings from the OLT project
• Short break
• Discussion of the implications regarding coursework in the PhD as they relate to your institution/discipline

To start...
• What do you immediately think of when I mention “coursework in the PhD”?
• Why might this be?

Why might we want ‘additional learning’?
Presumably the most obvious answer is:
To provide opportunities for candidates to develop desirable doctoral level learning outcomes (including the completion of the thesis)

AQF and TEQSA
• Skills, Knowledge, Application
• Are these enough? Which universities have more comprehensive outcomes for their research graduates?
• What do they entail?

Appendix G Powerpoint presentation to state-based workshops Sept – Oct 2013
• The Doctoral Degree (Research) qualification (leading to the award of a Doctor of Philosophy) is designed so that graduates will have undertaken a program of independent supervised study that produces significant and original research outcomes culminating in a thesis, dissertation, exegesis or equivalent for independent examination by a least two external expert examiners of international standing.

Research in the program of learning will be for at least two years and typically two-thirds or more of the qualification. The program of structured learning typically will include advanced coursework. The program of learning may also include advanced coursework to enhance the student’s capacity to make a significant contribution to knowledge in the discipline (or cross-disciplinary field).

• and/or research-integrated practice developed in collaboration with a relevant professional, statutory or regulatory body. The advanced coursework may support but not replace the research outcomes. The advanced coursework and research-integrated practice will support the research outcomes.

Project aims
• To provide an understanding of the issues related to the introduction of coursework within the Australian PhD, particularly:
  – Pedagogical,
  – Curriculum,
  – Organisational, and
  – Funding

What did we do?
• Involved six different types of Australian universities with
  – Interviews with Deans of Graduate Studies
  – Extensive workshops and focus groups in two
  – Survey of candidates in five institutions
  – Analysis of different approach (MRES) in one
What did we find?

- Approx. 75% of universities have/are discussing the introduction of coursework
- Different perceptions of coursework
  - Lectures and exams
  - All candidates treated the same
  - Content related to discipline, Employability Research processes
  - In the first year or throughout candidature

Possible content?

- Generic research methods or topic specific research methods
- Disciplinary knowledge
- “Soft skills” e.g. team work
- Research related skills e.g. grant writing, publishing

What’s the ideal **timing** for these experiences? For example:

- What learning needs to be structured prior to enrolment e.g. Honours or MRes Professional experience
- What learning best occurs within the first 6-12 months e.g. introductory research methods and ethics
- What learning is appropriate for mid-term and then again in the last 6-12 months

What might be the best **structure**?

- Formal coursework
- Specialised courses
- Individual learning activities
- A combination
- Programs that articulate closely with prior learning experience
- A structure that provides supportable exit points

How might we think about ‘provision’?

- Online
- Lectures
- Seminar series
- Working with the supervisor
- Within Schools/Faculties, across universities, or in collaboration with other universities
- Intensives, Retreats, Summer Schools
**Resource implications?**
- Who will teach? Who has the qualifications
- What's the role of:
  - Staff in units such as Learning Centres/Graduate Research
  - Consultants
  - Supervisors
  - National groupings or?
- Impact on completion times
- Financial implications re space, materials, and additional staff

**How will we assess learning? e.g.**
- Comments in examiners' reports
- Achievement of formal milestones
- Publication of journal papers and conference presentations
- Supervisor comments in annual reviews etc
- Observations
- Candidate self-assessment
- Employer feedback or...?

**How will we know if we’ve got it right i.e. evaluation?**
- Improved completion times and rates
- Comments from thesis examiners
- ‘Happier’ supervisors and candidates 😊
- Improved ratings in PREC/internals surveys
- Fewer grievances
- Improved graduate employment outcomes
- Increases in publications during and immediately following candidature
- Or...?

**Main outcome to date**
- To support the individual nature of candidature develop:
  - A skills analysis strategy
  - Learning plan

**Online survey to candidates**
- Most respondents in PhD
- Female 63% Male 37%
- Domestic 65% International 35%
- Full-time 70% Part-time 30%
- Entry qualification
  - C/w masters 33%
  - Honours 32%
  - Research Masters 25%
Survey: Age

- 20-29 = 29%
- 30-39 = 25%
- 40-49 = 23%
- 50+ = 22%

Employment

- Prior to enrolment
  - 57% in full-time employment
  - 52% of those in Education
- Employed during candidature
  - 34% not at all
  - 52% of those employed full/part-time in Education
- 62% anticipate working in Education after graduation

Coursework

- 44% had undertaken coursework as part of their doctoral program
- 58% of all respondents reported that coursework should be part of the doctorate with the majority suggesting it should be in the first year

Main benefits of coursework

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped with concepts and theory</td>
<td>77%</td>
</tr>
<tr>
<td>Provided background knowledge for doctoral research</td>
<td>75%</td>
</tr>
<tr>
<td>Help solve problems in field of study</td>
<td>74%</td>
</tr>
<tr>
<td>Increased knowledge about discipline</td>
<td>67%</td>
</tr>
</tbody>
</table>

Required for employment

<table>
<thead>
<tr>
<th>Skills/knowledge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relating doctoral research to employer requirements</td>
<td>42%</td>
</tr>
<tr>
<td>Information about the job market</td>
<td>41%</td>
</tr>
<tr>
<td>Networking</td>
<td>37%</td>
</tr>
<tr>
<td>Interview skills</td>
<td>24%</td>
</tr>
<tr>
<td>Writing to selection criteria</td>
<td>21%</td>
</tr>
<tr>
<td>Preparing a CV</td>
<td>20%</td>
</tr>
</tbody>
</table>

Specific additional experiences for anticipated job

- Publications 44%
- Networking 28%
- Teaching 27%
- Translating current skills into a new job 24%
- Presentation skills 21%
- English language 7%
Main findings from survey

- Education main employment pre, during and post candidature
- Coursework seen as desirable, especially in first year

Discussion

- What is your university doing re coursework in the PhD including needs analysis and learning plans?
- Do you have examples you can share:
  - With one another?
  - With the project?

Websites

- The Graduate Skills project [http://www.gradskills.anu.edu.au]
- Vitae for Researcher Development Framework [http://www.vitae.ac.uk]
- Honours project [http://www.aushons.anu.edu.au/]
- Coursework Masters project [http://courseworkmasters.anu.edu.au/]

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Appendix H Approaches to Research Graduate Capability Development

Formal/Structured [training]
- programs (eg: ‘induction’)
- minor subjects (eg: ‘language’)
- certificate courses (eg: ‘commercialisation’)
- short courses (eg: ‘NVivo’)
- Customised activities (eg: ‘scientific writing’)
- training exercises (eg: ‘internal’)
- review (eg: ‘monthly’)
- forum (eg: ‘skills’)
- workshops (eg: ‘residential’)
- conferences (eg: ‘international’)

Informal/Semi-structured [scaffolding]
- ‘community of scholars’
- ‘community of research practice’
- ‘journal clubs’
- ‘training’
- ‘peer learning’
- ‘interacting’
- ‘dialogue’
- ‘mentoring’
- ‘coaching’
- ‘working alongside’
- ‘demonstrating’
- ‘actively participating’
- ‘creating new knowledge’
- ‘becoming independent’
- ‘paid employment’
- ‘professional practice’
- ‘research groups’
- ‘academic practice’
- ‘cooperative research centre’

Emergent/Unstructured [performance]
- ‘in the field’
- ‘around the coffee table’
- seminars
- ‘technical talks’
- discussion groups (eg: online)
- e-portfolios
- Programs (eg: ‘transferable skills’)
- ‘community of scholars’
- ‘community of research practice’
- ‘journal clubs’
- ‘training’
- ‘peer learning’
- ‘interacting’
- ‘dialogue’
- ‘mentoring’
- ‘coaching’
- ‘working alongside’
- ‘demonstrating’
- ‘actively participating’
- ‘creating new knowledge’
- ‘becoming independent’
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The Australian National University

Final Report 2014

Report Author: Margaret Kiley