The Doctoral Education Experience:

Diversity and complexity

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Evaluations and Investigations Programme
Research, Analysis and Evaluation Group
# The Doctoral Education Experience

## Contents

Abbreviations and acronyms ................................................................. vii

Acknowledgements ............................................................................ ix

Project team ....................................................................................... xi

Executive summary ........................................................................... xiii

1. **Context of the study** .................................................................. 1
   1.1 Introduction ........................................................................... 1
   1.2 Project aims .......................................................................... 1
   1.3 The policy context ................................................................. 2
   1.4 Previous research and investigations ..................................... 3
   1.5 Research approach ............................................................... 5
      1.5.1 Selection of institutions .................................................. 5
      1.5.2 Selection of disciplines .................................................. 6
      1.5.3 Selection of the interview sample ................................. 6
   1.6 Interview data profile ............................................................. 6
   1.7 Structure of the report ............................................................. 9

2. **Institutional, disciplinary and individual contexts** .................. 11
   2.1 Introduction .......................................................................... 11
   2.2 Institutional contexts ............................................................ 11
      2.2.1 Institutional settings and responsibility ....................... 11
      2.2.2 Institutional structures and organisation ................... 12
      2.2.3 Senior university managers and university postgraduate associations ........................................... 13
      2.2.4 The power of the individual to influence change ........ 14
   2.3 Disciplinary contexts ............................................................. 14
      2.3.1 Disciplinary similarities and differences ................... 14
      2.3.2 Institutional and disciplinary interactions .................. 16
   2.4 Individual student contexts ................................................... 17
   2.5 Summary of findings ............................................................. 19

3. **Recruitment and selection of doctoral students** ..................... 23
   3.1 Introduction .......................................................................... 23
   3.2 University ............................................................................ 23
   3.3 Faculty/department ............................................................... 25
      3.3.1 Professional doctorates ............................................... 29
3.4 Individual student and supervisor: topic choice and matching..............32
3.5 Summary of findings.................................................................37

4. Supervision ..............................................................................39
4.1 Introduction..............................................................................39
4.2 Motivations.............................................................................39
4.3 Supervisory arrangements......................................................41
4.4 The student supervisor relationship........................................45
  4.4.1 Key characteristics of the relationship.................................45
  4.4.2 Models of supervision..........................................................48
  4.4.3 Issues in supervision............................................................51
4.5 Topic definition and development..........................................57
  4.5.1 Industry funded doctoral topics..........................................62
4.6 The role of coursework............................................................67
4.7 The role of the department......................................................73
4.8 Summary of findings.................................................................76

5. Support structures .....................................................................81
5.1 Introduction..............................................................................81
5.2 Induction..................................................................................81
5.3 Learning support.......................................................................83
5.4 Career development...............................................................85
5.5 Resources................................................................................88
5.6 Financial resources..................................................................91
  5.6.1 The availability of scholarships..........................................91
  5.6.2 Funding doctoral research costs..........................................95
5.7 Summary of findings...............................................................100

6. Quality assurance .....................................................................103
6.1 Introduction..............................................................................103
6.2 Policies and structures............................................................104
6.3 Monitoring and reporting progress..........................................106
6.4 Resolution of problems and disputes......................................111
6.5 Issues in supervisor development..........................................114
6.6 Completions............................................................................115
6.7 Summary of findings...............................................................120

7. The changing nature of the doctorate.......................................123
7.1 Present variation........................................................................123
7.2 Models of doctoral education................................................123
7.3 Differentiating professional doctorates ........................................... 127
7.4 Some more radical views .............................................................. 130
7.5 Summary of findings .................................................................. 132

8. Conclusions and considerations for practice ............................... 135
  8.1 Introduction................................................................................... 135
  8.2 Considerations for government ..................................................... 135
  8.3 Considerations for institutions ...................................................... 136
  8.4 Considerations for faculties/departments ...................................... 138
  8.5 Considerations for individual students and supervisors .......... 138

Appendix A: Institutional Profiles ..................................................... 141
Appendix B: Invitation letter ............................................................ 143
Appendix C: Graphical representation of student age distributions .................................................. 145
Appendix D: Disciplinary and university differences of the student sample ........................................... 149

References .......................................................................................... 151

Figures
  Figure 1 Distribution of interviews across category ....................... 7
  Figure 2 Percentage of students in each discipline group .......... 7
  Figure 3 Percentage of students at each stage of their doctorate by discipline group ......................... 8
  Figure 4 Percentage of full time students by discipline group .... 9
  Figure C1 Age distribution of the total student sample .............. 145
  Figure C2 Age distribution of SP students ..................................... 145
  Figure C3 Age distribution of SA students ..................................... 146
  Figure C4 Age distribution of HP students .................................... 146
  Figure C5 Age distribution of HA students .................................... 147
  Figure C6 Age distribution by gender ............................................. 147
  Figure D1 Mode of enrolment by discipline group ................. 149
  Figure D2 Gender by discipline group ........................................... 150
  Figure D3 Mode of enrolment by university ............................. 150
Abbreviations and acronyms

APA    Australian Postgraduate Award
APAI   Australian Postgraduate Award (Industry)
DBA    Doctor of Business Administration
DCA    Doctor of Creative Arts
DEST   Department of Education, Science and Training
DETYA  Department of Education, Training and Youth Affairs
DVC    Deputy Vice-Chancellor
EdD    Doctor of Education
HA     Hard applied discipline group
HDR    Higher Degree Research
HECS   Higher Education Contribution Scheme
HP     Hard pure discipline group
IGS    Institutional Grants Scheme
IP     Intellectual property
IPRS   International Postgraduate Research Scholarship
PGA    Postgraduate Students’ Association
PhD    Doctor of Philosophy
PREQ   Postgraduate Research Experience Questionnaire
RTS    Research Training Scheme
SA     Soft applied discipline group
SJD    Doctor of Juridical Science/Studies
SP     Soft pure discipline group
SPIRT  Strategic Partnership With Industry Research Training
UNS    Unified National System
White Paper  

Knowledge and Innovation (1999)
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Executive summary

The main trigger for this study was former Minister Kemp’s White Paper (1999) *Knowledge and Innovation*. The project aimed to gain a better understanding of the doctoral education experience. Doctoral students’ educational experiences across four discipline groups and six universities were examined. Over 130 interviews were conducted, two-thirds with students, the remainder with experienced supervisors, departmental and faculty coordinators and deans, postgraduate association presidents and senior managers. Consideration was given to type of doctorate (PhD or professional doctorate), mode of enrolment (full or part time), and stage of research (early, middle or late). The intention was to give doctoral students a ‘voice’ and to enhance the understanding of the complexity and diversity of their educational experiences.

The study captures doctoral education at a time of transition. The report documents a wealth of findings from the interviews, supplemented by documentary data. It covers the doctoral education experience from initial recruitment and topic and supervisor selection (chapter 3) through the research and supervision process (chapter 4), skill development and support structures (chapter 5), quality assurance aspects (chapter 6), to the changing nature of the doctorate (chapter 7). These chapters capture the diversity of the doctoral experience and several major findings can be pinpointed.

The large majority of students are positive about their doctoral programs. For some however the experience is at best neutral or mildly disappointing and for a small number fairly traumatic. Twelve per cent of students interviewed expressed dissatisfaction with their supervision experiences and five per cent had serious grievances.

The study shows that doctoral experiences are shaped by a range of contextual considerations:

- Mode of enrolment makes a difference to the intensity of the experience while different stages of enrolment highlight different aspects of the research process.
- The type of doctorate does not appear significantly to affect the nature of the doctoral experience.
- Disciplines shape the doctoral experience and institutional contexts can influence disciplinary perspectives.
- Financial and resource issues are strongly differentiating factors, both between full and part time students and between students in the hard and soft disciplines.
- The opportunities for students’ feedback to their institution on their experiences and satisfaction are limited and inconsistent.

The changing and flexible nature of the doctorate is evident from the interviews. With this said, some issues of structural differentiation can be identified between PhDs and professional doctorates:
The major difference between the PhD and the professional doctorate lies in the mode of entry.

Students in professional doctorates maintain that their research could have been undertaken within a PhD.

Both academics and students believe that the PhD is sufficiently flexible to include coursework where needed and to accommodate non traditional topics.

Both types of doctorate involve either coursework provision or research only. Around half of all doctorates in the study specify coursework. Further, coursework is found across all discipline groups, although its purpose varies.

There is a divergence of view on the appropriateness of the US PhD model for Australian universities. However, the need is argued for more flexible entry and exit points within the doctorate.

Very few students enter a doctorate with a specific career in mind. While an academic career is never far from many of their minds, it is seen as an undesirable or unrealistic aspiration for the majority. Students following professional doctorate programs do not see the qualification as particularly relevant to advancing their careers.

There is seen to be a largely unmet need for universities to offer career development opportunities for doctoral candidates. However, the only career development opportunity commonly available is undergraduate teaching.

Disciplinary variations are evident within the doctoral experience. Key amongst them are the following:

Subsidisation of doctoral study from external funds accounts for the major resource differences between the hard and the soft disciplines.

‘Top up’ scholarships are seen as necessary to attract students into the hard disciplines, especially the hard applied ones.

Hard disciplines are more likely to avoid recruiting part time students and certain categories of overseas students.

There can be tensions in industry funded doctoral research. In the hard applied fields they are manifest in the industry partners’ expectations that students will work on non thesis related activities. In soft applied fields topic definition emerges as a major issue.

The absence of a departmental role in acculturation opportunities most noticeably affects students in soft disciplines and part time students across the disciplinary range.

In some instances there are also institutional factors which affect the doctoral experience:

Dissatisfaction with resource allocation and support is stronger in some universities than in others.

Satisfaction with acculturation opportunities is stronger in research intensive universities.
• All universities in the study have in place policies relating to doctoral candidature. However they are differentially positioned for quality assurance.

• The readability and accessibility of university policy statements and handbooks for doctoral students is highly variable.

There are many signs that doctoral education is in a state of transition and that the 1999 White Paper is having an impact. The moves to greater selectivity in students have already been highlighted. Other important issues are that:

• There is strong emphasis on initial topic selection and reducing the time taken for topic refinement across all discipline groups.

• There is evidence of prestructured ‘tick the boxes’ topics in some hard fields.

• The institutional allocation of funds for doctoral students is considered to be opaque.

• Universities are monitoring progress more closely, with the intention of providing students with more meaningful and regular feedback on progress, such as through academic transcripts.

• The introduction of an annual report form is designed to give students an opportunity to raise concerns. Panel reviews without the supervisor are particularly welcomed by students.

• Universities are generally positive about government moves to improve completions within time, but are concerned that the reduced timeframe may raise potential problems of inflexibility.

The findings of the study raise a number of considerations for policy and practice at government, institutional, faculty/department and individual levels.

Considerations for government:

• indications of increased institutional selectivity of types of students and reduction in diversity of the doctoral student body;

• trends towards safe, ‘bricks in the wall’ research;

• the need to distinguish professional doctorates;

• variations across the discipline groups in the success of industry funded doctoral research;

• stark resource differences and opportunities for students in the hard and soft disciplines; and

• consistent reports in some hard disciplines on the difficulties in attracting suitably qualified students.

Institutional considerations include:

• the accessibility of information on policies for doctoral students, especially those on expectations and entitlements;

• the need for regular surveys of student opinion and needs;

• progress monitoring mechanisms which protect students needing to raise concerns;
The Doctoral Education Experience

- the provision of progress and achievement feedback through annual academic transcripts;
- provision of induction and career development opportunities; and
- institutional structures that clearly indicate a high value placed on doctoral students and doctoral supervision.

Faculties, and the individual departments within them, play a key administrative and educational role, involving:
- recognising that individual academics and the status of the honours program are important in recruitment;
- offering induction to doctoral study at the level of the discipline concerned; and
- providing disciplinary acculturation opportunities through seminar programs, ad hoc meeting venue and dedicated space to carry out research.

Finally the individual student supervisory relationship works best where:
- both students and supervisors are careful in their mutual selection;
- students take responsibility for managing their doctoral commitments and have a consuming interest in their research area;
- the inherent power differentials in the relationship are clearly recognised; and
- there is open and frequent communication between student and supervisor.
1. Context of the study

1.1 Introduction

Doctoral education is in a state of transition. The past decade has been marked by strong growth in numbers of doctoral students and the introduction of professional doctorates, both research and coursework only. There is increased diversity of research fields and approaches, of types of student and of range of institutions undertaking research (Neumann 2002). Within this context, it is not surprising that government and community interest in doctoral study is increasing. The trend is international as well as national (Noble 1994; OECD 1995) and the need for larger scale and systematic study of the doctoral research processes and directions is clear.

The immediate trigger for this study was former Minister Kemp’s *White Paper* (DETYA 1999) introducing new outcomes based funding policies for research training. The focus of the study is however the individual doctoral student and supervisor—the level which shapes everyday practice.

1.2 Project aims

The project aims to gain a better understanding of the research education experience of Australian doctoral students through case studies at selected universities. The focus is on intensive exploration of qualitative issues associated with students’ educational experiences and perceptions.

Given the nature of the supervision context as a highly personal teaching situation, there are many potential influences which need to be taken into account. Acker (1999) refers to the idiosyncratic attributes embedded in relationships of class, gender, ethnicity and age. In our study the specific influences which are considered are the type of doctorate (PhD or professional doctorate), the mode of enrolment (full time or part time), and the stage of the research process (early, middle, or late). These are contextualised for both discipline and institution. The focus is on the intensive exploration of the experience of types of doctoral student at different research stages, across a broad range of disciplines and different types of institutions.

Specifically the study aims to:

1. Highlight systematic patterns of doctoral students’ experiences and the social and intellectual context of their education.

2. Describe and analyse the nature and extent of institutional responses to this diversity and complexity.

3. Offer a qualitative complement to the quantitative PREQ data by providing a picture of the diversity of the doctoral education experience and of the
processes contributing to perceptions of satisfaction with outcomes and quality.

4. Provide a baseline for later follow up studies to examine trends and change in the doctoral education experience.

5. Formulate recommendations and suggestions for improving the quality of the doctoral research experience.

1.3 The policy context

Postgraduate research education is currently under the spotlight. The Commonwealth Government White Paper, *Knowledge and Innovation* (DETYA 1999), has created a sense of priority to the education and quality of higher degree research students. This *White Paper* was critical of supervision and completion rates and times. In a related policy paper, Gallagher (2000) argued that concerns with the research training experience could be traced back to almost 40 years ago, to the Martin Review of Tertiary Education in Australia (1964). He contended that universities have failed to address repeated concerns about supervision:

… the concerns … are real … and have been acknowledged for a long time. We all know people who have spent years studying towards research degrees who have pulled out before they finished. Equally, many who complete find the experience frustrating and demoralising, particularly if at the end of their degree they have no immediate, attractive employment prospects.

Gallagher (2000, p. 11)

Quality concerns have introduced a performance based approach to postgraduate research studies. With institutional funding from the Commonwealth tied to outcomes, pressure on universities is currently high to ensure that the needs of their students are met and that their student funding from the Commonwealth Government is not reduced. The implications of the performance based funding policy have strong reaction from major stakeholders (Chubb 2000; Smith 2000). In particular, concern has been expressed that policy for postgraduate research assumes a ‘traditional’ student who is full time, on campus, and a recent honours graduate.

Government concerns with performance have been underscored by a recent report of DETYA research into completion and retention of the 1992 cohort of doctoral students (Martin, MacLachlan & Karmel 2001). The study claimed a 53 per cent completion rate by 1999 with considerable differences in performance among universities and disciplines.

Connected to the 1999 *White Paper* is the recent emphasis on surveying student satisfaction through the Postgraduate Research Experience Questionnaire (PREQ). This questionnaire is designed to provide information on the educational experience of the students in research higher degree courses in Australian universities. It is part of the external focus on the quality of educational provision and on public accountability for government resources. It also constitutes a means of enabling students to make judgements about the educational provisions available through the different universities. This questionnaire, which is administered annually to all students who have been awarded a postgraduate research degree,
The Doctoral Education Experience

provides measures of satisfaction with supervision, skills development, intellectual climate, infrastructure, and clarity of goals (ACER 2000).

The annual publication of data on student satisfaction will enable ready ‘big picture’ comparisons and tracking of changes over time. However, it needs to be recognised that one of the limitations of such data is that the production of global average scores can mask important variations and differences in students’ experiences. Qualitative data, focussed on the same areas as those covered in the survey, could provide a useful way of filling the gaps and presenting a profile of student experiences of the supervision and research education at different stages of the process.

1.4 Previous research and investigations

The quality of supervision, attrition, and completion times are consistent themes in the national and international higher degree research (HDR) literature of the past two decades. In a study involving a large number of international experts, Noble (1994) noted that the only agreed area for improvement of HDR processes lay in the quality of supervision. However, with the rapid growth in postgraduate research student enrolments in the past fifty years, research has lagged behind practice.

In the past decade, several international studies have created a climate of interest in doctoral education. In the US, Bowen and Rudenstine (1992) undertook a cohort analysis from several disciplines in a number of research universities to identify factors affecting completion rates and times. Clark (1993) undertook a comparative five country study of doctoral education. In the UK, valuable understanding of the research education experience was gained from the extensive study by Becher, Henkel and Kogan (1994). It highlighted the distinct and competing ideas of what the research experience should be, based on institutional and disciplinary differences. Holdaway, Deblois and Winchester (1995) studied the postgraduate research experience in Canada, Australia and the UK. Their study involved interviews with deans, postgraduate coordinators, experienced supervisors and postgraduate students.

In Australia, there have been several valuable studies into aspects of postgraduate students (see for example Pearson & Ford 1997; Trigwell, Shannon & Maurizi 1997; Collins 1994; Parry & Hayden 1994). However, it is acknowledged that there remains a paucity of research into the nature and complexities of Australian doctoral education (Pearson 1999; Evans 2000).

The importance of supervision quality

Research evidence indicates that effective supervision is crucial to the successful completion of a PhD (Hockey 1994). The relationship can be seen as ‘private’ in the master/apprentice tradition (Frankland 1999) and as potentially ‘closed’ (Clegg & Green 1995) but also as a mentoring process (Shannon 1995). Hockey (1994) found that it was reportedly characterised by tensions between the students’ desire for autonomy and their need for guidance. The relationship between supervisor and student is highly individualistic in nature—more so than any teaching in coursework programs—and continually changes throughout the development of the research (Becher et al. 1994). These changes mark the passage of the student
from the initial stage of needing direction to that of a more independent worker. Pearson (1996) reported a pattern of supervision, evident across disciplines, of significant time and effort on the part of the supervisor in the early stage of a PhD project, fading to monitoring of student progress in the mid stages and changing to renewed effort at the writing up stage.

Haksever and Manisali (2000) defined three categories of supervisory support requirements of PhD students:

- **personal help**: support, motivation, socialising, help with accommodation etc, but not research related;
- **indirect research related help**: providing contacts, equipment, initial help in locating references; and
- **direct research related help**: critical analysis of work, help with methodological problems, precise direction, help with management of the project.

Fraser and Mathews (1999) also argued that students value and need non expertise related support from their supervisors.

### The vexed issue of completions

The reasons for length of time to completion and non completion rates are important considerations for universities and governments. Holdaway (1997, p. 71) notes that:

> Concerns about slow time to completion relate to the commitment of staff and other resources for extended periods, the desirability of concentrating graduate studies in a reasonable time period, the possibility that information obtained in the research may become obsolete before completion of the thesis, and delays in researchers moving on to other projects.

The research literature gives some indication that reasons for non completions fall within three broad areas:

- personal or family factors
- changes in career aspirations and development
- issues of quality of supervision

and to these a fourth should probably be added:

- growing pressure for the PhD to be everything to everybody.

Doctoral education is a growing enterprise. During the past fifty years it has shifted from a fringe activity to one occupying a more central role, both institutionally and nationally. From the available literature it is clear that the area of postgraduate enquiry, and in particular the study of doctoral students in Australia, is under researched. It is also clear that studies of doctoral students need to adopt a broad definition of ‘supervision’. Lacking are larger scale studies that go beyond the single
discipline or the single institution. It is this gap with which the current project is concerned.

1.5 Research approach

The purpose of this study is to fill an identified gap, namely in gaining students’ perspectives on their doctoral education experiences. Interview and documentary analysis are combined to investigate the doctoral education experience at six different universities covering a broad mix of disciplines and taking into account the various research stages.

To obtain a detailed picture of the doctoral education experience within the broader institutional framework, documents relating to doctoral study were collected and analysed. These included institutional codes, examination procedures, support structures and available institutional data on student satisfaction and completion. The main data source was semi-structured interviews of around 60 minutes each. The interviews covered the broad areas of the PREQ survey but were constantly modified as new themes emerged. Interviews were tape recorded and contextualised by relevant background information. All interview participants were volunteers.

This report and its findings are based on 134 interviews of which 100 have been fully transcribed. The NVivo software package was used to assist with data management and analysis.

Interviewees and their institutions have been assured anonymity and confidentiality.

1.5.1 Selection of institutions

The study selected students from six different universities, aiming at a coverage of the different types of universities within the Unified National System (UNS). Participating institutions were selected to ensure diversity of institutional research approach.

The participating institutions represent different eras of establishment—for example, sandstone, 1940–1970, and those created with the UNS. They also represent different sizes, ranging from very large to medium sized institutions with the largest having a total enrolment of between 35 000 and 40 000 students and the smallest between 15 000 and 20 000. In terms of research size, two universities currently enrol between 2 000–3 000 doctoral students, another two 700–800, and the remaining two 500–600. In terms of research quantum allocations, in 2000 two universities had an allocation exceeding $2 000 000, two over $5 000 000 and the other two just over $20 000 000. Institutional location is reflected by urban and regional universities as well as by single and multi campus institutions. More detailed profiles of each of the universities are presented in Appendix A.

While the study ensures coverage of institutional types it is important to remember that its focus is the individual and not the institution.
1.5.2 Selection of disciplines

The social and epistemological influence of disciplines has been well documented (Biglan 1973a, 1973b; Creswell & Roskens 1981; Becher 1989, 1994). Several previous studies of postgraduate research students have analysed differentiations by discipline (see for example Parry & Hayden 1994; Pearson & Ford 1997). In Australia, Cullen et al. (1994) used a discipline based categorisation in their supervision study and Parry (1997, 1998) has applied it to the study of doctoral dissertation writing. It has recently been applied to university teaching more broadly (Neumann 2001). In the current study, disciplines were selected from each of the four Biglan-Becher categories of hard pure, hard applied, soft pure and soft applied knowledge areas, encompassing respectively scientific disciplines, science based technology, humanities and social science, and, social science based professional fields.

Within this study the following disciplines are represented:

- **Hard pure (HP):** physics, biological sciences;
- **Hard applied (HA):** engineering—chemical, civil, electrical, mechanical;
- **Soft pure (SP):** history, political science, cultural studies; and
- **Soft applied (SA):** education, law, management.

1.5.3 Selection of the interview sample

Doctoral students were selected to cover the differing research stages (beginning, middle, nearing completion) from a wide mix of disciplines. Students undertaking PhDs and professional doctorates by research, enrolled full and part time, were identified and then invited to volunteer to participate in the study (see Appendix B). Identification of, and access to, students at all times respected current Privacy Legislation. Three presidents of university postgraduate students’ associations were also interviewed.

Managers and administrators with responsibility for research and research students—for example, experienced supervisors, heads of department, deans of faculties, Dean/Director of Postgraduate Studies, senior postgraduate administrators, Deputy Vice-Chancellors (Research)—were invited to participate, all of whom agreed to do so.

1.6 Interview data profile

Over 130 interviews were conducted for the study. Almost two-thirds of the interviews were with doctoral students. The remainder were with senior managers, faculty deans, departmental postgraduate coordinators and experienced supervisors. Figure 1 provides a profile of the proportion of interviews in each category.
The study focussed on four disciplinary groups—HP, HA, SP, SA—and approximately equal representation from students was achieved in each of these disciplinary groups. Figure 2 shows the distribution of student interviews across the four groups.

Just over half (55 per cent) of the students interviewed were male, and men represented 65 per cent of the total interview sample. Students were also selected based on the stage of their doctoral research as late early (topic...
definition stage), mid (data collection and analysis) and late (writing up and nearing submission). The greatest proportion, 50 per cent, as might be expected, were in the mid stage. Thirty-two per cent were in the late stages of their doctorate, writing up or almost ready to submit and on occasions under examination. The smallest group, 18 per cent, were in the first six to nine months of their research. These percentages varied slightly across gender, university and discipline group. Notably, soft applied had more late stage students than the other disciplines, as seen in Figure 3, and more men than women interviewed were at a late stage.

**Figure 3**  Percentage of students at each stage of their doctorate by discipline group

Both PhDs and research professional doctorates were included in the study. In the event it proved more difficult than expected to locate viable professional doctorate programs across the discipline groups in all institutions. One university did not offer such programs; two others had low numbers in their professional doctorates and were not currently enrolling students in them. Consequently only eight per cent of students were drawn from four different professional doctorate programs across three universities.

Just over two-thirds (68 per cent) of the students were enrolled full time at the time of their interview. There seem to be fairly consistent discipline variations in mode of enrolment, with more full time students in hard fields than in soft fields, particularly hard pure, at least at the commencement of doctoral study. Figure 4 shows the percentage of full time students in the sample by discipline area.
The distinction between full and part time enrolment status appears to be quite fluid under close inspection. Enrolment at the commencement is not necessarily equivalent to ongoing status since there are changes due to personal circumstances, including the expiry of a scholarship resulting in a need to work to bring in an income.

The mean age of the student sample was 35.6 years, but as might be expected the age profile of students varied by discipline group. Younger students were enrolled in the hard fields whereas soft fields showed a more even distribution of ages. The mean age of students was 29.7 years in hard pure fields and 32.5 years in hard applied fields. Soft pure showed the greatest range with ages from 21–70 and a mean of 43.3 years. The mean for soft applied was 39.1 years. Women were on average older than men, with a mean of 41.7 years compared to 34.2 years.

Graphical representation of student age distributions by discipline group and gender is presented in Appendix C of the report.

### 1.7 Structure of the report

In this study ‘doctoral education’ is defined broadly as encompassing more than just the supervision process between individual student and supervisor. While this relationship clearly forms the core of students’ experiences, other aspects impinge on their total experience. These aspects include the nature of the discipline as well as departmental and faculty cultures and the culture of the peer group. Institutional policies and structures and the availability of learning support structures are also important in the process. This broader understanding of doctoral education influenced the design of the study and is reflected in the presentation of findings and the overall report structure.
Chapter 2 presents a broad overview of institutional and disciplinary issues which impact on students’ doctoral experiences, highlighting similarities and differences. It also presents a general outline of student characteristics not discussed in other sections of the report. Chapter 3 examines the recruitment and selection of doctoral students, taking into account institutional and faculty roles. Chapter 4 presents the core of the study, focussing on the supervision process: supervisory arrangements, the relationship between student and supervisor, and, topic definition and refinement. It also discusses the role of the department in the supervision process and the place of coursework in assisting with topic definition and completion. Chapter 5 examines the support structures at institutional and faculty/department levels available to students and chapter 6 discusses the importance of quality assurance and the perceived effectiveness of the institutional monitoring of student performance and satisfaction. Chapter 7 looks into the future, considering the changing nature of the doctorate. The final chapter presents an overall summary and considerations for the improvement of the doctoral education experience for government, universities, departments and individuals.

A final comment is needed to explain the attribution of quotes. Given the guarantee of confidentiality and anonymity to all participants, their departments and institutions, care has been taken to remove any identifying information. Consequently, institutions are described in generic terms. All participants are identified as either students, academics, senior managers (DVCs, university deans and senior administrative staff) or postgraduate association presidents. In the case of students and academics, their disciplinary group—HP, HA, SP, SA— is also indicated.
2. Institutional, disciplinary and individual contexts

2.1 Introduction
The design of this study specifically incorporated the influence of both institution and discipline on students’ doctoral education experiences. This chapter provides a broad outline of aspects of the institutional and disciplinary contexts which do not explicitly arise in other parts of the report but which are considered important in understanding students’ educational experiences. The final part of the chapter gives a general overview of characteristics of the students interviewed, building on the initial profile of the previous chapter.

2.2 Institutional contexts

2.2.1 Institutional settings and responsibility
In each of the six universities, the most senior academics with responsibility for postgraduate research students were interviewed. These were either a Deputy Vice-Chancellor (Research) or a University Dean for Postgraduate Studies. In two of the universities, the Deputy Vice-Chancellor (Research) held responsibility without additional support from a dean, carrying the policy and pastoral roles themselves. In another university, one person was in the role of both Deputy Vice-Chancellor and Dean for that particular year.

The total interview sample comprised three deputy vice-chancellors and four deans. In two universities, new appointments were made to the position of dean during the study and in one instance it was possible to interview both the former and the new Dean. In addition two very senior and experienced administrative heads were interviewed. Taken as a whole, individuals’ experience in their current roles spanned from more than a decade to only three months. Nearly all of the senior managers interviewed were male.

In all but one of the universities, the responsibility of this senior academic was purely for postgraduate—and in one case honours—research students. In two universities, the separation between postgraduate research and postgraduate coursework students had been made only very recently, in conjunction with the transfer of research student responsibility to the Deputy Vice-Chancellor (Research) portfolio. These changes reflect institutional responses to the December 1999 White Paper in both universities full implementation was occurring 2001/2. This contrasts with the other four universities, where the organisation of doctoral students within the research portfolio had taken place as early as 1990 in two cases and by the mid 1990s in the others.
Broadly speaking, responsibility for doctoral students encompassed policy, quality assurance and student welfare and pastoral care aspects. In one of the universities the role was explained as growing:

*Out of a strong commitment to the White Paper’s Knowledge and Innovation … we wanted to … follow a lot of the lines from Knowledge and Innovation. We were impacted upon by the idea of selectivity and concentration. We moved from a … recruitment model for higher education research students, to a selectivity and concentration model.*

Senior manager 109

In policy terms, responsibility covered all aspects of doctoral students’ candidature, from recruitment through to examination (fostering contact with doctoral alumni did not, however, feature in any of the interviews). It also includes a quality assurance (discussed in greater detail in chapter 6) in terms of monitoring and reporting progress and ensuring good supervision. One deputy vice-chancellor explained:

*I interpret [good supervision] fairly broadly because I don’t think supervision is a narrow concept. Supervision is a very broad concept. It includes in my view, institutional policies, the work of individual supervisors and the kind of environment both physical and intellectual that we create for students. And so I see myself as having a fairly broad role although in my accountability statement it is specifically on supervision.*

Senior manager 16

Though not formally stated in a ‘job description’, two of the senior managers were explicitly including research on the doctoral process and supervision in their area of responsibility. Taking a fairly proactive view, they argued that policy and practice could not be enhanced unless there was a solid research base from which to build improvement and change:

*We have got a number of other projects that are in the planning stages or are on their way but we have set up deliberately to look at a whole range of things where we want the outcomes to improve the situation for our candidates. … I mean I fund that deliberately from the university funds, … We probably are unusual in the sense that we have announced that it is about time that we looked—, that we put a lot more gas to the comments that we make in response to DETYA. I mean a lot of the comments that we as institutions make to DETYA are the sorts of things that we rap our students over the knuckles for as being unfounded, without basis.*

Senior manager 42

This Deputy Vice-Chancellor was also distinctive in being the only senior manager interviewed in the study who had undertaken an investigation into withdrawals and non completions. Indeed, he saw improving the quality of supervision through early detection and intervention as a priority.

### 2.2.2 Institutional structures and organisation

Each of the six universities had developed its own distinctive organisation for doctoral students, with areas of overlap. Institutional organisation can be broadly classified as centralised or decentralised. Of the universities in this study, the two
very large research intensive universities were decentralised. Here the DVC (Research) liaised with the relevant faculty deans with responsibilities for postgraduate research students. All aspects of doctoral education—selection, enrolment, progress, quality assurance and examination—were the responsibility of the individual faculties.

Only one university in our study had a Graduate School. In this university, also decentralised in its administration of doctoral students, the Graduate School provided a focal point for both students and academics. The Dean had responsibility for the Graduate School, reporting to the DVC (Research); the Graduate School was governed by a board with representation from the relevant faculty deans for higher degree students. It had a high institutional visibility. Every person interviewed, student or academic, knew about it, and more importantly, all had an extremely positive response to it. Students, even if they had not yet used the opportunities available through the Graduate School, knew that, if they had any needs concerning any aspects of their candidature or research at any time, that was the place to go, and that a positive response to their needs would be found there.

The three other universities reflected a centralised organisation, in one instance only recently instituted following a restructure from a decentralised organisation. For all senior managers in this study, the clear advantages of this form of structure lay with the monitoring of quality assurance.

The senior managers of the two large research intensive universities commented on the broad range of disciplines within their university, all of which offered research and doctoral programs. To some extent doctoral study occurred naturally in areas of research strength, but given the proactive nature of one of the DVCs very specific outcomes based targeting was being developed to align doctoral study with the university’s strong research departments. In another university the linking with research strengths was overt, reflecting its relatively recent history in research and research supervision.

2.2.3 Senior university managers and university postgraduate associations

The important initial arena for policy discussion in each of the universities was the University Postgraduate Studies Committee. This committee had academic representation from different faculties as well as from the postgraduate student body. In some universities this representation was automatically ascribed to the president of the Postgraduate Students’ Association (PGA); in others the student representative was selected differently, often from faculty nomination of a suitable individual. In the overall picture, the liaison between the senior university manager and the PGA appeared to be loose. In only one university was there a lengthy tradition of the President (or nominee) of the PGA holding a place on all relevant university committees dealing with student matters and having regular contact with the DVC. Interviews with the presidents of three of the PGAs reinforced this impression. One DVC expressed concern that it was difficult to get regular involvement of the PGA president in committees and in matters relating to doctoral students. The three presidents interviewed were aware of this problem, their reasons being time pressures in undertaking a PhD and the annual changes to the presidency.
2.2.4 The power of the individual to influence change

As already stated, in each of the universities, the most senior or second most senior person with responsibility for doctoral students was interviewed. It became clear that these senior university managers each had, or perceived themselves to have different levels of power vested in their role to influence change.

The two deputy vice-chancellors without a university dean both remarked on the difficulty of the ombudsman role for them. Students were reluctant to talk to someone of their level of seniority. One of these universities, highly centralised, was developing strategies for early intervention with supervision difficulties. In the other, very large and decentralised university, the ombudsman role rested within each of the faculties.

All four deans noted the lack of authority vested in their positions. Three of them expressed irritation at being unable to bring about change at their university. The Dean in one of the large, decentralised universities referred to the faculties as ‘individual fiefdoms’. Change was brought about more through discussion and influence at the faculty and department levels than through authority vested in the role of dean. It was an office which ‘had a lot of responsibility but no power’ (senior manager 132) and one in which the Dean often needed to go to the faculties ‘cap in hand’ (senior manager 6).

Overall it seemed that most of the senior university managers were working under a fairly large administrative load, with responsibility spanning research, research students and in a few cases postgraduate coursework. In general their approach to policy and change could be described as reactive, since changes (e.g. to supervision skills, student satisfaction, quality assurance monitoring etc) were being made or were being considered at the time of the study directly as a result of the White Paper. However, in two universities the relevant DVCs were highly proactive in anticipating future direction and looking to position their university strongly within the developments they could foresee. This was reflected in:

- innovative and outcomes based policy on completions instituted well over a year before the study;
- introduction of two year part time teaching fellowships;
- focus on retention and examination of reasons for dropouts;
- the development of a research based programme on quality of supervision; and
- the development of a research base to underpin policy and practice in relation to doctoral education.

2.3 Disciplinary contexts

2.3.1 Disciplinary similarities and differences

There is long standing evidence that the differences between disciplines are extensive and profound (Braxton & Hargens 1996). Equally, it has been shown that there are complex interactions between and among disciplines (Becher 1989; Becher & Trowler 2001); these have been examined in some studies on
postgraduate research students (Becher et al. 1994; Parry 1997; Parry & Hayden 1994). This section highlights a number of key features of the discipline groups in the present study.

Not surprisingly, the greatest differences could be observed between the hard and soft disciplines. The hard disciplines, such as physics, biology and engineering, presented much tighter knowledge structures and a more gregarious social organisation than those of the soft fields—history, politics, cultural studies, management, law and education. As will be discussed in greater detail in chapter 4, supervisors and departments in hard disciplines had little difficulty in specifying available research topics for students. In the soft disciplines it was far more a case of ‘make your own niche’ within the loose parameters of a department’s research emphases. It was not unusual, moreover, for an academic specialising in, say, American history to supervise students undertaking projects in Australian history, whereas a much closer matching of research was expected in hard fields.

Academics and students in the soft applied fields of law and management acknowledged the recency of research profiles and doctorates in their subject areas, as compared with other disciplines. Management was seen as being where ‘economics was maybe 100 years ago, it’s quite primitive at the moment’ (student 2 SA) and,

*I think the research culture in law is still very much emerging in many ways, this is still a faculty where you can have very senior academics who don’t have PhDs. You don’t have to have a PhD to supervise a PhD student and I think that’s probably quite different from other faculties, and I actually think the faculty has done lots of really good things to build a good research culture and also to foster postgrad research …*  

Student 33 SA

Within the hard pure disciplines, and physics in particular, there is a distinct difference between theoretical and experimental fields. Supervisors of students in theoretical fields expressed difficulty in obtaining students. Even very senior professors of long standing seemed to have had few supervisees in the last decade and when they did, they generally numbered no more than three. While topic areas for doctoral research remain sharply defined, the mode of supervision is more akin to that of the soft fields than the more gregarious experimental areas. Within physics among the hard pure disciplines, there were signs of a discipline undergoing change. It was observed that some sub fields of the discipline were quite definitely waning, while others were waxing. The rapid increase of interdisciplinary approaches, especially with biology, was evident. Likewise in the hard applied engineering fields the move away from experimental work in virtually all areas and the increasing reliance on computer modelling stood out.

Differences were also observed between the pure and applied disciplines. Applied disciplines attracted more part time students than their respective pure disciplines—no doubt due to the fact that many of the candidates had ongoing professional commitments—although this was more noticeable in soft than in hard applied areas. See Figure D1 of Appendix D.

An interaction between discipline and gender was also noted, as can be seen in Figure D2 of Appendix D. Predictably, the hard disciplines attracted more male students than female, with women, making up only 20 per cent of students, overwhelmingly outnumbered by men in hard applied areas. However, in one of the
very large research intensive universities, the women interviewed in both hard pure and hard applied fields commented on the determined efforts their departments were making to encourage women into doctoral study and on the marked increase in women in their departments of the past five years. While soft applied fields showed little gender difference, in this study there were slightly more females (60 per cent) in soft pure fields. Within disciplinary areas there were also signs of some specialisations attracting more women than men:

*It’s partly the area, it’s a wonderful sexual stereotype, the blokes still tend to do diplomatic history and political history and the women tend more to do cultural history.*

Academic 8 SP

Disciplinary differences of the kind noted need to be borne in mind in reaching an understanding of the various contexts in which doctoral research takes place: further reference will be made to them in the chapters that follow.

### 2.3.2 Institutional and disciplinary interactions

Previous studies have advanced the claim that institutional contexts can influence disciplinary perspectives. The disciplinary review of law in Australian universities provides one prominent example (McInnis & Marginson 1994; Pearce, Campbell & Harding 1987). In this study such institutional influences were also noted.

The hard pure fields in three universities were very large, carrying a departmental enrolment of 20–50 students. This contrasts markedly with those in the two other universities where the enrolment was not much more than ten students. Similarly in the hard applied area, two universities had extremely large faculties, enrolling 150–400 doctoral students. In contrast, one faculty in one of the newer universities provided a cosy and nurturing environment for around a dozen students. Within the soft pure fields, departmental enrolments also varied, with one very large department of over 60 but with the others of around 20 students. Within the soft applied areas, one of the very large research intensive universities again had the largest enrolment with over 100 doctoral students, while one of the regional universities enrolled well over 50. All other universities enrolled between 10 and 20 students.

A factor clearly influencing the provision of higher degrees was the academic staffing situation. For example, in one university the academic staff numbers in both the soft pure and hard pure fields had been drastically reduced in the year or so before the study. The impact on the ability to provide supervision to the large numbers of doctoral students was remarked on by both students and academics. While students in the soft pure field were highly critical of the situation, one senior academic remarked on the scope for renewal and strengthening of the departmental research profile:

*There was a brief window of opportunity where the department had gone down from over 40 to under 20 and we just couldn’t cope because the student numbers were going up. And so we were allowed to hire three people and the competition for those jobs was fantastic and so I could bring in three very ruthless and absolutely dedicated young scholars, two of whom had been educated in the...*
United States although they were Australian, and they are part of this new ethos.

Academic 8 SP

In another university the hard applied area had been faced with a dramatically reduced academic staff a few years previously. Steps had subsequently been taken to alter the profile of its doctoral intake, involving a closer integration of the doctoral students into the department:

We sacked a third of our staff over the last five years, we increased our student numbers by 20 per cent, we doubled the number of postgraduate students and we have survived by having the postgraduate doing the teaching. Not the core lecture teaching but all laboratories and all tutorials. There are staff members sprinkled throughout that but the bulk of that work is carried by postgraduate students now, which is bad from the point of view that that is to be looked at as casual staff but it is much better than outside casual staff because they really see themselves as being here and they are here for three to four years so there is some continuity. And of course they like doing it, but we wouldn’t survive without them.

Academic 65 HA

The hard pure field in one new university stood out from the others in terms of its strong interdisciplinary focus. Building on its institutional history, the department was determined to maintain its non traditional approach to science and keen to foster interdisciplinarity.

Differing philosophical approaches and attitudes could also be identified. Within the soft pure fields, philosophical differences appeared in the form of competing disciplinary paradigms. The pressure on students to adopt a postmodernist perspective was felt acutely in one university and to some degree in a second but not at all in the others. In this case—one of the newer universities—students were attracted to enrol in doctoral study with a new professor having a reputation for open mindedness and a tolerance of theoretical diversity.

The student profile in all fields of four of the universities showed greater differentiation in mode of enrolment than that in the remaining two. The latter universities, both very research intensive and one very large indeed, had the most traditional student profile in the study, i.e. a larger proportion of males, full time students and students enrolled straight from honours. This was most noticeable in the hard fields. Their student recruitment strategies were deliberately designed to maintain this profile and position them well for meeting time requirements for completions. Figure D3 of Appendix D shows the distribution of part time and full time students across the six universities.

2.4 Individual student contexts

In conducting our enquiries, we have been struck by the positive student response. Students felt pleased that the situation and experiences of doctoral study were being examined and many welcomed the idea that they had been given ‘a voice’. Many of them commented that the interview was their first opportunity to offer opinions on and suggestions about what could be done to improve their experiences. In quite a
The Doctoral Education Experience

few instances they remarked that this was the first time that anyone had shown any interest in their research:

I think what you’re doing, where you’re eliciting student views, that sort of participatory research, or modelling that of reflective practice in a university where you are modifying how you do things, based on the reflections of those people that you are involved in. I think that needs to happen a bit more, not just send out a little sort of progress report where it has got a few lines, you know ‘do you have any comments to make, are you happy or not happy?’ because it is very individualised. It is not actually asking, ‘what can we do?’.  

Student 37 SA

For the vast majority of students, doctoral study was seen as a positive and exciting experience. However, as will be seen in later chapters, for some the experience was at best neutral or mildly disappointing, and for a small number fairly traumatic. Quite a few students commented that the interview had made them think more carefully about their candidature and about their personal expectations of doctoral study.

For most students there had been a break between completing initial undergraduate—and possibly masters—study and enrolling in a doctorate. Those most likely not to take a break were in the hard disciplines in two universities in this study. In all other disciplines and universities, the growing preference for a break was evident. In the professional doctorates, all students interviewed had had several years in the workforce prior to commencing their doctoral research. These findings are reflected in the overall age profile of the students in the study (see chapter 1).

It was not uncommon for students over the age of 30 to have several degrees prior to embarking on a doctorate. One student observed that the PhD was his fifth degree over nearly three decades. The degrees were often spread over many years and were often in different disciplinary areas. For example, there were students with initial science degrees, often with careers in science or health fields, who eventually undertook doctorates in soft applied and soft pure areas. There was even one instance of a student with qualifications in the arts undertaking, at a late career stage, a PhD in a hard pure discipline. Moving from undergraduate study in hard pure, perhaps through a masters, to a doctorate in hard applied seems less unusual. Several students had made earlier unsuccessful attempts at doctoral study, usually at a different university.

Many instances of students changing their mode of enrolment from full to part time were mentioned, especially in the later stages of the degree and often because a scholarship had run its full course. Changes in enrolment status under these circumstances are associated with expressions of alarm from both students and supervisors, as the transition from full time student to full time worker still trying to write up a thesis is seen as problematic. In the soft disciplines it was more common for students to commence part time and hope to get a scholarship for full time study after the first year.

There are other circumstances in which both supervisors and students are relaxed about the mode of enrolment and in some cases seem to view the full or part time distinction as artificial and irrelevant. For example, a full time scholarship holder may still be working for two days a week, effectively becoming a part time student and a part time worker. Conversely there are students enrolled part time but essentially studying full time. This was a means of students buying more time for
their degree if their financial circumstances do not demand their being in the workforce. The distinction between modes of enrolment has tended to become ‘meaningless because students flip flop backwards and forwards’ (senior manager 16). The distinction is, in the main, financially driven, and may be considered as not particularly informative in terms of a study of doctoral work.

The duration of a doctorate and the age constituency of the candidates may result in more interruption to study than is the case for undergraduate school leavers. Many students commented on their struggles to keep their research alive and on track while coping with health problems—either personal or those of close family members—or other personal stresses such as relationship breakdown or financial hardship. The need for support in many such cases ranged more widely than dependence on supervisors or on fellow students.

### 2.5 Summary of findings

**Institutional contexts**

- In all universities responsibility for doctoral students resides with a deputy vice-chancellor research. In all but one, there is a separation of responsibility for postgraduate research and postgraduate coursework students.
- Responsibility for doctoral students encompasses policy, quality assurance and pastoral care. Administrative aspects reside either with the deputy vice-chancellor research or with a registrar’s office.
- Organisational structures comprise decentralised administration, decentralised administration with a graduate school, or centralised administration. The latter is considered more advantageous for monitoring quality assurance. A graduate school provides high, positive visibility for doctoral students.
- There is considerable variation across universities in the liaison between senior management and the postgraduate association.
- Senior university managers perceive themselves to have different levels of power to influence change. In most cases management could be described as reactive to government policy: however, two senior managers in two universities stood out as proactive in anticipating future direction and positioning their institutions.
- The ombudsman role is difficult to carry out without a university dean.
- All university deans commented on the lack of authority vested in their positions.

**Disciplinary contexts**

- There are significant cultural and epistemological differences across the four disciplinary groups and also within them. For example there are distinctions across hard and soft and pure and applied disciplines, while within hard pure
disciplines there are distinctions based on experimental and non experimental specialisations.

- There is evidence of disciplines undergoing change: examples include increasing interdisciplinarity between physics and biology and greater reliance on computer modelling than on experimental work within hard applied fields.

- Applied disciplines attract more part time students than their pure counterparts, although this is more noticeable in soft than in hard applied areas.

- There is an interaction between discipline and gender, with the hard disciplines attracting more male than female students. In one university, however, women interviewed commented on the determined efforts their departments were making to encourage women into doctoral study.

- Some specialisations within disciplines attract more women than men: cultural studies is a case in point. Political history, on the other hand, tends to appeal more to men.

- Differential discipline group sizes were found across the universities, with contrasts such as a hard pure doctoral enrolment of up to 50 students in one university department and only 10 in the same field in another. Some such variation is found in all discipline groups.

- Large academic staff cuts in some departments in some universities, in particular the two very large research universities, had drastic implications for supervision and type of doctoral student recruited. One very large faculty has maintained its research and supervision load by employing doctoral students for undergraduate teaching.

- Conflicting values between discipline and institution can be found in terms of philosophical approach and a willingness to accept diversity in student enrolments.

**Individual contexts**

- Students’ responses to the study were highly positive, with many comments that the interview was their first opportunity to offer suggestions about what could be done to improve their experiences. In many cases the interview had made them think more carefully about their candidature and their personal expectations of doctoral study.

- The large majority of students are positive about their doctoral programs. For some however the experience is at best neutral or mildly disappointing and for a small number fairly traumatic.

- There appears to be a growing preference for students to take a break before commencing doctoral study. Exceptions are to be found in the hard disciplines of two universities.

- It is not uncommon for students over the age of 30 to have several degrees, often spread over many years and in different disciplinary areas.
• There were several students interviewed who had made earlier unsuccessful attempts at doctoral study, usually at a different university.

• The distinction between modes of enrolment is in general financially driven and changes in enrolment status are common.

• Many students experience personal and financial stresses during their candidature. Their need for support often ranges more widely than dependence on supervisors or on fellow students.
3. Recruitment and selection of doctoral students

3.1 Introduction

An important part of the interviews with students was to explore why they were undertaking a doctorate and how they came to be with their present supervisor/s and the university. The interviews with academics probed how doctoral students were recruited and selected in their area. The matter of recruitment and selection involves all levels of the university. The senior managers are responsible for broad policy issues while the faculty and departmental levels form the heart of the selection process with the matching of student with supervisor being the most crucial aspect. The interviews highlighted the fact that institutional recruitment strategies, particularly in some disciplines, are coming under pressure and may need to be revised. Further, the need to take into consideration student qualities for successful completion of doctoral study beyond the undergraduate honours mark was seen to be an issue not sufficiently considered in current selection processes.

3.2 University

Based on the interviews, the recruitment of doctoral students emerged as a relatively straightforward process, although in a university ‘there is always contestation about the best way to market’ (senior manager, 6). All universities were easily filling their available places, with the current approach ‘meeting the supply demand balance’ (senior manager 41) even without much advertising. Indeed at least one university had stopped advertising in Australian newspapers:

We haven’t advertised this year and we have got a pretty sizable number of applications. We moved away from advertising in the weekend papers as everyone does and has for a hundred years. It is too expensive for little return and when we looked at different sorts of advertising that we used, we found it to be really not very much benefit.

Senior manager 118

All universities in this study tended to rely on generic advertising and marketing strategies for doctoral candidates. There are generic brochures on research programs and opportunities for doctoral study as well as brochures targeting the international market. Advertising is usually located within the standard state and national papers at set times of the year. For the research intensive universities in the study, the greatest institutional strengths appeared to lie in the personal exposure of successful researchers, the reputation of individual academics, and, the honours programs. Notably, one very large research intensive university appeared to have a poor honours feeder but had aggressive strategies to attract very good candidates from other universities. The newer universities in this study had fairly rapidly built a
sizeable number of doctoral students, in particular through recruiting their own staff who do not hold doctorates, but also through niche and non traditional areas of study. Their own undergraduate honours programs did not appear to be a strong source for doctoral students. Senior managers in these universities noted that they would like to strengthen the feeder from honours.

Quality assurance was the key institutional role in the selection process. Senior managers must be able to ensure that institutional standards and resource capacities were met:

> When we admit a student to candidature, we admit them to an approved program of study … it may not have the same definition as the research thesis topic when it is finally embossed in gold in three and half years time, it is a definite topic. There are definite supervisors, then there would be one supervisor appointed to provide guidance and we are very clear that the candidature is to be pursued in the university unless other arrangements are approved and we do approve them but they have to be upfront. And so the deal is quite clear, it is this candidature, that program, those supervisors, and it is in this university.

Senior manager 41

While all universities were readily filling their doctoral places, several senior managers expressed concern that this situation may not last. At one of the very large research intensive universities, it was noted that the number of applicants for doctoral places had been consistently declining since the mid 1990s. This university was still able to attract the best candidates, but the size and quality of the pool was shrinking:

> So much of the research is bound up with students, and over the years, the number of research students applying here has declined. Now it’s declined in other universities also, … if we look at our APAs over the last eight or nine years, instead of having a surplus of candidates in the vicinity of 400–500— and nobody back in 1996 could get a look in at an APA without having first class honours—now we’re down to two ones and even lower. And so the tail of good quality students is not as long.

Senior manager 132

Another senior manager at this university observed that some disciplines such as engineering were able to choose the best, but that in medicine and science ‘the majority of the students are very mediocre’ (senior manager 99). These comments echo the views of many of the academics interviewed in the hard applied and hard pure disciplines who found difficulty in attracting suitably qualified doctoral students in specific fields (see also section 3.3 below).

A significant issue is posed by the White Paper’s encouragement for universities to prioritise places based on research excellence and concentrations. One of the newer universities acknowledged that it was now moving away from ‘a pure recruitment model’ for doctoral study to one ‘driven by the White Paper’. With reduced government funded places in the coming years, the Deputy Vice-Chancellor acknowledged that its research places for the coming year were already filled with full time students with first class honours. Full fee places would be introduced to cater for extra demand from domestic students and part time students, thus creating a very different student profile from the currently large number of HECS funded part time enrolments.
It was pointed out that in shifting research opportunities, a university needs to take account of matching the balance between staff, resources and student interests:

You can’t willy nilly decide that you are going to boost the research load in a particular faculty if the available number of academic staff to supervise is limited and they have already got five or six students for each qualified supervisor. And in the case of the more expensive research areas like engineering, medicine and science, you can’t just decide that you are going to increase the higher degree load because you have got to have the resources and this means the grant applications to provide the equipment and the consumables and the opportunities that are needed. And so the promotion of research training opportunities has to be a very balanced approach.

Senior manager 41

In the two very large research intensive universities, the senior managers observed that the White Paper’s emphases on concentration and strengths were more easily met in smaller and also newer universities. One of these large universities was progressively moving to a modified version of the RTS formula to achieve this. In the other university, one senior manager with many years experience handling doctoral student matters noted that such moves raised important issues on the role of teaching and research within the university and that large research teams with significant external funding do not necessarily provide the best supervision of doctoral students:

And the other problem that you face is, of course, an academic that’s bringing in a lot of research funds may be the worst supervisor and supporter of graduate students, for the reason that they manipulate them, they plagiarise their work, they treat them just shabbily. And that’s where I picked up in the Ombudsman’s role, of the way academics, the power game that goes on. And some of your best supervisors of course may be in schools where there’s not a high research flow in terms of monies, and who are more sympathetic and are actually more akin to the purpose or the idea of a PhD and what it’s about in terms of developing the human skills.

Senior manager 132

Based on these interviews, institutional recruitment strategies may need to change in the foreseeable future. Because the current demand for places is still stronger than can be met, such strategies are virtually non existent. Much of the recruitment comes from strong undergraduate honours programs, as well as a successful institutional research reputation. However, as already noted, some newer universities have been markedly successful in building strong doctoral enrolments in a relatively short space of time without such honours programs and long standing institutional research strengths. But in their case also, there seems little evidence of strong intra institutional coordination of recruitment.

3.3 Faculty/department

In those universities with a decentralised management structure, faculties were in control of their recruitment strategies:

[The university] on the whole has done very little in this regard, and most of our students come from within, so they’ve been a graduate. We get an awful lot of
international students applying as well in particular areas . . . I can’t say that we’ve got a really developed advertising campaign . . . Each faculty can do what it wants.

Academic 12 SP

In a centralised structure, the inherent tensions between university and faculty noted earlier were more obvious, with deans and department heads conscious that institutional level recruitment and targeting may not necessarily meet a faculty’s needs. The appropriate roles of institution compared with faculty and even department need to be considered:

So then you have to ask what mechanisms are in place by the University or sections of the University in order to encourage students to come or stay. That was the whole idea of these university scholarships and the rest. I’m not going to say much, anything about that. But within the faculty I felt that, for me and the Research Committee in the faculty, I felt that we needed to ensure that a mechanism was in place so that if we find good students we can say ‘yes, we want you to come and you’re guaranteed such-and-such a scholarship’. So as a faculty, we’ll guarantee scholarships just so that whatever the process is in the University, however slow or bureaucratic or cumbersome, that somebody in the faculty, if I find a good student I can say ‘Look, you’ll get a scholarship.’

Academic 1 HP

Typically, faculty deans will deal with all applications in their area as well as informal enquiries via email and phone. Websites in particular appeared to be successful in attracting enquiries, far more so than newspaper advertisements in some disciplines. One overseas student commented enthusiastically on how he found his topic and supervisor:

And I was just searching the web and I found this scholarship and it said ‘for someone who has just finished their honours degree in physics’ . . . I think it’s a very good site, the website here, which is a very good advertising thing. I’ve looked at statistics from our site . . . I know that our site is quite popular worldwide. We actually get a lot of people from overseas coming through.

Student 54 HP

The dean’s role becomes one of a strategist and a match maker where potential student and supervisor do not already know one another. One dean in the hard pure field commented:

And in some cases I will go out and seek people. So if I see a good undergraduate student somewhere and I know about that I will do what I can to get the person to come. I’ve gone as far as to fly in potential students and have them spend a few days here talking to me, seeing the projects and going back in an effort to woo them into a program if I feel that the student is capable and a good match.

Academic 1 HP

Indeed the role of strategist in a competitive environment stood out in faculties and departments in the hard pure and hard applied fields. Maintaining good contacts with past students and identifying good students from other institutions appears to have become part of the recruitment game. One student commented:
The Doctoral Education Experience

The fact that my supervisor was always encouraging me in the first year was somewhat annoying because I didn’t want to go back to uni just yet, I wanted to do something else. But now I am grateful that he did. That he did contact me and show me that he is always interested in me coming back to uni and doing my PhD.

Student 15 HA

At all universities signs of a ‘buyer’s market’ were evident from the interviews in the hard disciplines: in response, some faculties ‘sell like mad’ (academic 65 HA). Alongside inter-institutional competition in attracting the best students, there were instances of students ‘shopping around’ prior to commencing a PhD, usually on the basis of field specific perceptions of ‘where the action is’. The use of ‘top up’ scholarships is becoming an important way of luring talented students into PhD study. Several students raised them as factors in their decision making, and several deans were of the view that scholarships ‘control who comes and who doesn’t’ (academic 9 HA). In disciplines such as engineering and computing, where employment prospects are strong and graduate starting salaries comparatively high, the stipend from an APA is not seen as sufficiently enticing for a student to undertake further study and research. To attract students, departments allocate money from external grants to provide additional tax free funding—a ‘top up’—for promising students. One dean explained:

[When we] get a very capable applicant we say: ‘ok, you have first class honours, you are a brilliant student why don’t you apply for an APA?’ He applies and he gets the lousy $18 000 but he says: ‘I am too good, I have a job that pays me 40 grand I’m not going to leave that, come and work for 18’. So we tell them: ‘ok 18 is your scholarship which is tax free, how about another $12 000 tax free scholarship from industry to top it up?’ So they say ‘well $30 000 tax free is equivalent of 36–37, I’m willing to sacrifice 2 or 3 grand to get the PhD at the end of the line’. … if someone upon graduation is capable of earning 40–50 grand as some of these guys can unfortunately there is no way, no matter how convincing you are in terms of good of humanity and all, that you can get them for 18 grand a year.

Academic 34 HA

Yet despite these efforts, in at least one hard applied department there were more industry scholarships than students to accept them and it was acknowledged that, in some instances, a low second class honours was sufficient for students to gain a scholarship. Further, one rather shrewd student observed that not all that many students in the hard disciplines realised that it was really a buyer’s market and that they could easily negotiate a better deal for themselves:

Absolutely, definitely [there is competition to get students] and I think a lot of students don’t realise that. And I am sure that is not quite the case in other fields but certainly for PhDs in [my discipline] and particularly in experimental [fields], again if you have relevant experience, you can bring probably a little bit more, then they will go out of their way to grab you and they will offer various things.

Student 53 HP

In both soft and hard areas, deans and postgraduate coordinators expressed concern at the quality of applicants and entering students. In the hard disciplines a somewhat pessimistic view appeared at times, with doubts about the adequacy of
preparation for science and engineering at both undergraduate and high school levels.

In other fields postgraduate coordinators were concerned about the pressure from the university for faculties and departments to take as many PhD students as possible. It was felt that students did not always have adequate preparation for successful doctoral study or that they might not have the right motivation to undertake several years of research and might also underestimate the work and stamina required. Such situations have implications for departmental and supervisor workloads and institutional completion statistics. As one postgraduate coordinator expressed it:

*I think basically we are encouraged to take as many PhD students as possible at this stage. … everybody from the departmental head down has been saying we have to have more PhD students. I mean it’s almost like a mantra. I’m really wary of that push, because I think it does have implications on the resources and I really don’t want to take on someone who is not going to be good. If I can say something that’s on my mind in terms of PhD completions, I mean one thing that happened recently was that last year we had quite a number of students who withdrew quite early on in their first year and this alarmed us.*

Academic 3 SP

Faculty concerns with completions and the quality of entering students have resulted in several faculty specific strategies. One dean commented on the greater attention to type of student selected and research costing:

*It has been the case that universities have taken on people that they probably wouldn’t now take on, now that there’s more of a scrutiny and a costing of the student going through. I think we’ll lose the student who’s doing it as a recreational exercise. You know, yes and no, good and the bad, sometimes they’re a loss and sometimes they’re not. It’s nice to have the diversity in the community.*

Academic 12 SP

In some faculties every new student is admitted on twelve months’ probation. In others new students are automatically enrolled in a research masters, irrespective of past qualifications, and then upgraded to PhD at a later stage when satisfactory progress has been demonstrated. The faculties concerned see this as both an entry hurdle and a quality assurance mechanism: where students do not make the grade they can instead acquire a masters degree.

Yet another approach is to require a more detailed thesis proposal at the time of application: in one case a ten page proposal. A former dean explained the new process:

*Students who apply to a doctorate here have to write a ten page proposal as part of the admissions process and so we have always encouraged students, if they want, to get advice about a draft of that proposal and if they want to approach someone in the faculty who they think is in the area, we are happy to do that. So sometimes you will work up a proposal, or you give advice to a prospective student on a proposal so that when the application comes in to the committee you have already had a look at it.*

Academic 10 SA
A third strategy is to select only specific types of student. In one hard applied faculty there was an unofficial policy of not selecting part time students. The dean acknowledged that they were discouraged:

_We have still some part time [students] from the past but more and more we are discouraging part time candidature for several reasons, one is--. Well there are exceptions, like our staff, they want to do it and there is no way they can do it full time, they have to be part time obviously. But we never have a good experience with completion and completion rates with part time students. …I guess it’s not discouraging the student necessarily, it’s discouraging the faculty focus on priorities effectively in the first place and also looking at the applicant in a competitive [climate] … Also, some of that natural screening is happening because of the time line that is required to finish that research because many cases are linked to industry needs. So we can tell the students for example up front, this project, if you want money, if you want assistance, there is a funded project that has to be done in two and a half years, can you do it? So if they say there is no way I can do it, because I am part time, and I have family, I have kids, so that student is automatically excluded._

Academic 34 HA

Another student category, overseas students—often the predominant group in hard disciplines—were being more carefully selected than in the past, taking care not to recruit from some countries or even, in some faculties, deciding to stop recruiting overseas students altogether. One senior academic summarised the thinking:

_We have consciously gone for local students because they are more self starting, they have got the right background skills, they have the ability to tell a staff member they are wrong whereas the foreign students wouldn’t dare do that. And so the students have to be more self reliant because we have to jack up the numbers with fewer staff and so yeah, it is a matter of getting more confident students who basically can run the projects to a substantial degree themselves._

Academic 65 HA

### 3.3.1 Professional doctorates

Faculty and department decisions on the selection of students are based substantially on past academic performance and on whether a student wishes to work in a research area of the department. Professional doctorates however usually add additional selection criteria related to professional experience. In this study four professional doctorate programs in management, law and the creative arts across four different universities were included. In law, students needed to be legally qualified to be considered for entry, which was not the case with the PhD. In management, several years’ professional experience, often at a senior level, was essential. For the creative arts, recognised success as a creative artist needed to be demonstrated through publications, performances, film productions etc. Thus, the difference between the two programs ‘is really the route they [the students] are coming in’ (academic 10 SA). In one department there was competitive entry into the professional doctorate for a fixed number of annual places, with entry by cohort. Two programs, one a soft applied field and the other a soft pure one, in different universities, were marketed as highly selective and prestigious degrees. In terms of numbers of enrolments since their establishment both were extremely successful programs.
In some faculties in one university concern about declining student numbers was creating interest in the development of professional doctorates. This was spurred on by the success of at least one professional doctorate program in another faculty of the university. The hope is that a closer connection with the profession will bring more students and increased funding either through fees, research funding or support in kind. The overall aim is to target a different category of student. One hard applied faculty dean commented:

[We think] there is reasonably good demand for professional doctorates and people would be prepared to do it that way because they could still maintain a reasonable salary. I think we would make them [the students] part time simply because it is too difficult to do it if you are working and trying to do research all in one go. … it would be on some problem that the company was interested in so it would be very applied research, specific to the company, whereas here we can do research on anything … the difference is that for a PhD you can do it on anything your heart desires, whereas with a professional doctorate, hopefully the people will have been doing research that will benefit the company on a problem that the company has.

Academic 9 HA

A similar opportunity was seen in the soft pure field in the same university where the dean believed:

You know, servicing the corporate world, those people come to us sometimes from industry and would like to do a higher degree and the thought of an 80 000 word research project isn’t what they want at all. They do need some coursework, because they need to learn how to do research techniques and they do bring some industry experience which we normally wouldn’t recognise and they do want to do a project and often it’s an industry related project. So the arts, this faculty, has recognised that as a kind of potential client or student … I think that will be very successful because they’re a student that’s different to a pure research student who comes from a fourth year or a research background and wants to do something that they’re fascinated with but it doesn’t feed necessarily from an industry base. But there are people with industry interests and they could be advanced through this degree so I think we’re quite optimistic with that. It’s certainly been the case with [other fields in this faculty] so why not with arts.

Academic 12 SP

Despite these optimistic views on expansion and diversification, the experience in this project has been that several universities have more professional doctorates on the books than actual enrolments. Nevertheless there are some marked success stories in some fields and in some universities.

In nearly all cases students had deliberately elected to enrol in a professional doctorate rather than a PhD. Those in DBAs and DCAs commented that they preferred the closer affinity to practice and the profession that was promoted in the program information. One management student explained:

… it was a way that allowed me to blend together the practice and the research components in a way that isn’t necessarily available in the PhD program, cause there are differences in emphasis between the DBA and PhD in the sense that clearly that it is applied research first and foremost in the DBA program and secondly, one of the criteria upon which you are assessed includes the contribution
to professional practice and policy and again that was something that interested me.

Student 2 SA

Within the creative arts students maintained:

I like the idea of being in the DCA rather than a straight PhD, which seemed to be much more based on studying other people’s work. I wanted to do that but I also wanted to look at my own writing as well.

Student 112 SP

What I want to do really fits a DCA better I think.

Student 122 SP

Nevertheless, all students within the professional doctorates acknowledged that their research could have been accommodated within a PhD and that there was scope for ‘non traditional exploration’ (student 112 SP) within PhDs. One of the management students in the process of transferring from a DBA to a PhD stated that ‘the thrust of the key nature of my research’ could be maintained (student 128 SA).

Some professional doctorates in the study were by research only. It was however more common to provide students with a greater degree of structure. This greater structure was seen as a positive force in student decision making:

… I chose the DBA program because I actually like the structured methodological options … as far as I was concerned the skills I had learnt in the DBA program were every bit as relevant as I would pick up in a PhD program if I wanted to go on and do other research.

Student 2 SA

The greater structure through coursework resulted in a slightly smaller thesis length and was seen as making the doctorate easier to do:

I didn’t choose a PhD because I thought 120,000 words by yourself is too hard. It’s too hard. Whereas the SJD’s been perfect … they’d basically hold your hand. [In unit one] you do a blueprint of what your thesis is going to be and then they help you with that.

Student 48 SA

Lack of confidence to undertake a PhD was another reason for selecting a professional doctorate. Two SJD students expressed their reservations about a PhD:

I’m not even sure I’m really worth a PhD, so, I didn’t do the PhD because it just seemed too daunting and too much … it seems less structured, it seemed more frightening for that reason.

Student 33 SA

I don’t know how PhD people cope. I’ll be honest with you, I don’t know how they do it, it’s too hard.

Student 48 SA
3.4 Individual student and supervisor: topic choice and matching

The matching of individual students and supervisors is the most crucial element in the selection process. It involves both the matching of supervision with the student’s area of interest and also the assessment of the suitability of the skills and the compatibility of the personalities of potential supervisor and student. Decisions to accept or reject applicants ultimately lie with individual supervisors who determine whether a student’s area of interest falls within their research program and whether they have the resources available for the student. Four main ways of matching were observed.

By far the most common matching is where student and supervisor already know one another. This was the case for half of the students interviewed in this study. In these cases the student is familiar with the supervisor’s research area through previous undergraduate study, usually through honours, and not uncommonly, after a break from study. Through undergraduate study students have often undertaken honours research and it is common for those students to return to their honours supervisor to work on an extension of their honours topic or in a related area:

_The supervisor I chose was my supervisor for my fourth year undergraduate thesis and he was very good and be motivates his students. I wanted to be supervised by somebody I like and respected and this is basically the reason that I chose to do a PhD with him rather than another academic._

Student 15 HA

In the hard pure disciplines in several universities there was a system of summer studentships for interested and motivated undergraduate students, often from their second year onwards, to work on different research projects within the department. Such a system exposes students to the broad range of research within a department, the different research techniques, and of course the many different people with whom to do research. The academics too gain an understanding of students’ research capacities, enabling both students and academics to make an informed, experienced decision. As one experienced supervisor pointed out:

_We also have vacation research scholarships, which students can do generally between second and third year, or between third and fourth year, and again that’s giving them contact with research staff and you can test their quality. … They’re working on mini research projects. So a couple of students I’ve worked with in that capacity have got their name on scientific papers because of the work they’ve done. So it can be genuine research or it could be more in the way of a research assistant but either way we get through this interaction, knowledge of how good they are and they get knowledge of whether the sort of research we do is what they’re interested in. Then in fourth year, half the year is a research project and that really is an intensive research interaction, and at the end of that time, they then have a choice of going overseas, going elsewhere in Australia or staying here to do a PhD. Typically they do the first or the third._

Academic 14 HP

A second route to supervisor and topic choice is through the identification, by prospective students on a national or international basis, of key individuals in the field. A number of students in this study had had a broad research area in mind and had very carefully searched for the department in their area of interest. Many of
them also thoroughly searched for the supervisor of their choice. In making their selection students used the web, spoke to other students, read published research of academics and made personal contact with their potential supervisor before proceeding with an application. One international student commented:

I wasn’t sure that the States was where I really wanted to end up and so I decided to look into Australia as a possibility … [I found my supervisor] mostly through the web, I just get online and started looking at robotics places. I knew quite a few of the ones in the States, but I wasn’t as familiar with places down here. I considered [three universities] and I contacted the three places and they seemed to have financial resources to support people, … And it turned out that my supervisor is fairly well known in the industry and has been doing some pretty recognised work all around the world. It’s been a really good experience actually coming here …

Student 19 HA

For several of the international students in this study, prior experience at a university on the part of someone they knew was often most influential in their decision making. They tended to pick the university and department first and then the supervisor and topic:

First I chose the university, chose the school and decided, ‘OK I’m going to stay here’ and then I chose the supervisor and the topic … I spoke to a guy who studied at this university—he’s a lecturer in my university … and he said: ‘Oh the University Y is not too bad’ … that was how I did it, I didn’t check the web page, but this university has a pretty good name in [my country], a good reputation and a lot of professors [from my country] graduated from this university…

Student 73 HA

A further factor for the international students interviewed in this study, influencing their decision to undertake a PhD in Australia as opposed to the US, was the shorter time span required for an Australian PhD. The additional time required through coursework in the US PhD was a distinct deterrent.

In a few cases students, all in hard pure fields, certain that they wished to continue on in research, reported selecting a supervisor predominantly for postdoctoral opportunities. One very strategic and astute student acknowledged:

I basically chose the group that I am working in now because they were working in an area that I had some relevant expertise. … But there were certainly other things, like what type of supervisor, what kind of supervisor, other students to work with and a group I suppose to relate with and interact with was very important for me. And I think some more professional aspects like how many publications they had, in what journals, how much funding they had, what facilities, what money, what respect by peer researchers, and basically what were past PhD students now doing and how did doing a PhD or doing a postgraduate degree in that particular group with the particular supervisor, how did that benefit them? And coming here, I was very impressed with that.

Student 53 HP

The third route in this study—found more commonly in soft fields—is where the faculty or department postgraduate coordinator is responsible for undertaking the matching of student with supervisor. In these cases students are put in touch with
potential supervisors in the department and asked to decide who would make the best match for them. The choice may however prove to be fairly limited:

[Finding a suitable supervisor] was a bit more ad hoc, that part of the process. There were very few supervisors that were in my field anyway, so I was more or less told that there were one or two people that might be interested, you should go and see them.

Student 2 SA

Other times students come and call that you haven’t had any contact with and you don’t know and usually what happens is that the Associate Dean will refer the student’s research proposal to someone who has expertise in the area, so normally it is expertise first and then we will do some negotiation. So people will say, ‘oh look I’m too busy, I’ve got x number of students, I’ve got too many commitments, I can’t take on someone else.’ So normally they’re the things that determine it, how busy you are and the expertise you have. Sometimes it’s students that you have had prior contact with who particularly want to work with you.

Academic 10 SA

The complexities of matching student and supervisor, especially in the soft fields, were described by one former dean:

In some ways we kind of market our research strengths and our expertise but sometimes where we get groups of students relates to demand. Some areas of law become suddenly interesting, for example telecommunications in the last few years is a sort of sexy area to be in. There is a demand out there on the profession because this is a newly emerging area and suddenly that’s a really popular area. Some areas around health: DNA, genetics, IVF, all those sorts of things are suddenly popular and there are good reasons why they are really popular and with practices getting ahead of law, there is a real need to kind of catch up, and there are novel areas of law to go into, all the IT stuff. So some of the kinds of clusters of students we get are because they match with research clusters in the faculty but sometimes they simply reflect changing interests in areas of law.

Academic 10 SA

In a small number of cases, again in the soft disciplines, doctoral students’ allocation to supervisors was based on faculty workload commitments. That is, where a staff member already had several doctoral students, new students would be allocated to a staff member with a lower supervision load. Here, some students reacted by changing from their initial choice of university and department to another. One student remarked:

I got accepted at another university, but they wouldn’t let you choose your own supervisor … I contacted one person, I said: ‘I wouldn’t mind looking at the possibility of doing it through you,’ and they said, ‘you actually have to go to the admin unit and they’ll look at who’s available at the time.’ And: ‘no I can’t meet with you, you’ll have to go through them.’ And I just went: ‘no I can’t do it that way, I need to sit down and talk to the person I’m going to spend a long time with.’ … And that university has got a good reputation, but I’ve not prepared to trade what’s important to me … And I would have gone there had
they seemed a little bit more open around at least meeting with people, but maybe they just get too many people. It’s a numbers game or something.

Student 37 SA

Yet a fourth route for recruiting students is through newspaper advertisement for a scholarship to undertake doctoral study on a specific research project. In such cases a scholarship and stipend are funded from external research or industry grants. Students responding to such advertisements go through a selection panel procedure similar to a job interview. In these cases students often know the supervisor, and the proposed topic may be connected with research programs with which they are familiar. However, where students do not know their future supervisor, the evidence in this study suggests that the resulting research process is not always successful. This is discussed in greater detail in chapter 4, section 4.5.1.

In many instances, mostly in hard disciplines, supervisors are reluctant to take on part time students. Indeed, some faculties appear to adopt this as an unofficial policy. One experienced supervisor and postgraduate coordinator stated:

I would hate to take on a part time student. I’ve done it … But a part time student, the time scale is so long to do it and an interesting problem in theoretical physics is interesting for three or four years and a part time student looks at a time scale longer so by the time a part time student is finished, the problem is boring, dull and they haven’t got the flexibility to shift into something else. So a part time student can never do a problem as interesting as a full time student. So it’s a drag to take on a part time student.

Academic 1 HP

Although supervisors will understandably take into account a student’s skill level—often judged in terms of undergraduate grades—the need to consider a variety of student qualities aside from merely the academic record was raised in a large number of student and academic interviews. While some respondents held the view that a high undergraduate grade, notably first class honours, implies successful personal qualities for sustained research investigation, a significant number maintained that qualities other than academic ones are crucial for successful completion. These non academic qualities include perseverance, dedication, enthusiasm and determination. An absolutely fundamental requirement for a successful candidature seems to be a burning desire to understand the topic and resolve the question. In considering whether to take on the supervision of a doctoral student, several experienced supervisors described the academic and personal qualities they looked for when deciding to accept a doctoral candidate. The following comments are typical:

When I first took them on, I thought that looking at the grade point average was good enough. If a student had a good grade point average and was enthusiastic, then that was a good guarantee. And now I realise that there’s more to it. There’s a lot of complexities to it and I’m getting better at picking out those characteristics … The first thing to look for is creativity … to think in a way that is different than what other people do and surprising to me. … And there’s the breadth. If a student is highly focused then I don’t think they’re as likely to succeed as a student who is interested in a wide range of topics and can speak with some degree of authority about areas outside the direct interest … And there’s also I suppose, the personality side. I think of it as a work hard, play hard mentality. That when they work, you have to see this ability to focus in, you
know that they are able to concentrate and work on something and entirely focus in on it for a long period of time. And they have to play hard, you want somebody who is able to live a life so that they’re not going to crack up on you. You get somebody that’s highly focused and then there’s a psychological fragility to them and that’s a danger.

Academic 1 HP

One experienced supervisor and head of a very large research group was willing to provide a scholarship and supervision to a student who barely scraped through a 2:1 honours result because they showed some spark during honours research and could be a late developer.

In turn, most, though certainly not all, students look for particular qualities in a supervisor. The first and most important seems to be a supervisor who loves their area of research, an experienced researcher with whom they can undertake an intellectual journey and from whom they can learn. Secondly, students want to work with someone whom they like and respect as a person: broadly speaking, supervisors who recognise and respect their students as people and as novice researchers, and are willing to make the time to engage with them. On occasion this may mean deliberately choosing a supervisor whose personality and manner a student sees as different from their own. One student explained her decision making on her selection thus:

It’s funny because I didn’t connect personally with [my supervisor] as much as I did with the guy from University H, like he was much more closed shop, traditional, academic sort of sense about him. But somehow I just actually thought he’d be good for me, because the other seemed to be too much like me, like he’d probably just get lost in the world of ideas and not be really practical about things. I chose someone who would actually complement what I didn’t have.

Student 37 SA

A third consideration is someone who will provide them with opportunities to learn extensively while undertaking their research and also open up future career opportunities. The latter featured mainly in interviews with highly motivated students who were aiming at a research career.

Most students interviewed liked their supervisor and enjoyed working with them, no doubt reflecting the care of their selection. Especially in the hard disciplines, the selection of the supervisor was for many students, just as important as their research topic. Here the advice doctoral students give prospective candidates is:

Make sure that you’re going to have a good relationship with your supervisor ‘cause if you’re stuck with a supervisor you don’t get along with it’s not very good. Make sure it’s something that you can stick at for the three years.

Student 20 HP

For those students working in the same or similar area as their earlier honours work—around half the students interviewed—their enthusiasm about their topic was of equal importance to them as having a supervisor with whom they liked to work. A student in a soft pure field, whose thesis was under examination at the time of the interview, advised future students:

So if I had the time again, I would try to be a bit clearer in myself about what I wanted, and I think with the supervisor I would ... I think I would talk to a
supervisor in much more detail in advance, all that sort of stuff. I don’t know it’s a hard one.

Student 112 SP

3.5 Summary of findings

University

- All universities are able to fill their available doctoral places with minimum advertising. Marketing strategies tend to be generic. Newspaper advertisements are seen as fairly ineffective; the web is considered to be the best advertising location.

- For research intensive universities the institutional strengths appear to lie in: the personal availability of successful researchers, the reputation of individual academics and the status of the honours program. Within newer universities niche and non traditional areas of study have developed more strongly than recruitment from their own undergraduate population.

- There is current concern with the consistent decline in doctoral places since the mid 1990s, with differential impacts across the discipline groups.

- The White Paper emphases are already influencing recruitment approaches in some universities. Policies of concentration are seen to have both positive and negative impacts on doctoral education.

- Existing trends may force universities to change their recruitment strategies and to develop stronger intra institutional coordination.

Faculty/department

- Faculties control their own recruitment strategies in those universities with a decentralised management structure. In a centralised structure, deans report greater inherent tensions between institution and faculty in meeting faculty needs.

- Deans need to adopt a strategic role in: matching potential students and supervisors; maintaining good contacts with past students; and identifying good future ones.

- Faculties in hard fields need to use ‘top up’ scholarships to attract talented students into doctoral study.

- Deans and postgraduate coordinators are concerned at the quality of applicants and entering students, particularly in the hard disciplines.

- Greater selectivity in students has given rise to strategies such as: probationary enrolment; automatic enrolment in research masters rather than a doctorate; requiring detailed thesis proposals at the time of application; and avoiding specific categories of student.
Past academic performance is the major—often only—criterion for selecting students. Within professional doctorate programs additional criteria are related to professional experience.

The major difference between PhD and professional doctorate programs is mode of entry.

Nearly all candidates for a professional doctorate deliberately choose to enrol in that program rather than a PhD. Decisions are based on a perceived closer affinity to practice and profession, a lack of confidence in the ability to undertake a PhD, the existence of coursework to support the research process, and, the requirement for a shorter thesis. However, all maintain that they could have undertaken their research within a PhD.

Individual student and supervisor: topic choice and matching

Four main ways of matching student and supervisor were found. The most common is where student and supervisor already know one another through previous study or honours research. The second is the identification of key individuals in a particular research area. The web is particularly useful in this respect. The third, predominantly in the soft fields, is where a postgraduate coordinator assists in the matching of student and supervisor. The fourth is through a newspaper advertisement for a research scholarship on a specific project.

Most students place a strong emphasis on selecting someone they think they can work with. Where students do not know their future supervisor through previous work or a study of their interests, the resulting research process is not always successful.

Academics in hard disciplines in some universities are reluctant to take on part time students.

Considerations of student quality aside from the academic record is held by some academics to be important, especially perseverance, dedication, enthusiasm, determination, and a burning desire to resolve a particular problem.

Students look for supervisors who: are enthusiastic about their area of research, are experienced researchers, show an interest in students and respect them as people. In a few cases, students select supervisors for the future career opportunities they may offer.
4. Supervision

4.1 Introduction

The supervision process is the focus of this chapter. The relationship between student and supervisor has always been considered central, but the design of this study also took into account other aspects which impinge on that process, including students’ stated motivations for undertaking a doctorate, the shaping of their research topic and their supervisory arrangements. It also discusses the role of coursework and the broader departmental and peer group influences on shaping their research.

4.2 Motivations

Reasons for undertaking a doctorate were rarely simple and straightforward: multiple factors were at play. Strong among them was the candidates’ love for their subject and their desire to experience research. Such feelings were evident across the discipline groups:

It’s extremely enjoyable. It’s intensely creative, which is something that’s under recognised often in science. With the first stage, coming up with ideas, elegant ideas and testable ideas, is a major part of it and that’s really creative part of it. And that’s what I find fascinating, just playing, playing with ideas and trying to come up with new ways of looking at the world. So that’s something that enjoy a lot …

Student 4 HP

I loved uni, I really enjoyed learning and I really enjoyed [this subject]. So I thought, ‘well I’ll do research,’ because that was the most interesting thing and I thought I’d really like it. So that’s why I decided to do a PhD .... [The PhD] is really interesting. I like coming to work each day. If I stay really late at night, which I do quite often, it’s because I want to do what I’m doing, not because the boss is there, because I have to do this project. ... Fantastic people that I’m working with. Basically I just want to be a PhD student, I don’t want to finish.

Student 88 HA

This was a little idea that was sort of in the back of mind for many months ... and what I was in doing [a doctorate] was—, my interest has never been that I want to get my doctorate. I’m looking for this experience to provide a framework in which I can pursue these ideas that I have in a structured way. And actually, instead of just pottering around with them, which I might otherwise be doing, I can see actually what I ultimately want to do is really make a contribution in some small way.

Student 7 SP
What I really wanted to do was come back to [uni] and work on the thorny little problem that had been floating around in my brain for about two years. … And so for me I think that instead of feeling like I am taking a break from my life, I just feel like I have shifted gears. … I am absolutely happy to tell you about this because I just think my experience has been such an overall positive force. … I am having so much more fun that I thought I would. … Its’ probably the challenge. The PhD is a complete intellectual freedom that I didn’t expect.

Student 40 SA

Many students wanted to learn at a deeper level, enjoyed meeting an intellectual challenge and saw themselves as making a contribution to society through their doctoral research. Many also saw it as an opportunity that occurs only once, and as the pinnacle of intellectual achievement—’I see doing a doctorate as a life achievement. What percentage of the population ever get a PhD? It wouldn’t be one per cent’ (student 59 SP).

In some instances—in this study mainly in soft applied areas—motivations were particularly strongly related to work or career. An academic career in most fields now requires a doctorate:

In terms of the more recent intake I think that is partly driven by the fact that whereas a few years ago you could get full time teaching, permanent work with a Masters, it’s getting more and more necessary to either have a PhD or to be enrolled in one. And so that has upped the numbers of people like myself, who are coming in to do a PhD because they want to become academics …

Student 28 SA

In other cases enrolment in a doctorate provided an escape from employment—’I wanted to escape the terrible management at work’ (student 32 SA)—or unemployment:

I was actually made redundant at the place where I was working and I had a period of time to look for another position and I just by chance saw an advertisement in [the paper] advertising an industrial scholarship and a PhD attached to it at this university. And the industrial scholarship was provided by a company that was in the same industry that I was operating in. So I just thought the synergy there was very good.

Student 43 SA

In sum, students stressed that if one is successfully to complete, it is essential to want to do research and to enjoy it, rather than merely to aspire to a title. ‘A PhD is about self motivation’ (student 4 HP); and:

I think a lot of people are more in love with the idea of having a doctorate than actually doing it. Some people’s motivations aren’t necessarily right, they are not necessarily really interested in research, not really that interested in learning the craft of research but love the idea of being a doctor or whatever. That’s not probably enough motivation to get you through the program or at least get you through the program quickly …

Student 2 SA

Such views were echoed also by supervisors, for example:
I think we really have to check their motivations—, yeah there is certainly that aspect. I think that in some cases they underestimate the amount of work involved in doing a PhD. Especially with something like [this area]—. They might think, ‘Oh it would be nice to do a PhD. It would be nice to be called a doctor’ and I think that if you came in with that sort of motivation then you are just not going to get it.

Academic 3 SP

4.3 Supervisory arrangements

Chapter 3 highlighted the care with which students selected their supervisors. It was important to students that they should know and respect them. Most students worked predominantly with one supervisor, although all universities had policies which appointed associate or co-supervisors. In the experimental hard disciplines students were frequently part of the research group, comprising one or more academics, possibly a postdoctoral fellow and other students. In such situations another member of the group would be a co-supervisor. Where a project was cross disciplinary in nature, supervisors were chosen to reflect the different disciplinary expertise required. In many instances associate supervisors were appointed by the department to fulfil the institutional requirement of an official replacement when the main supervisor was on leave. Quite a few students would however have liked the purpose and role of the associate supervisor to be clarified. One student described the process of associate supervisor allocation as follows:

I don't really deal with him [the associate supervisor] much at all. … He doesn't know a great deal about [my area]. He knows a bit. … He just got tacked on. I think you just have to have one, and they just sort of tacked him on. I never got consulted about whom he could be. I was just told, ‘this is your associate supervisor’. I didn’t care at the time because I thought I would probably only have time to deal with one person and I did …. 

Student 37 SA

Many students seldom, if ever, consulted their associate supervisor; other students used their expertise selectively at different stages in their research, or, especially in hard fields, regarded them as someone they could go to when needed. An exception in the soft fields was a student about half way through the program, who had two associate supervisors and actively used them as well as the main supervisor throughout:

I have been so blessed because I have a brilliant supervisor, a magnificent co-supervisor and a terrific third supervisor who comes from [another perspective again]. … and so none of them try to pull me down their path, which is lovely. All of them work with me, which is extraordinary and rare. I am really, really blessed with my supervisor situation. I am just so grateful. … We all work very harmoniously together. Often their advice will duplicate each other. More often than not I will get similar advice from three different approaches and occasionally I will get contradictory advice and there is never any conflict about that.

Student 98 SA

In a few cases the associate supervisor was chosen by the student, rather than by the main supervisor or department, to match the specialised requirements of the
project. One such student, in the final stages of writing up, displayed astute management of the two selected supervisors, knowing quite well that there were large ideological and personal differences between them:

My supervisor told me flat out that she would only work with [my associate supervisor] if she was the primary focus supervisor. … They have been there forever and they don’t like each other very much and so I said, ‘that’s fine but I still want both of you,’ and [my associate supervisor] was ok with taking that secondary role because I had to sort of explain to him, I mean we had, again, very open conversations about what our expectations were and that was early. And I said to him, ‘look the reason that I want you on this is because I respect your work and blah, blah’. And I think that content wise and history and all that stuff, I needed him and I was willing to sort of smooth over any kind of humps along the road between them if they had them and they haven’t been forced to. We haven’t had three way meetings. I mean I never see the two of them in the same room.

Student 40 SA

It was standard practice in a professional doctorate in the creative arts to appoint two supervisors, one for expertise in the creative field and the other for the academic component. With industry funded projects it was customary to appoint an industry representative as a supervisor in addition to the institution’s own requirement. As will be discussed later in section 4.5.1, the tensions between the industrial and university perspectives needed to be carefully managed for successful doctoral research. In the hard fields it was imperative to have a university supervisor able ‘to pull me back at times where [the industry’s] demands started to encroach on my [PhD] work’ (student 113 HA). In soft applied fields it was not however uncommon for the industry partner to have no interest in or make no contribution to the student’s research topic.

Research topics involving cross disciplinary work may call for fairly complex arrangements. In such projects there is usually a minimum of three supervisors, representing the different disciplines drawn on in the research. Often supervisors are located in different buildings, or separate universities or other organisations. In most cases in this project, students described situations characterised by goodwill, hard work and flexibility. A full time student half way through a doctorate with three supervisors based in two laboratories in different institutions explained:

There is my [life sciences] supervisor because he was the person who started up all the work and also I had a [physical science] supervisor as well because a lot of the work [related to] building up the system. … [and] a professor from [a nearby research intensive university] who is helping me out as well and so he is acting as my third co-supervisor. … it has worked really, really well actually. We arrange it so if I am working here [at the university] my supervisors from there come over once a week and we have a meeting over here and if I am working over there full time, which I have been recently, my supervisor from here comes over. We have marked out Friday afternoons as a chat time so that we can go through and know what is going on and so that everyone can get in on it.

Student 29 HP

The degree of contact and the frequency of meetings between student and supervisor varied considerably, with much of the variation explained by the disciplinary context. In hard fields, full time students had daily contact, aided by the
close physical proximity of student and supervisor. Not uncommon statements were: ‘I run into them because we are sharing the same area and so I see them every day’ (student 52 HP), ‘my office is probably about five metres away from [my supervisor’s] so I see him all the time’ (student 54 HP), and more fully:

*If I have any problems or any questions I want to ask, I will just go across the hall and sort of hope that [my supervisor] is in his office and if he is I will just sort of knock and he will always talk to me. The only time he is really unavailable to me is if he is off somewhere else having a meeting or if he is talking on the phone. And so if I have a question that I want to ask him I will never really have to wait any more than a day at most to be able to ask him.*

Student 67 HP

In most cases full time students had at least one formal meeting a week with their supervisor. In the case of part time students the formal face to face contact might be once every two to four weeks. One part time hard applied student explained the arrangements with the main and co-supervisor:

*We don't meet very often, we meet for an hour every three to four weeks. We had been trying every two weeks, but because of [my childcare arrangements] we meet every three weeks ... and I get more done, that's much more productive. We meet together, if we don't meet together then we keep each other up to date on what was the outcome of the meeting and what I said I'll do, they've said they'll do. I think I like to keep in contact with both of them.*

Student 44 HA

Part time students in soft fields tended to see their supervisors less frequently—often only once every month or every second month. Students would send writing completed during this period to the supervisor prior to the meeting and this formed the basis of discussion. Most students considered informal contacts—such as emailing and phoning their supervisors in between formal meetings—to be important, as well as the ability to vary such contacts to suit their needs:

*There are intense periods when we might be catching up weekly, even twice a week and then there are other times when I am working quite independently and we may only meet once a month or so .... And in addition to that the occasional phone call and quite a number of emails ... after that initial first six months as I found my feet, it has probably dropped back considerably but in bits and bursts as I have bad peak periods to deal with ...*

Student 84 SA

The flexibility of supervisors in one very large research university in meeting the needs of part time students with work hours that restricted their physical access was worthy of note. In particular, they were prepared to meet their part time students after hours or on weekends.

Most supervisors were concerned to keep in touch with their students:

*I see my students quite often, probably more often than they desire but I'm a hands on supervisor. There are various sorts of supervisors there, there is a supervisor who is available when the students want to see them and there's the other type who likes to see them a couple of times a week and I'm in that second category. I'm very interested in what my students are doing and the research*
topics that they’re working on are all topics which I’m passionately interested in, so we have a strong interaction.

Academic 14 HP

We also have an agreement, or a verbal contract that they must come and see me every two weeks and we have a session of one hour in which they actually have to bring something that’s written. It may only be a couple of pages, maybe a chapter outline, maybe some ideas and they also have to have on paper what their problems have been in the past two weeks in terms of research. So we do that for the first two years of the candidature and in the third year I only see them once a month.

Academic 8 SP

Lack of a student’s contact with the supervisor, or a drop in frequency of that contact, was seen as a sign of a candidate in trouble.

Of the students interviewed, only twelve per cent raised an issue of lack of access to their supervisors or infrequent meetings with them. They were all in the soft fields and concentrated in the two newer universities. In one university, several full time students in a soft pure field claimed to have had contact with their supervisor on average once every four months for the duration of their candidature. One student, in the final throes of writing up, received an email from the supervisor with notification that workload commitments no longer allowed the current arrangements to continue, and that a new supervisor had been appointed. At the other university, meetings months apart were also the norm. One full time student claimed to have spoken to the supervisor for a total of one hour during the first year of candidature. The following account was offered by a student whose thesis was under examination at the time of the interview:

Why it was difficult was because I changed so much … I mean [my main supervisor] was not [in this field], so when I moved into [this field] it wasn’t an area of expertise for [my supervisor], the other person at the uni who was an expert in [this field] wasn’t available, he was too busy, he had too many other students. So I was a bit isolated at that point. Also [my supervisor] took quite a bit of leave during the four years, I think in all 18 months or something. So for some of it there was a replacement … who was great … But then I went through the stage where [the work] was sort of done and I really needed a lot of help around the theoretical stuff, but there wasn’t anyone who was kind of available or had expertise. So I went through six months of no supervision, … I think part of it is also because being an older student and fairly confident they think you’re pretty much independent and can manage on your own. … but I sort of missed having someone at times I could just ring up and say, I’m having problems with this’. … it was really hard sometimes to get—, you know, if I didn’t see someone for three months, I didn’t think it was unreasonable to you know make a meeting, but it was really hard to sometimes catch someone.

Student 112 SP

For these students, and indeed for others interviewed, the heavy workload demands they observed among their supervisors and other academics made them reluctant to be too insistent on a meeting or even on approaching them with queries. For full time doctoral students with only two or three meetings with their supervisor in a year, this situation could hardly be seen as satisfactory.
4.4 The student supervisor relationship

4.4.1 Key characteristics of the relationship

Three key features of the supervisory relationship stood out from both student and supervisor interviews: a dynamic, intellectually stimulating environment; a trusting relationship; and, a supportive and guiding supervisor. These characteristics are premised on open and frequent communication.

As befits an intellectual endeavour, students were looking for someone who would provide intellectual stimulation, and in the experimental, team based environment, a climate of intellectual excitement:

[My supervisor] and I got on well intellectually. I enjoyed the environment there and meeting people from other research groups and universities. It became more and more clear that the level of debate that we had in our research group was much more rigorous than most places I’d come across. And that was mostly because [my supervisor] is very into ideas, organises a strong group dynamic, so that we have meetings every week where we discuss journal articles and we discuss our research and there’s a lot of constant reinforcement of ideas and the bonds between people within the research group—, so other people know where you’re at as well.

Student 4 HP

Students undertaking a professional doctorate in creative arts were particularly attracted to working with fellow artists who were also academics:

Well one of the big attractions of coming here was to have [my supervisor], whose [creative work] I really admire, and [my supervisor] is a very clever person, with a terrific mind and the few times I’ve talked [to my supervisor] I’ve come away feeling very—,[my supervisor] says very interesting things, so I am pleased to have [them].

Student 121 SP

Students sought out supervisors who could provide them with the appropriate intellectual rigour. The hope in undertaking a doctorate in the soft fields was to acquire an academic framework for the development of their ideas. Their supervisor was the means of achieving this. One student commented as follows:

I’m looking for this experience to provide a framework in which I can pursue these ideas that I have in a structured way. And actually, in sort of just pottering around with them, which I might otherwise be doing, I can see actually what I ultimately want to do is really make a contribution in some small way. So I think I’m right about this idea but I have to prove it.

Student 7 SP

It is a recognised attraction for academics to work with bright, enthusiastic and capable students. However, they acknowledge that not all students are alike and that some require more support and guidance than others:

You know, you can look at them [students] as birds who you feed in the nest but ultimately they have to get out and fly off the bough. The most critical thing is achieving the stage where they have enough confidence in themselves to solve their own problems and when they’ll get to that stage will depend on the individual
students. A weaker student may never really fly solo, so they’re the ones who shouldn’t undertake a professional research career, and you’re going to have some of those …

Academic 14 HP

A second key feature of the supervisory relationship is trust—‘there does need to be a lot of good will and trust between a supervisor and their candidate’ (academic 87 SP). It was particularly important for students to be able to trust their supervisor and to know that he or she valued them as a person. One student commented:

I didn’t like the supervisor in University Z, he just was one of those autocratic kind of guys who wasn’t really interested in his students. … He couldn’t have cared less about my project. Honestly could not have cared less. … Didn’t know what I was doing, wouldn’t have known if I’d been doing nothing, wasn’t even able to help me when I had questions … It’s more that you have to trust their motivation, it’s more that you have to trust that they’re going to do the right thing by you, I guess the thing is that you have to trust. … Yeah, I think that’s the area where trust comes into it.

Student 80 HA

It was also important for students to feel that their supervisors could trust them in their turn. One part time student with a young family observed:

I’ve been extremely fortunate to have very nice supervisors who’ve been happy to let me go on my own road, for sometimes weeks at a time. And I know it’s difficult for them because they sometimes have no idea what I’m doing, but they’re happy, they trust me.

Student 44 HA

Mutual trust was at a premium where the topic generated sensitive data or where students were working on confidential research in a commercial setting. Students in these areas trusted and relied on their supervisors to negotiate this complex territory: few seemed fully to understand the occasionally tortuous legal aspects, or even have the time to address them. As one student addressing confidentiality remarked:

I don’t know really. What I have been told is that I can put some of that in the appendices. I’m not really clear about that. But my supervisor is a very good supervisor and he will just help me and tell me what to do. He has got so much experience in all this stuff that he will just say, ‘well this is what you have to do’.

Student 15 HA

The supervisory relationship can readily break down where trust is breached. One university dean recounted cases where supervisors had plagiarised students’ software developments or passed their students’ work off as their own. As an inverse to this, one supervisor gave an example of a PhD student half way through candidature who went to an overseas conference, purloining data from the supervisor’s research, and then failed to return.

Thirdly, students appreciated a supportive supervisor who could guide them through the research process. Many were grateful that their supervisors encouraged them to write early and were firm in getting them to draw their doctorate to a close. Two students nearing completion provided relevant examples:
One of my supervisors has basically suggested that I should just tie up all the loose ends and get it in, because it’s at a point where I think he seems to think that it’s in good enough shape to be submitted and that I could probably tinker on the nuts and bolts for years if I really let myself, and both my supervisors have basically said you really have to draw a line and say, ‘ok, that’s finished, the thesis is done’ and move on to other things and not let your thesis take over and dictate what you do for the next ten years.

Student 19 HA

[My supervisor] also guides me along what is required in a PhD and what is still to be done etc and so it is proactive but not necessarily intrusive, which I quite like. It is a good way of supervising.

Student 13 HA

One very experienced supervisor explained:

Part of successful supervision in a reasonable time is to recognise when enough is enough and to stop the candidate from doing too much more than enough, in fact I think in most cases they do more than enough, but to stop them from doing two theses enclosed in the one binding for example.

Academic 5 HP

Supervisors’ personal support and encouragement in their times of need were particularly acknowledged by many part time students. More generally, it was noted that the importance of pastoral care could easily be overlooked:

The idea of taking on a student means that there’s a pastoral role that most supervisors ignore because they say ‘this student is a worker in my lab, a worker in my project’ and they’re not employees. They’re taken on because you want to teach them, it’s part of teaching and I think that’s one that most people are not aware of, that it is a teaching role. So that’s the trick.

Academic 1 HP

Many supervisors stressed that supervision involves a professional relationship in which the partners need to respect each other, be able to work with each other, but not necessarily to have a close personal relationship. As one supervisor put it:

I mean my perspective is that what’s important is that they finish. I mean if they are not in love with you or even if you don’t get on at a personal level, it’s not a marriage, I mean you have to have a relationship with a number of students, and I think as long as they finish on time and that it’s a worthwhile experience—, I mean sure it’s nice to be able to get along socially as well, but I don’t think it’s that much of an issue. And sure in a long term relationship, I mean we are talking about a three or four year relationship, there are a lot of complaints you can have. You can whinge about a student, you can whinge about a supervisor about their personal failings but I don’t think it is that important an issue. It’s like you complain about your husband leaving the toothbrush out, but in the end that doesn’t matter …

Academic 3 SP

However, another supervisor maintained that friendship was a worthwhile, and even perhaps a necessary, outcome of the research process:

I’ve had different relationships with different students naturally, but at the end of the process unless they were a friend then things have gone a bit wrong.
The previous section has already remarked on the importance of regular and frequent meetings. Added to this is the need for frequent and open communication to underpin the significant features described above. This was most commonly represented by students as the ability to debate and contradict their supervisors’ views and a responsive tolerance on the part of the supervisor:

Occasionally we have been known to get annoyed with each other. I mean if you stick with friends for three and a half years you are bound to have the occasional tiff where you get a bit annoyed with each other and we have sat around and argued a couple of times ... It has actually been really positive because it means that we have worked harder or I have had to explain myself better because if they don’t agree with what you are saying, they will tell you. But they will also send you back and give you advice on what to check and so it is good.

Student 29 HP

Students conceded that when presented with an alternative view by their supervisor, on reflection they generally followed their supervisor’s advice.

4.4.2 Models of supervision

Four different supervisory models were found across the six universities and the four discipline groups. These were the individual student supervisor model; the small to medium sized research team or group; the very large research group or centre; and, the supervisory panel.

Of these, the individual student supervisor was the major form of supervision in the soft fields, a model which many believed worked well in most cases:

If you have got a good relationship with your supervisor I think that is probably the best possible arrangement. ... I really feel you never—it is so much effort to supervise a student over many courses of years and all the dramas they go through that unless you have got a commitment to them beyond the working relationship you just won’t invest in all that time and effort. ... So if you can get one person to make that level of commitment I think that is probably the ideal.

Academic 87 SP

This one on one model was also found more frequently than expected in theoretical rather than experimental areas in hard pure disciplines. Supervisors in theoretical fields expressed some difficulty in recruiting students, as already noted in section 2.3.1. Their comments reflect those expected of people in soft pure fields. For example one experienced supervisor in a theoretical area explained:

Personally I am happy to be involved as much as I am able or capable, but the students I have had have tended to go off and do their thing and only come and talk to me when they are in trouble or something good or something bad has happened. This is because the sort of projects that I am involved in have not been experimental. With experimental, obviously there is going to be more working togetherness. In the theoretical they go off and write their computer programs and run them and every now and then something happens or doesn’t.

Academic 55 HP
Even in some hard experimental areas, many candidates, while having contact with their supervisor’s other students, did not participate in team research, although the departments or faculties concerned had structural arrangements designed explicitly to encourage links between students. A possible explanation would seem to be the increasing dominance of computer modelling—an individual activity—rather than laboratory experimentation and testing (see also below, under section 4.5).

Leaving aside these exceptional cases, team based research and supervision was a distinct feature of the laboratory based hard pure disciplines. In this context a team or group could comprise anything from a few individuals (supervisor, co-supervisor, and perhaps one or two students) to somewhere between 15–20 people. In the latter, the group would typically involve several academics, one or more postdoctoral fellows, some technical or research assistance, and honours, masters and doctoral students. In such a context, shared supervision of all students by the members of the group occurred quite naturally. Students experienced multiple interactions on a daily basis, giving access to various areas of knowledge and skill.

One supervisor explained:

*Within the group we have very complementary skills, so we know different techniques, we are different in the sense of our mastery of aspects of research, maybe computer simulation, maybe trouble shooting equipment, maybe, you know, knowing different pieces of equipment. So, because we are so complementary a student knows by having these people as co-supervisors they carry the same weight as their supervisors, so they feel that in no way difficult in walking to whoever they think is going to give them the right answer. So, it actually frees up communication and makes it easier for the student to move around the group and find the expertise where it lies.*

Academic 57 HP

In the interviews with academics and senior managers there were numerous comments on the need to adopt a group orientated approach to supervision in soft pure fields. A senior professor and experienced supervisor gave examples of how he had changed his supervision style in recent years in order to achieve this aim, including regular monthly meetings with all his students and the encouragement within the department of peer support networks. Academics from one university cited an experienced supervisor in a soft pure field who had been using a science style approach for some years. One senior manager, corroborating this trend, stressed the need for continued change in the soft disciplines:

*I think if you look at what is happening in the humanities, I think we are moving more and more to that sort of model with much more intensive interaction. There are areas which will be very, very hard to do this in. But there are also areas where I don’t see there is any reason why you don’t do it tomorrow: areas of sociology, anthropology, for example would be extremely easy to do, for that sort of model to be involved: but three years ago, if you didn’t have books in an Arts Faculty, you were not a researcher. You would not dream of destroying your chain of thought from a book to write a series of papers which you then combined in a theme into a book. What’s happening now? They are out there, they are developing a series of papers and then they’ll take it away and then they will put it with a degree of synthesis etc and thought and new material etc, they come up with a book. And so they are adopting more and more the mode of operation of a laboratory based discipline type or a field scientist, more and more to the more booky sciences and studies—, that is very obvious if you look at what*
is going on. You won’t ever see the intense interaction between a supervisor and a student but certainly what we are trying to promote here is ... a group who are studying Medieval Theatre or the relationship—, medieval sociology via studies of these various authors and the portrayal that they give on life and society and the times etc and they start to conduct weekly seminars and the students come in and they interact with each other and they cross fertilise. That sort of interaction is going to become more and more popular. And I think more and more reasonable and more and more, have a much better outcome for the candidates, much better.

Senior manager 42

There were two examples of very large groups or centres in the study, both in the hard disciplines and both in the large research intensive universities. In each case most of the students, in the final stages of their doctorate, were greatly enjoying the research process, the supervisory relationship and the opportunities for interaction, although one of them had become disillusioned with changes in the supervisors’ behaviour brought about by generating large amounts of money. A different student commented that:

It's been a really good experience actually coming here, really allowed me to get my feet wet in the industry ... [There are] five academics and then there’s three or four research associates who are for all intents and purposes doing the same kinds of things as the lecturers, and then there’s on the order of twenty—, around twenty, twenty-five PhD students working on various projects and various aspects of [this field], which is what we’re involved with, and then we probably have, I don’t know half a dozen technical people who work on electronics and software development and hardware. So it’s a pretty big group, its actually been very good to have the support there, and to always have sort of somebody who’s either done something similar to what you need done or has ideas that they can lend to help out, its been a good environment I think to be in.

Student 19 HA

A move toward panel supervision had taken place in the hard disciplines at one of the newer universities. The aim in introducing this approach was clearly to introduce doctoral students to a range of perspectives and skills and by this means to promote timely completions. The panels were expected to meet every three months. Views on the value of this model differed. One academic was somewhat equivocal:

Most of our programs are with panels and the panel contributes [to supervision]. It is not a three person panel that the supervisor does everything and the two come along and listen to the seminars and that sort of nonsense. Panels tend to work pretty well. Either they work or they don’t work at all.

Academic 107 HP

One of the students who had encountered this form of supervision was not particularly enthusiastic about the experience, though in the hard applied field the view was generally positive. In contrast, another commented on the ‘really supportive panel of four’ (student 92 HP)—the main supervisor from the department, another academic from a related area in the university, an academic from another university and a member of a government department in the same field. A third student commented on the need for supplementary expertise and in depth advice:
Theoretically I have four [supervisors] but basically my principle supervisor is the one who can really direct me from the scientific point of view. . . . [the others] are a good help now that I’m writing up . . . but sometimes you really want a second opinion on something that’s really deep in a topic and basically the only way you’re going to get that is if you decide to communicate with somebody outside [the panel] . . .

Student 95 HP

4.4.3 Issues in supervision

Given the complexity and duration of doctoral study, it is only natural that problems will arise. As has already been shown in earlier sections of the report, most students were content with their supervisory situation and their topic. Two issues, however, stood out from the interviews: the first concerns the power differentials between student and supervisor, and the second is supervision load.

The imbalance of power between student and supervisor can manifest itself in many ways: three in particular were raised during the interviews. The first aspect of power differentials was in relation to the student’s choice of a paradigm or theoretical framework. This issue was almost exclusive to the soft pure and soft applied fields. The key concern was that a particular paradigm—usually postmodernism—was forced on students by their supervisors. One dean explained:

*You know, the power relationship is a really hard one in some ways and it is hard as an outsider to try to support the student and to try to figure out what is going on and some students don’t take good advice. But it is also possible that some supervisors are being unreasonable in what they are expecting students to do, or they are pushing their own barrow. They write with a particular theory or they write in a particular way and they think, their view is the worldview and so that is a harder one.*

Academic 10 SA

Another dean offered a similar comment:

*That power imbalance is where the supervisor wants the student to take a theoretical view that the supervisor is most comfortable with and believes in, where they are kind of forcing a student along a path they may not really feel comfortable with or want to take. And that is a real problem because if you are not working to the theoretical frame that your supervisor wants, then you are not going to get the supervision you need, and it is also a harder thing to pinpoint for the student whether or not they are just getting advice or whether they are being pressured to go along a particular line of thought. And it has ended up in a couple of instances with students having to submit their final thesis without the approval of their supervisor because there has been a falling out to such an extent about what the content is. I mean it is pretty rare, but it can happen and one would hope that it gets picked up in the context of those annual reviews.*

Academic 11 SA

However, one senior manager took the view that it was not necessarily a bad thing for students to follow an alternative paradigm to the one they would have preferred. Doctoral research was, in essence, a training ground for candidates, and accordingly it did not harm students to work under the guidance of their supervisor during their candidature. The paradigm was not, after all, being imposed for life:
Well I wouldn’t call it necessarily a power situation, I think that’s a kind of shorthand way of describing it. I think it’s a much more complicated relationship as I’m sure you know, where the supervisor is in the position of the gatekeeper to where that person wants to go, so to that extent it’s a power situation. On the other hand the supervisor supposedly has knowledge that they want to give away to that student and for that student to acquire, so to that extent it’s no different than any other pedagogical situation, it’s no different than an apprenticeship or a classroom situation or a professional exchange of some sort. So I don’t think it’s a unique situation and I don’t think it stays in that characterisation for very long, because then the student becomes an expert in an area and much more confident and then they’re telling the supervisor the character of that particular problem. The supervisor can’t stop the student submitting their thesis, so they’re never in a position of saying ‘I refuse to let it go forward’, they’re not able to do that. Even if the supervisor thinks it’s not ready and often that’s the case and the student can nonetheless say ‘I want it signed off and I want it submitted’. So there isn’t a real power situation, it’s not there, technically it’s not there.

Many students nonetheless reacted negatively to the prevalence of the postmodernist paradigm, commenting that one of their reasons for selecting their supervisor was that the latter was not a postmodernist or otherwise strongly wedded to a particular paradigmatic stance. As one student stated:

Well I guess the department tends to place a lot of emphasis on the agency played within [the discipline], it tends to be a lot more postmodern even than a lot of other departments in Australia that I’ve come across and my first supervisor wasn’t, didn’t kind of fit into the dominant paradigm. And that’s quite important because my thesis is not postmodern and it criticises postmodern thought and to just have a supervisor that would encourage the opposite would be a bit limiting. And what was good about her was even though I might not agree with her position as such, I could take a kind of middle road and she would support that. She wouldn’t try to push me in one direction.

Student 39 SP

Student reaction against postmodernism was particularly strong in the soft pure fields in two of the universities in the study. Another student in a soft pure department was struck by the seemingly derogatory manner in which some academics spoke about the student’s work, given that it did not adopt a postmodern stance:

I bumped into [my supervisor who is going on leave for four months] and she was telling me about this other person who was there, who in some senses would be a good person to supervise me, and she was trying to you know suggest that he might do it. And he’s going, ‘oh no’, his approach has always been much more postmodernist you know and I felt it was like quite dismissive of what I was doing, I just–, I didn’t like it at all. But I mean in some ways it’s good, because there’s no point him supervising me if he doesn’t really like what I’m doing I suppose.

Student 122 SP

Other students specifically elected to undertake their doctorate in a different department and university from the one in which they undertook their undergraduate study because it appeared to offer a more accommodating attitude to
diverse paradigms. The soft pure field in a third university was especially popular for its open attitudes:

I chose to come here for two reasons, number one because I was really familiar with [my supervisor’s] work and I really liked her approach to [the discipline] and so that was probably the primary thing. And the other reason was that I had a kind of bitter experience in [my other university] because they had some disciplinary wars ... and it was really awful and I got caught up in a whole bunch of really horrible politics at that time and I wanted to be somewhere that was really, I felt was sort of much more friendly open interdisciplinary environment.

Student 116 SP

There was also the issue of students caught up in academic politics and differences of opinion. One completing student reminisced:

... where a person has a supervisor and co-supervisor, and there’s a kind of professional jealousy or tensions between them all the time. So the co-supervisor’s a bit pissed off because they’re not the full supervisor, and therefore what they’re doing often is without the acknowledgement of being the key supervisor. A number of students got caught in that. Or giving people stuff and they don’t read it for a month, all this sort of stuff. If you then go and talk to another academic about your supervisor or co-supervisor, you’re endlessly thinking about what the political implications of that are. There have been academics who fight with one another over the student who moves on, really freaky stuff. And I found that happened to me towards the end, ... you know you feel a bit like the pawn, and all you want to do is get your work done, but you’re aware of there being a kind of work based political—, that’s dreadful. I don’t know how you deal with that.

Student 112 SP

Among students in the hard disciplines, a second variety of power differential arose through the authorship of publications. The large majority of students, and particularly those in the hard pure fields, were strongly encouraged to publish during their candidature, far more so than in any other discipline group. Several referred to problems in relation to authorship rights and authorship sequence in publications arising from their work. No students reported being denied proper acknowledgement as first author of work from their PhD. However, they were concerned about which additional names appeared on the publications. In some cases it was suggested that people who had contributed very little were listed by the supervisor as authors merely for political reasons:

... basically there would be three authors on these papers, and that’s me, my supervisor, and this guy. The order reflects who’s taken the lead in it. We’ll all have lots of input into it but it’s sort of tricky because the issue has come up a few times about authorship and this guy wanted to get a first authored paper out of the collaboration and it’s a bit unfair how that will eventuate. So there’s been a little bit of politicking involved in that. So for example he’s had intellectual input into other bits and pieces of work I’ve had, and we’ve just talked about ideas, and he suggested that I should include him as an author on another paper that he hadn’t really been involved in the research with, but we’d talked about the ideas a fair bit, sort of as payback for the fact that I was getting a couple of first authored papers. It was like cutting a deal and I was extremely unhappy with that suggestion because I think authorship at times is treated too lightly. ...
Anyway, there’s this sort of politicking, cutting deals, whether or not to include people on papers and it is tricky. I’m very sensitive to the possibility that postgraduates tend to sometimes get exploited or people get included on papers when they don’t have right to be there.

Student 4 HP

In another instance a student maintained, similarly, that while always correctly listed as first author, the supervisor insisted on deciding the rest of the authorship sequence, sometimes mysteriously adding names:

… the authors will be, well basically my supervisor and anybody involved in that research which is generally a fair amount of people. …[authorship is] a fight … Again in this group it is very different from how I understand it to be in other groups, well how I know it is in other groups. And that is, the general way it works is, that the person who writes the publication generally performs the research. They write the publication and then they decide who they are going to put on the paper with themselves in what order, based on how they feel the other people did and to what level. In this group, certainly for students … their author level is decided by my supervisor with the student being first, but from there on it is decided by him, usually. I think there is no particular incident that I can think of that I would strongly change, but I suppose that is more about decision making and power and who is going to make the choices. … and probably I am better suited to know who did what. But then reflecting who did what in the author list is a very political tricky thing. … There is one particular incident where somebody’s name appeared on my paper essentially for political reasons. They were a very distinguished visiting visitor and they had a few comments on the research and then they ended up on the paper and that was ok with me, that was fine with me. It was more the fact that it had pushed a few other people further to the back that probably should have been further to the front. But I mean that is ok. Sure it happens.

Student 53 HP

A more serious issue in relation to publication was raised by another student, concerned about plagiarism by supervisors and other professors in the department:

We have got a new young full professor … [who] is a bit naughty, has a habit of not attributing very well so will use some of your work and unless you really know, it is not obvious that it is not [their] work and so that is a bit naughty whereas [my supervisor] is absolutely scrupulous. But now … I will have to gently sort [the professor] out over the next few months because it is just not—, I mean you just can’t do that. In fact [my fellow student’s] supervisor from a different part of [the department], published a whole lot of stuff under his and not [the student’s] name that was [the student’s],… and there has been a bit of carry on about that because [my fellow student] was just a bit put out. … But [my supervisor] and I have nothing—, in terms of that sort of level of professional honesty I have the highest respect for him.

Student 21 HP

The interviewee was prepared to take on senior academics because he felt he had nothing to lose—it was not his supervisor, he was close to submitting the thesis, and he was also a mature candidate; his fellow students were only in their twenties and had a lot more at stake.
The third—and the least common—takes the form of sexual harassment (which can also of course occur between one student and another). This issue was raised by an experienced supervisor and head of department as a matter to guard against:

I think it’s absolutely an issue. I think it’s an issue that the institution won’t chase and I don’t think that’s just true of this university, I think of the stories I hear from other institutions, it’s not uncommon, it’s not uncommon at all. … On two cases I have taken action, in one case where a male postgraduate student was vilely abusive towards a female postgraduate student. She came in to see me and I then reprimanded him. His response was to lodge a formal complaint against me but that was resolved and we reached an agreement with him that he would never do this again and he hasn’t misbehaved. The other case I’ve had is the case of a staff member who sent emails to a postgraduate student which could certainly have been misinterpreted …

Academic 8 SP

In the course of the study, only one other case of sexual harassment was encountered, in which an experienced supervisor and head of a large research group raised a matter of student to student conflict. Open communication and early action were considered important in dealing with such situations.

A related issue arises when personal relationships develop between student and supervisor. One interviewee referred to such a relationship with a co-supervisor. It was clear that the communication and dynamic between student, main supervisor and co-supervisor had changed significantly.

Alongside the question of power differentials, a further issue arising was that of supervisor workload. As noted in the earlier section on supervision arrangements (section 4.3), a small percentage of students had difficulty in gaining frequent, regular access to their supervisor. In all these cases, and in many other interviews, students commented on the workload and time pressures they observed their supervisors and other academics to be under. Although the student comments were prevalent in the soft fields, academics across all discipline groups raised the question of supervision workload. In some fields in some universities, the shortage of supervisors appeared acute. In two pure disciplines in a very large research university where there had been a recent and abrupt reduction in staff numbers, students were concerned at the loss of their honours supervisors and other respected academics who had been made redundant or had taken up positions elsewhere (see also section 2.3.2). In another university, the lack of suitably qualified staff for supervision appeared to put a heavy burden on a few individuals. The tensions experienced by academics were acknowledged:

One of the [creative artists] I know … said to me be had no idea, before he took a full time academic job, how much of his time would be spent on administrative work. So I think you’re often bitting that kind of thing, and you know, it’s sometimes hard to get a handle on that. I mean I’m not excusing it and I’m probably sounding a bit—. But I think you have to kind of be aware of where some of your supervisors are coming from. You know, if they have to come in four days a week, manage theses, read sixty pages at a time, when really they want to go home and spend time on their own work, it must be bloody hard. So you know, there’s that. But yeah, hard one. It’s all very hard.

Student 112 SP
Indeed, comments by some senior managers (see also section 5.6.2) made it clear that there were an increasing number of instances in which academics qualified to supervise, and in some cases even whole departments, were opting out of the supervision of doctoral students. One dean commented:

_All our supervisors pull their weight, I think. We just have people that just refuse to supervise. So if they don’t supervise there’s not a problem in a way for them. … Generally they’re not ambiguous about it, they actively avoid students. So there’s actually a very sharp demarcation in our department between people that supervise and people that don’t, and I don’t think anyone that supervises students has been half hearted about it. … The [workload] formula’s been applied and forgotten and applied and forgotten. But there is a formula, they used to have it stuck up on our wall somewhere._

Academic 77 HA

Among the reasons cited were lack of the funding needed to enable a department, and sometimes an individual supervisor, to take on doctoral students; the lack of adequate recognition of academic workloads; or especially heavy undergraduate teaching commitments together with extensive involvement in lucrative full fee postgraduate coursework programs:

_We are the cash cow of the university and we have very large class sizes and it’s very hard to find any time to do research. My personal point of view is that the university doesn’t want our faculty to do research really because they will benefit a lot more from our teaching. Why should our faculty do research when the opportunity costs mean we’re not productive enough in bringing in the money through research? We bring in huge amounts of money in some of the subjects … postgraduate courses with enrolments of 330, times that by a thousand dollars, it’s a lot of big bucks._

Student 96 SA

A further problem in relation to supervision load was the dissatisfaction of many older and professionally experienced doctoral candidates with their lack of supervision. It would appear that experienced and capable professionals were viewed as ‘low maintenance students’:

_So guidance in being realistic about what can be achieved and what can’t be achieved and I have got some of that and so that is good. I have missed out on technical guidance I think. … I have used my own initiative a lot. But perhaps it is not unreasonable to expect someone my age and my position to know a lot about how to do this. … I think you have got to be a little bit careful. My mentoring and stuff that I have got from this uni has been so little. … my relationship is a fairly distant relationship with my supervisor. On a personal level, he is a fine guy. But it is a fairly distant relationship. … Again I have been a relatively low maintenance student. He is relying on me to be independent and get things done and he will give me more general advice on what to do and what not to do but that is it, more general advice on reaching the goal. And so all I am saying at the end of the day is that it would have been more beneficial to me if I had got a bit more than that._

Student 88 HA

In one professional doctorate, highly successful in terms of the calibre of its students and its completion record, all the students interviewed expressed disappointment at the amount and level of supervision they were receiving. While
all of them valued their supervisors, the small amount of supervision time allotted to them meant that the potential for in depth, intellectual and vigorous academic exchange, so highly prized by students, was lost.

### 4.5 Topic definition and development

Passion for a particular area or specific topic—which has already been cited as a key motivation for undertaking doctoral study—is crucial for maintaining enthusiasm through all the highs and lows of research and topic development.

The higher education literature maintains that there is a fundamental distinction between the way students in science and science related disciplines identify a doctoral topic and the way it is defined within the humanities and social sciences.

In hard fields the topic is presented by the supervisor for students to develop. While the general theme arises as part of the supervisor’s own research program, a student may have a choice of more than one topic. There is wide latitude generally given for students to pursue their own determinations of ‘promising’ lines of research. The development and definition of the topic will take around 6–12 months.

In soft fields, on the other hand, the topic is presented by the student and is only loosely associated with the supervisor’s own research. It is arguable that the process of the doctorate is in fact the process of defining the topic, in that the topic is really only defined in the latter stages of the PhD, as the parts of the jigsaw accrete into a discernable image.

The interview data from this study raised questions over this distinction, suggesting that it may not be clear cut. The topic selection was in most cases in accord with the literature, although changes in topic scope occurred in all fields. The topic development stage appeared less straightforward.

Cases of students working with supervisors far removed from their topic were rare. In the soft fields topic identification and selection was still seen as needing to originate from the student:

> …[this discipline] tends to be individual projects. Usually it is the student’s project. Sometimes we have students that come and say, ‘what projects have you got going? I’d like to do a PhD. Tell me which projects you want me to work on’. We don’t do it. We want the student to instigate the project.

*Academic 10 SA*

Such comments clearly contrast with the more closed, circumscribed nature of the hard fields:

> I didn’t have to come up with a topic. One of the advantages of engineering is that they generally have an idea of what they want you to do and so you don’t have to create a position really yourself.

*Student 13 HA*

There were however examples of students in hard disciplines who generated their own topic and went searching for a suitable supervisor. Descriptions of project definition and research shaping in such cases were very similar to those of students...
in soft fields. Further, several students depicted their research topics as open and broad, much like those of students in soft fields:

… my supervisor would have seen a particular area that was requiring further research and so that sort of becomes my topic, and it is an evolving thing. … So, initially I think as a first or second year student a lot of your time is spent—, in the particular field that I am working in, as an experimental [scientist], a lot of the time is spent getting to grips with equipment and concepts, so being trained and then being familiar with using equipment and then being able to take that a little bit further and maybe fabricate your own [structural] devices. And then from that, digging into the literature as you are going with that process I think, makes it fairly clear as to what has been done and what is left to be done and basically combining the skills that you have now learnt and the opening that you can see from the literature and conversations with your supervisors it then becomes I think obvious in which way to go. Also there is probably an element of choice into what you are actually interested in. I could have probably steered my topic in a number of directions but I was interested in, and enjoyed doing a particular thing, and so I concentrated on that and that was fine.

Student 53 HP

However, changes have taken place in soft fields to create closer synergy between student topic and supervisor expertise. A typical comment from a dean was that:

I think we are taking supervision much more seriously in recent years. In the past, the odd student got in and got some sort of supervisor who might be able to give them generic assistance but really didn’t know the area, whereas these days we do say ‘no’ more and refer people to other institutions.

Academic 10 SA

Further signs of changes within the soft fields showed supervisors encouraging less ambitious projects. The chances of a ‘blockbuster thesis’ (academic 8 SP) are becoming increasingly slim as supervisors focus students on ‘do able’ projects within a three to four year timeframe. Students are asked to define their research more precisely from the outset, so that progressions such as the following—a student long enrolled and now nearing completion—are avoided:

I didn’t have a research background … I did a typical thing that my students still do today … you come up with some ridiculous topic which sounds very, very interesting because you read up ‘how to write a submission’, but totally impractical. But it was very close to my heart and what I wanted to know was … Which sounds like a wonderful topic, but you try and operationalise it—, … Then I refined it, and I continuously presented here, because we’ve got research seminars here which is very good. Looking back at it I am embarrassed that my peers were so patient with me! I must have presented something that I thought was a very interesting thing … And I had a milestone, by sheer accident, that a professor from [another university] said, ‘obviously you are exploring the tensions of strategic alliances. That is a theoretical breakthrough …’

Student 45 SA

Evidence of a narrowing of research topics in the hard fields was also apparent. There were moves to ‘downsize’ projects to render them ‘significantly less significant’ (academic 58 HP), and increasingly circumscribed safe:
I think that the reason that things have changed has been the cause of a number of pressures on the university and so now supervisors tend to try and slot students into things that minimise the risk of a delay and so we tend to put them on projects where we’ve already got the funding for the equipment or we’ve already got the equipment and so basically we’re trying to fit round pegs into round holes, peg is the student, hole is the project, rather than giving them more of an open discretion on what they do.

Academic 57 HP

Such ‘tick the boxes’ (academic 58 HP) research is discussed further in section 4.5.1.

Pressure on students to reduce the time spent in focusing and defining a research topic was commented on by supervisors. There was a view that topic defining moved faster in the ‘myopic and very focussed’ hard fields and that the soft fields were ‘more eclectic’ (senior manager 132). The reality may however be more complex. One senior manager commented:

I think in the sciences it’s much easier to get straight into work. Now whether tipping Stuff into test tubes and seeing what colour they come out etc is advancement or not, I don’t know. But I still think it takes too long for the aims and objectives of what the work is. I think people have got to learn to pick a topic that is manageable in the time that they’ve got to pick objectives which are realistic again within the time and the resources they’ve got, and the sooner they do that and hone down the dimensions of their investigation the better for them.

Senior manager 132

The time taken for topic definition was clearly seen as needing to be reduced. One supervisor felt that ‘six months is a bit long’ in hard fields (academic 57 HP), three being closer to the mark, and hopefully no more than six in soft ones:

If they haven’t found it by the first six months then you are going to have problems with them finishing in time and I really wouldn’t want to have students who were still flapping about trying to define their topic after that. It is ok to have a false start but to get into the research and then work out that it is not going to be productive or it is not something that they want to do but if they are spending a long period of time working aimlessly, I would tell them to go away and think about it and come back when they knew what they were going to do … to disenrol.

Academic 87 SP

In interviews with students in hard fields, accounts of topic definition suggest that it may take 2–2.5 years. Many leads are pursued and tangents followed, closely resembling what happens in soft pure fields. The not untypical comments of one student in the final stages of writing up were:

Well I think a year ago even, I’m not sure that I would have said that my thesis would be exactly about what it is currently. Like I had ideas a year ago that I thought, ‘yeah this is going to go and this seems like a good idea’, and as we explored those ideas other sort of ideas branched off and we followed those and so I think it was difficult to sort of have that vision, certainly for the theoretical side of it …

Student 19 HA
The process of shaping a topic was generally described as ‘organic’ (student 36 SP), a ‘process of growth’ (student 50 SP) and ‘evolving’ (student 53 HP). One student, two-thirds down the track, reflected on how the topic changed as a result of resourcing issues and data and stated:

…the first year of the PhD I went on a bit of a trip, went [to the area of study] and actually that was 2000. … I went to a conference up there and had a look around and came back and few the sorts of conclusions about sourcing and decided I really wasn’t going to follow up on that side of things. … but it wasn’t the case of the whole first year being a waste of time either because I wrote a chapter during that year that won’t actually change. And so that was fine … it wasn’t wasting any time.

Student 36 SP

Another in a hard field reported that:

[The topic] just kind of evolved as it went. [My supervisor] came up with the initial idea … but I sort of looked into it and came up with a different but related idea. And then we worked on that for a while and then we’d come up with other related stuff. So it sort of evolved as we’ve gone along … (doesn’t make sense) there’s one problem that we’re trying to solve but we’ve got three different possible solutions to it all going at the one time.

Student 80 HA

A mid stage change of topic direction and emphasis can also occur through serendipity, the unexpected:

I also got a bit involved with these carbon things just when I was sort of fiddling around and almost, not exactly by accident, because I was actually trying to characterise how the machine worked, I suddenly discovered that I made what looked like a really thick film. In fact I was so surprised, I actually turned the thing that measured the film thickness off, I switched the machine off, it came up to ten. I switched it back on again and remeasured it because I thought I had a glitch in the machine right? … and so it was a real, ‘I don’t believe this, I will turn off the machine and remeasure it. The machine is wrong,’ and it wasn’t, it was right. And so I went up and saw my supervisor and I said, ‘guess what, I have got a film this thick!’ He said, ‘I don’t believe it’. … [and my topic], I mean it was still working with the same sort of equipment; it was just that that became the core of it. Now it is going to be a reasonably wide ranging thesis because there is going to be a fair bit on the characterisation of the equipment and there is a lot of information that has come out of that and I have just written a paper that is in final draft stage.

Student 21 HP

In shaping their topics students argued that they wanted to ‘do credible research’ (student 84 SA). They needed to ‘exploit contacts’ (student 45 SA) and found it helpful to ‘bounce off other people’ (student 84 SA). Students in the soft fields also acknowledged the important role of their supervisors, who agreed that they ‘played a pretty significant role in shaping the topic’ (academic 86 SA)—indeed supervisors see this as a part of their role:

The principal supervisor should be somebody who’s actually an expert in that area, not just somebody who’s happy to facilitate it—. … I guess the supervisor has in mind not only a topic, but certain ways that’d be useful for studying it, …
you should expect that the supervisor not only knows their research area, but also they have some ideas about how one would research it, and they may not be able to provide much help, if you as the student decide to take an entirely different approach ...

Academic 31 SA

Supervisor feedback can have a supportive function, but can cause frustration if it does not encompass deep, critical feedback. One student, somewhat frustrated and disappointed at the methodological feedback from a co-supervisor explained:

Well I guess feedback comes on a couple of levels. And I will be honest with you here, it is nice to get that initial feedback saying, 'hey you are on the right track. You are on to something good and you are not wasting your time as far as the topic goes'. And all that is very nice and very general but to be quite frank, I don’t believe that the quality of the feedback as far as methodology theory that I have received has been particularly helpful. It has been a pat on the back, 'you are going well, see you later' kind of stuff, and I have come away on both occasions to some degree frustrated that somebody hasn’t perhaps gone a bit more nitty gritty with me and challenged me to deepen my thinking or has come up with constructive advice, 'well you are now here. Good but you really need to develop along these lines.' And so I would have liked a deeper level of feedback than I got.

Student 84 SA

Such frustrations can also arise in hard disciplines, particularly where students are working on multidisciplinary projects and the research group is small. One student, halfway through the doctorate, expressed frustration at the lack of precise critical input:

It depends where you are, at another university it probably would be different where—, you see they could be multidisciplinary but still have an expert in the discipline. The way I’m multidisciplinary is—, the people you know have just a tiny little bit about a tiny little bit of the subject. … Yeah, there isn’t even—, … if you’re doing a multidisciplinary project in a group, where you know, in a large place where you have a number of PhD students, that would be different. But here it’s not.

Student 100 HP

In another university, a student mid way through acknowledged the benefits of being in a critical department:

… people were quite critical … so that’s good because you kind of need that. But it’s good to also have a testing ground for your ideas within a critical department. And [in the annual review meeting] you didn’t really feel like you were under scrutiny but they were really critical of my … overall approach, but it kind of forced me to be very conscientious about writing a good first chapter to justify it. … and then after they looked at my chapter they felt a lot more confident about where I was going.

Student 39 SP

In developing a topic, the role of writing was seen as important. Writing is thinking: an important element in exploring the topic. ‘The detail will emerge as I write because that is how I make sense of the world’ (student 111 SP). A student at an early stage recognised:
The Doctoral Education Experience

... lots of reading, trying to do something with what I’ve read, like make notes and write something about it ... I’m sort of moving from the phase of the reading into the writing ... I gave him what I thought was a completed version of my proposal and he said, ‘ok, what you need to do for the next meeting is, I want you to start again, where you get rid of all that introduction,’ ... just cut out all the information from your intro and create new headings that fit the sort of research strategy you’re using. So basically just start again and rewrite it. I won’t lose all that information but I have to kind of make it a–. ... As of the last month I’ve known more what I want to do, so I actually have to rewrite what I know based on that knowledge. I feel all right about that, because I think that’s just part of the process. ... I think you reach a point where you start to realise, look, all this going over things, starting again, heading in new directions, is all part of the process and it’s quite healthy and it’s normal and this is what a PhD is.

Student 37 SA

In the hard fields publication during the doctoral process served multiple purposes: it was a means of making public the research findings, of writing up the research for use in the thesis, and of developing the topic. This was less clearly the case in the soft fields, where publication tended to be viewed as a postdoctoral activity. Indications that changes may be taking place in this connection were given by an experienced supervisor who argued that students needed to see their thesis from the outset in terms of a book:

... have a topic that is marketable, that a publisher is going to be interested in. I tell them that I want them to think of it as a book, not as a PhD and that there is a lot of difference between a book and a PhD in terms of writing style ... and I say to them that something that looks like a PhD has very little chance of getting published without huge revisions but if you write a PhD that looks like a book, it’s still going to get through the examiners, these days particularly and you’ll be able to, with not a lot of revisions, be able to sell it to a publisher. We start on that basis.

Academic 8 SP

4.5.1 Industry funded doctoral topics

One area meriting further attention is that of students holding scholarships with industry partners. These scholarships, such as the APAI and its predecessor SPIRT, are available for projects undertaken within applied areas of relevance to industry. Such projects were found in three of the four discipline groups—hard pure, hard applied and soft applied—covering the various engineering fields, physics, biological science, management, and law. Around 20–25 per cent of students interviewed in each of these three discipline groups were undertaking research funded by industry for their doctorate.

Potentially complex issues requiring acknowledgement and negotiation were seen to arise as a result of the involvement of the external sponsor. A major issue was the definition of the topic, including the direction of the research and the balance between commercial interests and the academic requirements for the award of the degree. Intellectual property (IP) and confidentiality concerns were also raised. Finally, changes in funding which left students stranded arose on a few occasions.
The impact of these issues manifested themselves differentially across the three discipline groups and also across the universities in the study.

The hard pure projects were essentially indistinguishable from any other PhD project and no students reported any problems or difficulties. Where applicability had been considered at the project generation stage, it tended to be further removed from the market place than in most of the hard applied projects in the study. Perhaps because team style supervision is more frequent in these than in other areas, all the students concerned viewed the extended supervisory arrangements as opportunities to make contacts through the networks of their external partners. No tensions between the interests of the external partner and the requirements of the university were apparent. In some cases industry funding facilitated the cooperation of academics in different disciplines across universities in a way which may not otherwise have taken place.

In the hard applied areas doctoral projects tended to be closely linked to a commercially applicable outcome or focused on the technicalities of a particular desired development. The main risk in these fields was tension between the culture of the profession in practice and the culture of the discipline. Because of this differentiation between theory and practice, some students appeared to view the interest of their university supervisors in how something worked as secondary to the interest of their industry partners in making it work, viewing the thesis writing process as a tedious step to undergo before escaping the university, into the world of industry.

It can be very useful in that [my supervisor] sees things which are not immediately obvious because I really have a fairly strong industrial background, I look at it in a very similar sort of way as [the company], in that I don’t feel the need to understand every nitty, gritty of what’s going on, as long as I’ve got an overview of what’s going on, understand the basic processes, then you try to work with that, whereas [my supervisor] will try a lot more to understand exactly what’s happening with everything, which means you might understand an awful lot but you won’t go as far. So we’ve got a slightly different focus and that came out strongly in the meetings, where [my supervisor] would try and look at details and things like this, which I personally thought were irrelevant, but they were certainly interesting research topics, could have been useful, interesting to chase up but I would doubt that they would have been of relevance to the engine. So even though it was—, it’s just a bit of a different focus, where my focus was on the industry focus, getting us—, and [the company] was of course, was to develop the engine as well as we could, whereas [my supervisor’s] was to find interesting new things, have a play with it, get some publications out of it.

Student 22 HA

In one university the reliance on industry funded research in the hard applied faculty was substantial: indeed with the advent of large staff cuts it had been a way of keeping the academic enterprise afloat. Some of the industry scholarships here enabled doctoral projects to be started that could be successfully completed within the three year enrolment period, apparently because the students concerned were simply adding ‘bricks in a wall’. In these situations, it seemed that the phase of topic definition was abbreviated and that either the research became easier or the topic was less weighty than those of other doctoral candidates. At least two students questioned whether their topic was worthy of a PhD. The pressure to attract suitable students to doctoral study meant that the hard applied faculty in another
university was also deliberately setting out to have industry funding for every doctoral student within the next few years, and hence recognising that the nature of the topic would have to change.

At least the topics that we choose, they always have a strong element of [relating to practice] and the reason they do is that students do only projects that we can get funding for. If you want to have funding for your students you have to have a project that someone is willing to pay for. If you find someone who is willing to pay for it they are not willing to wait indefinitely for it. … I think 80 per cent of [the topics] are somehow connected some way to industry … we are not encouraging that [no industry connection] too much because they are the areas that effectively the supervisor cannot top up if they have no money …

Academic 34 HA

Perhaps due to the nature of the relevant discipline, the involvement of an industry partner offered the students in these areas the potential advantage of being positioned at the nexus between the profession in academia and professional practice:

Having the industry partner involved makes the project more interesting, the scholarship's worth more for the student, the student can see a connection to his potential job later on there is someone sitting there who wants to develop this thing he is working on …

Academic 65 HA

Conflicts were noted between the candidates’ need to spend time on their PhD studies and expectations on the part of the external partner that students would work for them on activities unrelated to the thesis. Astute supervisors were able to assist in the setting of limits to the external partner’s requirements and expectations:

… the company could and does in one instance lean on—, involve that student in a wider range of activities than their thesis is actually concerned with and I have had to have a quiet talk in one case to say, ‘well look, the guy’s got to produce a PhD at the end of the day and I know he is really interested in all the other things you are doing and you can hire him if you like but the thesis has got to be finished’ …

Academic 108 HA

Perhaps the largest number of concerns arose with doctoral students in the soft applied fields. Projects in these fields tended to deal with less tangible matters, so that closer topic definition was required. One student in a complex multi industry setting, questioned whether the industry model could be easily applied in the field in question:

… it’s the nature of the SPIRT system …you are trying to negotiate the different sorts of demands of the different industry partners. I think it’s particularly an issue in the humanities for SPIRT projects because there’s much less experience with them, and there’s much less of a sense of how to carve out a section of the research that can be your own and can be original research that you can turn into your own PhD.

Student 28 SA

For another student, the research problem was not a genuine one:
So the topic was chosen. They said, ‘this is what we want researched.’ … A couple of people in the company and the professors here put together this topic … I don’t have any problems with that but one of the things that I have found is that the original research topic, research problem is not a problem, it is just a figment. It is not a conceptual problem, it is not a theoretical problem, it is actually a legal problem. … there are two of us that have been devoted to solving this problem which is not a problem.

Student 32 SA

However, there were cases where students had been given the freedom by their industry partners to do virtually whatever they pleased. Their projects were working well and there were no aspects of their experience that differentiated them from students not externally partnered. In one case, with a ‘hands off’ partner, recasting the topic was encouraged:

I was panicking about the title. I had hit a roadblock because … I assumed the title of the SPIRT grant, the sponsors, determined what I had to write in my thesis … and I felt paralysed by that. And she said, ‘You can change the title. You just have to be in that ball park,’ and once she made that clear to me, I just felt so much freer.

Student 98 SA

Several other students had in contrast felt the influence of their external partners in major, negative ways. All of them expressed doubts whether the demands of the external partner and the requirements for academic rigour could be reconciled. One of these students commented that:

… it’s an unusual project in that … I’m attached to different parts of that industry project. It’s a little bit like indentured labour sometimes. … Because everything that I do for the project or for the industry partner is theirs, it informs my own research, but it can’t become part of it in that sense. I can’t say, ‘oh well now I’m going to write a thesis about [this] or something, because that work has been done for the project so it’s not strictly speaking my original work because it’s been conducted in consultation, reports have been written by me and supervised by the people themselves. It’s not my own original sort of piece, it belongs to somebody else in that sense.

Student 28 SA

Some students in soft applied areas, like some of their hard applied counterparts, questioned whether their topic was a properly valid avenue of enquiry for the award of a PhD. Others had experienced serious problems with their projects caused partly as a result of commercial problems affecting the external partner. Others again had to cope with tensions between the external partner’s view of the utility of their work and the department’s view of its rigour.

In one department, seemingly arising from an institutional rather than a disciplinary effect, students contended that the expectations of the external entity and those of the university were irreconcilable and that to satisfy all stakeholders it was necessary to write a separate PhD for each. Students’ projects suffered considerably due to such tensions, especially where the external partners appeared to lose interest in the research, essentially leaving the candidates ‘holding the baby’ in an environment almost totally lacking in support. There were also further problems reported with the supervisory practices and the management of research supervision in the department concerned. In these particular cases, however, without university
supervisor encouragement to recast their topics, and despite some two years invested in the research, it seemed doubtful whether the students would complete. The combination of unsuitable topics, ineffective supervision and the inevitable demoralisation, appeared to be taking a heavy toll on the interviewees.

The degree of trust students had in their supervisors to negotiate the complexities of intellectual property and to look after their interests was raised earlier in section 4.4.1. It was in the hard applied field that the IP protections required by the industry partner tended to be the most onerous and unilateral from the student point of view.

The ‘special needs’ of an industry project typically began at least a year before the student commenced. Many of these projects occurred as a result of networking between the academics and the industry concerned; the value of personal contacts in establishing them was important:

*It is real hard work. ... I mean maintaining the connections with industry--*, one establishing the connections is difficult. *It is not so difficult in this school because we have always had a very strong tradition of doing consulting work because the way you get a SPIRT is over the number of years, you might have been doing odd jobs for some company, nothing particular but it gets you into the company, it gives you contacts. And then you go and propose to them, oh you know, for the sake of a 20 per cent investment in a project, you get all the results, you get access to all the results and once you have had contact with a company over a well--*, you know some time and you have had some positive outcomes on small jobs with them--*, you get paid for them, that’s alright, that leads to SPIRTs quite well.*

Academic 65 HA

Once a degree of interest in principle was established at the personal level, the project was frequently passed to other sectors of the organisation and university and its wider implications considered before the negotiations began regarding IP, patent ownership and confidentiality. Besides the often considerable lengths of time involved (more than six months was considered usual for the negotiation of legal documents), the project in its final form could be significantly altered.

Some academics stated that delays in this process had cost them the project, as students were unwilling to sit out the indeterminate period of time required for the resolution of IP agreement negotiations. At least one student had embarked on his PhD and at the time of the interview had spent nearly a year working to the expectations of a demanding industry partner without the benefit of legal protection for either himself or his institution. One department at another university strongly discouraged industry funded doctoral research which involved confidentiality clauses on student publication.

Changes in the priorities of a commercial organisation, for example as the result of management restructures or the retrenchment of key staff may have serious implications for a student engaged in a project in partnership with that organisation. In addition, bankruptcy or the sale of a company already involved in a partnered PhD project can have adverse effects on the student’s chance of success if another partner cannot be found to take over the project and its associated responsibilities. Instances were reported of projects that had been under way for two or more years before being halted by changes in the circumstances of the external partner. The consequences for students in such instances can be drastic, with cessation of support for the project even at a late stage in their candidature.
While there are clearly, as noted in this section, serious issues and risks to guard against in industry funded research, there are also many positive aspects for students. Several students had enviable opportunities where all went well: extra money, a well defined topic and scope for industry networking. In more than one interview students still writing up had been offered positions with, or funded by, their doctoral sponsor.

4.6 The role of coursework

One component of the interviews explored whether students had any formal requirements for coursework as part of their doctoral program. While a coursework component was expected in professional doctorates, two of the four programs included in the study in fact had a compulsory coursework program: others were was by research only. Overall, about half of the PhDs in the study included a formal coursework component. Compulsory coursework was found in all discipline groups, but there was variation across the different universities. For example, one of the very large research universities included formal coursework in each of the discipline groups while one of the new universities had no coursework requirement in any of them. In each of the other universities coursework was included in one or two of the discipline groups studied.

The coursework provided for students showed considerable variation in length and purpose. In all but a few cases, students responded very positively to the coursework in their fields. They appreciated the help, guidance and socialisation provided through such programs. In some soft fields coursework was a formal requirement in the first year of the doctoral program while in others it was spread throughout the duration of the doctorate. Coursework attendance requirements could be weekly or monthly.

The reasons for including coursework varied. In the soft fields, it provided an important introduction to research methods and research skills. The general pattern in such cases was for three or four formal coursework units to be prescribed for doctoral candidates. These courses worked particularly well when they were specifically designed for research masters and doctoral students.

In a program where all the coursework was provided in the first year of candidature, one student observed that students needed to be astute in deciding how best to make the program work for their research:

_The first year was comforting in a sense that it gives you a lot of structure and a lot of discipline around your research. The only way you could possibly complete your dissertation is if you used that first year as part of the actual work towards your dissertation, [so that they] were components of the dissertation. … Unless you have a clear idea of the field that you want to research and the particular research questions that you want to explore then that first year is nowhere near as beneficial …_

Student 2 SA

In one very well received program the three research units were designed to coincide with the different stages of the research process over the duration of the doctorate:
In unit one you do a blueprint of what your thesis is going to be ... so right from the start you’re made to sit down and work out what it’s going to be instead of being in this sea of information and thinking, ‘my god what am I doing?’ Then [in unit 2] we had to write a foundation chapter ... so it was good ... and I can tell you now I’m in the stage of rewriting and trying to create more of a framework, and it’s totally different to what it was. But it at least made me start the work Then [in unit 3], I did that last year, you have to actually sit there and describe your thesis, the argument that runs through it and again you’re made to sort of tie it all up. It was so helpful ... it’s totally flexible [when you do your units] but they want you to do [unit 3] pretty near the end, because it’s pointless to do it before that.

Student 48 SA

In other programs, the coursework also served to introduce students to the requirements of a PhD, to promote good research practices such as the establishment of research databases and to get them started in writing chapters of their thesis early in their candidature. In these programs, the coursework was presented in the form of a weekly seminar, usually during the first year of candidature:

The seminar is held every Monday for first year postgraduate students ... [We teach] them a wide range of computer based skills ... learning to construct databases. The research seminar also teaches them skills in the sense that they’re taught a whole different set of approaches to [the discipline]. In the second semester they are each required to present a chapter of their theses to the seminar, so it is a check on making sure that they are getting down and doing research.

Academic 8 SP

In another university, soft pure students were required to attend weekly seminars for the first two years. One of them was surprised at the amount of thesis work required:

It’s mandatory to attend [the seminar]. The first year you have to do a 30 minute presentation of what your plans are for your thesis, the second year, the way it’s presented is, which I find rather astonishing, they suggest that you are supposed to present a chapter of your thesis.

Student 7 SP

In some instances the completion of the coursework and the chapter writing were both included as part of the formal review process in the first year:

Second semester they have to produce a whole chapter and then apart from presenting that chapter to the seminar we have what is called the gang of three. ... the head of department, the postgraduate coordinator and one other person interview every single postgraduate student ... so if you are a first year student then you try out that chapter in the seminar and then you hand it into the gang of three.

Academic 8 SP

The doctoral program in yet another soft field aimed to provide students with the generic research skills expected of an academic. The ‘coursework’ in this instance was not taught by the department but provided through workshops selected by the department from the university’s annual staff development program. Students were required to complete four of these workshops in the course of their doctorate. It
was a requirement for all full time students but was optional for part time students, since workshops were only available during the day:

_We have instituted a series of research training programs which basically formalises the generic skills that academic researchers pick up during the course of their studies. It’s a series of four courses. In the first year the main component is IT training . . . And other years it’s things like submission of a journal article or conference presentation. In another year it’s writing a small grant . . . It’s compulsory for full time PhD students who enrolled since 1997. With part time students we haven’t made it compulsory but it’s open if they wanted to do it._

Academic 3 SP

In this department self assessing assignments relating to the workshops were set by the postgraduate coordinator. In another, such academic skills, as well as the opportunity to reflect on the supervision process, were built into their program:

_We try to not just give them skills but also develop networks among them, giving them a chance to meet each other. Part of that, they peer review each others work anonymously so they get a chance to read other PhD students’ work in progress and get a sense about what is acceptable and what is not and they also get to discuss issues among themselves about what they think is good supervision. . . . as part of that class they are talking about supervision as a process and what they want and what they don’t want. And that is really quite interesting. They get to reflect on whether their supervisors are doing what they need and hopefully also they get a bit of an opportunity to articulate back to the supervisor what it is they want._

Academic 10 SA

By contrast, in the hard fields the inclusion of coursework serves a broadening purpose. Overall, the intention is to provide students with the opportunity both to counteract the narrowing tendency of the research process and also to increase knowledge in specific fields related to their research which they may not have been able to study as undergraduates. In the universities visited in this study, the usual requirement for students was either two or three courses:

_. . . generally those subjects will be something relevant to the topic area . . . you know it might be something like advanced computing or some mathematical subject, which they are going to need for their work, so while they are doing the literature survey and getting the proposal together then they do that background material . . . they can elect graduate subjects anywhere else in the university that is relevant to what they are doing._

Academic 65 HA

Students in several hard fields where there was no coursework would much have liked the opportunity to undertake some. One student noted the different content requirements for undergraduates and postgraduates:

_There are a lot of things that may be missed out. The undergraduate degree in [this discipline] is fairly similar throughout at least the English speaking world . . . at least I have covered similar sort of ground in different countries but that means often that a lot of stuff which is very useful for later on isn’t covered . . . You don’t need [topic X] because it’s too hard for undergraduate courses but they are often very important for a lot of people doing postgraduate stuff and you_
have to go away and read a book about it but if it is offered as a course it is quite good.

Student 54 HP

Academics in a hard applied department in another university would have preferred to include coursework requirements for their students but were apparently prevented from doing so due to HECS requirements:

I’ll keep this on record because it’s rankled me for a long while. … there was a formal requirement from the department that we undertake more coursework as part of our PhD studies. … but now, over the last few years we’re not allowed to do that because of HECS implications.

Academic 77 HA

A student in the same department had audited subjects needed for his research: ‘unofficially I just sat in on a few maths subjects, spoke to the lecturer … got the notes off a lecturer’ (student 80 HA). However, a senior manager at this university commented that there was scope for coursework in making up necessary skills:

There is a bit of room for some formal coursework. We do use that in some cases if a candidate has some deficiency in their background then they may be asked to undertake a coursework component if that is available, otherwise they are just supervised through a reading program to let them get those skills.

Senior manager 41

The few instances of dissatisfaction with coursework occurred in the soft applied fields in two universities. Here the issue was the inflexibility of staff and rigid educational attitudes which did not respect the principles of adult learning. Where these principles were respected doctoral candidates ‘just rave about it’ (academic 11 SA). Where they were not, doctoral candidates generally felt that the promised benefits of coursework were not met, and were scathing in their comments.

Flexibility in the provision of coursework related to the capacity of the department to exempt students from courses in which the skills and knowledge had been met in previous study. In one program this was not the case and students reacted angrily. One student described herself as being ‘dragged kicking and screaming into those [subjects]’ (student 40 SA), while another student explained:

Without any consultation or any discussion or anything … I just got an undated, unsigned letter from the Registrar to say, ‘you must do these courses in research methodology’ … stuff which I had really basically covered in my masters … it was a huge suck on my time … and I dragged my feet on one particular subject which was totally irrelevant to my needs …

Student 32 SA

Flexibility also relates to the timing of the courses. Staggered courses integrated with the research process ‘which gave you a kick along’ (student 48 SA) were praised, but in two programs the demands to complete all coursework prior to particular research stages were met with resentment:

[The coursework] took a lot of energy, that’s all I could do, was get the coursework done. … with the coursework I didn’t have that chance [to develop my topic]. So it was really bad timing for me. … It was one circus I can tell you.
But at the end of the year spent with those [academics], I learnt a lot, but I didn’t get much done on my topic.

Student 37 SA

I was quite shocked to see that they were so inflexible about it. I mean we are all adults. A PhD is supposed to be about a journey of discovery with lots of fiery hoops to jump through along the way, and it was quite disappointing to see that there was ‘this is what you will do, and this is when you will do it’. And there wasn’t a lot of consultation—well there wasn’t any, I shouldn’t say a lot. There was none. And there should have been and there still should be.

Student 40 SA

The manner in which the courses were delivered was also important to students. In two soft applied programs in different universities, students—often well established professionals and in their 30s or older—resented teaching approaches which were condescending towards students and arrogant in manner. ‘Their educational principles have been lacking. They’ve used very didactic means of teaching’ (student 79 SA). Similar reactions were expressed by students in another university:

But I had to turn up two nights a week to three hour classes that had very demanding homework every single week. Homework! And she called it that. … And I have to say I was a bit shocked. Like I thought the coursework would be, you know we’re here to let you know about it … the teachers were very full on. I actually almost gave up last year because of the coursework.

Student 37 SA

Finally, courses imposing or favouring particular theoretical frameworks were not welcome. Students and academics cautioned against promoting postmodernist views, imposing particular writing approaches and pushing particular theoretical stances.

In all instances where coursework is offered, it is taken extremely seriously. There is formal assessment and grading and students are expected to do well. Although it was acknowledged that it is the final thesis that ultimately counts, poor performance in the coursework can create restrictions and further hurdles for students:

They get a grade, they get written comments but a PhD is ultimately only ever determined on the basis of the thesis result, but if people did very poorly in those courses, that would be fed into their progress reviews and we might actually ask questions about whether or not they should be maintained in the program or give them another chance to take the course again and improve the standard of their work and submit again. They know they’re expected to get a distinction in those courses as evidence that they are doing well, that they are confident and that they are engaged with the thesis …

Academic 10 SA

A student interviewed in the same discipline had not met course expectations for one unit and confirmed the need to redo the work prior to continuing the candidature:

I was doing [the second] of the methodology courses, for which you actually have to write a foundation chapter as part of the assessment, and I think I handed mine in three or four months late, and I got a letter from the guy running the
Successful completion of the coursework is a requirement for continuation in the doctorate and there have been instances where students’ enrolments have been cancelled:

\[\text{We require our research students to do three coursework subjects. \ldots they have to get a credit average in those three subjects. \ldots Students have had their enrolment cancelled because they couldn’t handle the subject material.}\]

Academic 65 HA

An important benefit of the coursework for students is the opportunity to socialise and share experiences with other students and to gain input into the research process from experienced researchers other than their supervisor. Nearly all students in the soft fields commented that the provision of formal structured coursework offers a form of cohort or collegial group in which the ups and downs of the research process can be shared. In the hard fields, perhaps because of the different purpose of the coursework—content broadening—and perhaps also because of the more collegial work structure to be found in experimental fields, no such comments arose. One dean and postgraduate coordinator commented that the coursework units were intentionally designed to augment the supervision process:

\[\text{[Students] like the feedback they get which I think is a supplement to supervision, it’s an alternative \ldots their supervisors I guess are one voice and this is another voice \ldots and I think they actually appreciate the feedback \ldots that’s the general impression that I get.}\]

Academic 11 SA

Not all experiences are necessarily positive though, particularly in soft fields. One student commented that:

\[\text{It was useful for contact with other students, but it was double edged \ldots it’s useful in lots of ways and I actually found the contact with other students really good and really encouraging. But there’s also the potential for having bad interactions with students and that happens too. \ldots I suppose we get precious about our research and one person in particular told me he felt like he’d been attacked by other students who didn’t have a background in his area. For him it was actually a traumatising experience to do these courses and I think there have been a few other people in that situation as well. So, it is double edged, you are put in a vulnerable position but on the other hand there’s a possibility for lots of support \ldots}\]

Student 33 SA

Another student observed that seminars dealing with some topics were less well attended than those covering more popular areas of the discipline. Notwithstanding such off putting instances, students in soft disciplines often remarked on the pros and cons of seeing how students further down the track had solved particular research problems:

\[\text{We’ve got people doing their first year and people doing their second year mixed in together, which is good, because then you can see the people that are in their}\]
second year, how much they’ve got done or not and what’s expected of their second presentation. ... And some people find it frustrating to have to go along and listen to something that has nothing to do with [our sub field]. I actually think that’s a usual thing. I think we should be as broad as possible, plus I think sometimes when you hear about a completely different problem and how some is going about solving it, I might still find some solution in what I’m doing, so I think there is some value in that, but other people would see it as a waste of time.

Student 7 SP

4.7 The role of the department

The department is the administrative hub for doctoral students and the organisational structure that provides doctoral students with their most important academic relationships. The role of the department’s postgraduate coordinator in matching students and supervisors was discussed in chapter 3. As highlighted in the previous section, the department is also the main agency that provides formal coursework structures and teaching for students. Alongside the administrative and organisational roles of the department are two important educational ones, relating to the acculturation of doctoral students in both the discipline and the research process.

The first is the key part the department plays in fostering a research culture that goes beyond the individual student supervisor relationship. Contact with and access to other experienced researchers and research groups are very important for doctoral students. The department provides an avenue for doctoral students to make contacts in their discipline beyond their own research experiences and in addition to formalised contacts such as conferences. The department in this way offers a venue for doctoral students to consult, often informally, with other researchers on matters of knowledge and skill.

A clearly visible example of this is the existence of a research seminar program in which doctoral students, along with the academic staff of the department, can attend weekly or monthly sessions to engage in research discussions. One postgraduate coordinator commented:

*The students aren’t isolates, there are other staff members, other research people, other students that they can talk to.*

Academic 17 HP

Where such opportunities were lacking their absence was commented on by students in their interviews. While they were content with their own supervisory arrangements they felt isolated as researchers within the department and the university more generally:

*But if I’ve got a question about how to simulate a fluid flow or whatever I wouldn’t ask anyone here ... besides my supervisor I’m probably the most experienced person in this uni, so I’ve got links with people at other unis who are more experienced than the people here.*

Student 19 HP
In one of the newer universities it was readily acknowledged that there were ‘pockets of research’ (student 98 SA), while in another, students in every discipline group commented on the existence in their department of a focus on teaching rather than a research culture.

A second important role for the department is to provide an opportunity for doctoral students to meet their peers on an informal and ad hoc basis. A major theme in the hard pure experimental fields, noted by both academics and students, is the role of peer support structures. Academics tended to express the view that these were important because they were generally beneficial for the students. Students were able to define several senses in which they valued peer support groups as sources of information and know how as well as for reassurance when things were not going well. Institution wide structures such as postgraduate associations were perceived in comparison to be of relatively little importance except in the arena of union institution power relationships and bargaining.

In a research active department with many full time doctoral students, opportunities for such peer group interactions were frequent. In cases where this opportunity did not exist, students clearly missed it:

I guess I hoped for … perhaps more interaction, and more interaction with people going through the same process, I mean, I'm not even sure what other [creative artists] there are, and whether they are people like me, who do the same sort of thing as me. I guess I wanted a bit more camaraderie, I don't mean Friday afternoon at the pub, I just mean it's an intellectual odyssey that doesn't make any sense when you are talking to people in jobs that finish at five and that are clear cut. The only other person it makes sense to is someone who has been through this process.

Student 121 SP

When asked if they would have liked to be more actively involved in the life of their department, one student replied:

… in the three years that I have spent there, I have just been working from home. That's it and so I really miss out on that regular face to face meeting with, not just academics but also postgraduate students in one place. Having corridor conversations or popping over to someone’s office with a problem or recommending this book, or ‘what do you think of this idea?’ and so most of those kinds of conversations are done by email most of the time or on occasional meetings that we have. And so that is quite a critical cut off. Contact, very limited contact.

Student 115 SP

Such views arose predominately in the soft fields where the one to one supervisor relationship was strongest or where there were small research groups or none. It was especially acute among all part time students. Students in these various contexts often felt strongly disenfranchised when they came to the university and had nowhere to go:

I often feel like when I go to see my supervisor, he’s a busy man and often times if I might get there as I did today a few minutes early, I’ll bang on his door and he’ll have someone in there and I just wait and I stand out in the corridor and I feel like a bump on a log, I feel like an outsider and I don’t think I should be feeling like that after three years … that’s the only time I go into the department, is to see him and then I go and scuffle away. I don’t know, just have
a room where I can throw down my bag and oh there is such and such a person, ‘how are you? I haven’t seen you for ages’.

Student 7 SP

Indeed, in a department with many part time students, academics found it hard to encourage a research climate among students. One dean commented on the difference full time students make in influencing the ability to create a research culture:

_We’ve got eight or nine scholarships at the moment and that has been really good in creating a culture, a research culture, … it’s been really positive … and creates a more vibrant culture …_

Academic 11 SA

Among student interviews in soft pure fields, comments of isolation, reports of attempts to promote a group atmosphere and needs for broader support beyond the supervisor are evident in numerous interviews. These comments are echoed by some students in soft applied areas. Notably, for many, the introduction of coursework has achieved some semblance of a cohort or a peer support group, as discussed in section 4.6.

There was a surprisingly high incidence of departments becoming fragmented into different groups and thereby losing cohesion, so reducing the range of contacts available to students. This was found across all disciplines; the net effect was the exclusion of one part of the department by another:

_I mean people can afford to argue for the whole of their working lives and there are records of this in departments, of people who will walk past each other and never speak to each other for twenty years because of something that happened twenty years ago. But then that gets inflicted on the kids._

Academic 134 HP

Whilst this was partially a consequence of size, being seen most often in large hard pure areas, philosophical differences could also prove responsible, particularly in soft pure areas. In both cases, the negative impact upon the student was similar:

_I guess a subplot wandering around in the department sometimes, is that there are all these sorts of wars going on and if you are affiliated with a particular supervisor or something. And I have got a supervisor who is very strong with classic anti postmodern stuff and so you kind of wander around and think, do they all think I am that sort of—, in a sense. And it’s not that hard—, you are not thinking necessarily of the underlying jockeying for tutorial positions. It is sort of this undercurrent. Of course everyone is very nice though. It’s just that you do hear about these little plots to knock people off their various positions …_

Student 36 SP
4.8 Summary of findings

Motivation

• Central among the multiple factors influencing students’ motivations to undertake a doctorate is a love of their subject and a strong desire to undertake research.

• Self motivation is an important factor in enjoying and completing a doctorate.

• To complete successfully it is also important to enjoy the research process and not simply to be enamoured with the acquisition of a title.

Supervisory arrangements

• All students had a main and at least one associate supervisor as required by university policies.

• Associate supervisors were usually appointed by the department or recommended by the main supervisor, but were on occasion selected by the student.

• Some students were uncertain about the role of the associate supervisor.

• On the whole students worked with one supervisor, drawing on other advice as needed.

• In the majority of cases students experienced ready and regular access to their supervisors.

• Most full time students met their supervisors formally at least every 1–2 weeks on average, and part time students usually once a month. However, the frequency of meetings could vary according to students’ needs and research stage.

• Informal access in between formal appointments took the form of email and phone contacts as well as of face to face encounters for full time students.

• In disciplines where students were in close physical proximity to their supervisor, usually in the hard fields, there was often daily student supervisor contact.

• A drop in frequency of contact was often taken as a sign of a student in trouble.

• Twelve per cent of students interviewed remarked on difficulties of access to and infrequent meetings with the supervisor. All such cases were in the soft fields and concentrated in the two newer universities. Some of the full time students concerned were only able to see their supervisors as infrequently as every 3–6 months.
Student supervisor relations

- Good supervisory relations are premised on open and frequent communication.
- Three characteristics in particular stood out: a dynamic, intellectually stimulating environment; a trusting and trustworthy supervisor; and effective supervisor support and guidance.
- Four models of supervision were found in the study: one to one supervision; small and medium sized research teams; large research groups or centres; and panel supervision.
- The one to one supervision model was most prevalent in the soft fields and the non experimental hard disciplines.
- Small to medium sized teams were most commonly found in experimental fields.
- Panel supervision was found only in the hard fields in one university. Views on its success were mixed.
- Some aspects of small team organisation were argued to point the future direction for supervision in the soft fields.
- Power differentials in the supervisory relationship were seen as a key supervision issue.
- In soft fields power differentials were manifested mainly through the imposition of a particular (often postmodernist) theoretical framework.
- In hard pure fields power differentials were reflected in authorship rights and sequence.
- Unduly close personal relationships and sexual harassment can arise in supervision situations needing to be handled with care.
- Reductions in academic staff numbers, inadequate recognition of workload formulas, and the competing demands of large undergraduate and fee paying postgraduate courses, were seen as contributing to unsatisfactory time allowances for supervision.

Topic definition and development

- Distinctions in topic definition between hard and soft disciplines may not be as clear cut as suggested in some higher education literature.
- In soft fields topic identification and selection tends to lie with the student. However, cases where a supervisor is far removed from the topic are rare.
- In hard fields, topics tend to be relatively circumscribed, being generated from existing academic research areas.
- Where students in hard fields identify their own topics, their descriptions of topic shaping appear similar to those of students in soft fields.
• There are signs of topic change in soft fields: ‘do able’ topics in a three year time frame, closer synergy between the supervisor’s research and the student’s topic, and more detailed topic definition at an early stage.

• There is evidence of smaller, and seemingly narrower, topics in hard fields.

• In all discipline groups there is pressure on students to define their topics in a shorter timeframe: ideally three months in hard fields and six months in soft.

• Students in hard and soft fields may in reality take 2–2.5 years to define their topic. It is described by students as an ‘evolutionary’ process.

• In all disciplines the supervisor is called upon to play a key role in shaping the topic through critical feedback and questioning. Where this is not the case, students suffer disappointment and frustration.

• From an early stage writing is seen as an important part of topic development.

Industry funded doctoral topics

• Industry funded doctoral research in hard pure fields is virtually indistinguishable from other doctoral research.

• In hard applied fields there are tensions between the culture of the profession in the practice setting and the culture of the discipline.

• There is evidence that topics change and become more restricted when funded by industry. Some students in hard applied fields questioned whether their topics were worthy of a PhD.

• There are conflicts for some hard applied students between their PhD studies and industry expectations to work on non thesis related activities.

• For students in soft applied fields topic definition emerges as a major issue, except where there is a ‘hands off’ industry partner.

• In soft applied fields there were conflicts for some students between the expectations of the external partner and academic requirements.

• Academics in hard fields invest considerable time in fostering industry contacts and attracting sponsorship funding.

• IP can take considerable time to negotiate, may not be completed by the time students commence, and can lose potential candidates.

• Changes in priorities of a commercial organisation can have drastic consequences for students. But where things go well there are excellent opportunities for students: extra money, a well defined topic and scope for industry networking.

The role of coursework

• Some half of all doctoral programs in the study—PhD and professional doctorates—have formal coursework requirements.
• There are no discernible discipline variations, but some institutional ones. One large research intensive university has coursework in all discipline groups and one new university has none.

• In most cases students respond positively to coursework and take it seriously.

• Successful completion of coursework is a general requirement for continuation in the doctorate.

• In soft fields coursework is often a requirement in the first year, though in one very successful program it runs in parallel with the different stages of the research process during candidature.

• In soft fields coursework provides an important introduction to research methods and skills and the requirements of the doctorate, while in hard fields it serves a broadening function.

• Students are dissatisfied with coursework where its provision is inflexible, where there is no respect for adult learning principles and where there is no provision for feedback.

• Students perceive the opportunity to socialise, share experiences, and gain wider research input as important benefits of coursework. This is particularly the case in soft fields.

The role of the department

• The department provides doctoral students with their most important educational, academic and administrative relationships.

• The department has a role in fostering a research culture for doctoral students that goes beyond the individual student supervisor relationship, providing contact with other experienced researchers and research groups.

• After the supervisor, the department provides the most immediate contact with the discipline, both informally and formally through seminar programs.

• The department also plays a key role in providing a venue for ad hoc meetings of students and their peers.

• The absence of such acculturation opportunities most noticeably affects students in the soft disciplines and part time students in all disciplines. There were also institutional effects.

• Departmental fragmentation into different groups and loss of cohesion reduces students’ acculturation opportunities.
5. **Support structures**

5.1 **Introduction**

The study specifically considered support to doctoral students beyond the supervisor and department. This chapter discusses the support structures and mechanisms which help students to find their feet initially, through attention to such issues as learning requirements and career development. Resources in terms of both facilities and funding are a crucial component. In relation to the latter, significant differences across discipline groups result from the external funding available to support students in the well resourced hard fields.

5.2 **Induction**

Many students and academics argued the need for a wide ranging induction into doctoral education at institutional or faculty level. A senior manager at one university speculated on the need for the central university administration to monitor the induction activities of the faculties in the light of changes introduced by the *White Paper*.

In this study three universities offered institution wide orientation sessions, generally opening with a formal welcome session conducted by either a deputy vice-chancellor or university dean. One university provided website information on a range of subjects, from university rules to learning support, which students found helpful but which they did not see as an effective replacement for a more detailed departmental orientation. An institution level handbook was perceived as ‘just another student handbook … I don’t want to read through this’ (student 47 HP). Departmental handbooks were, where available, well appreciated. The effectiveness of student handbooks for orientation purposes could be seen to vary between the universities. Two universities provided comprehensive student handbooks containing information on relevant subjects ranging from higher degree rules to the location of the campus bus stops. The remaining universities provided the information in a relatively inaccessible form, if at all—typically a slender handbook comprising a code of supervisory practice and references to various other sources such as information centres, different sections of the university website and departmental offices.

In addition to institution wide orientation programs there were examples of either faculty or departmental level orientation to doctoral study. In nearly all universities, at least one discipline group offered induction to students.

The need for student orientation was acknowledged by some academics, in particular as a means of helping them to settle into study and to locate the resources they needed:
Some sort of formal scheme of introducing students to the system is something we really should do … just introducing the students into the system here. Even a trivial thing like how do you use all the computers around the place … it is something which could take a lot of time and particularly for students who are not in one of these groups, who is a bit out by himself, can really slow things down for a start.

Academic 65 HP

Other academics believed that the formal provision of coursework (see section 4.6) in their departments met the need for orientation. For others the provision of online and face to face courses within their university was seen to be adequate, provided that supervisors took the responsibility to encourage students to attend. The possibility of a lack of compliance by supervisors was however flagged by two university managers:

I ran an induction program at my last university when I was in charge of research there for students. The staff hated it because they thought I was interfering with their right to supervise. The students adored it.

Senior manager 109

and:

… now, at another university, there’s an induction program. We talked seriously about that here. The comment was, ‘oh, a PhD student has too much to do already and they can’t be stuffed in first year … learning something else that might benefit them in the second or third years of the program.’ They’ve got to get on with it.

Senior manager 132

One postgraduate coordinator provided an example of a departmental level orientation program that met the expressed needs of student interviewees. In this program:

We get all the new students at a meeting … what’s involved in the administrative sense e.g. we talk about the annual report that they have to write every September, the sort of research training courses and then what sort of resources are available within the departments, that sort of general induction aspect. Then as part of the research training course one, we also talk about things such as the format of the thesis, the relationship to the supervisors and then we again emphasise who you would contact if you were having problems, and there is a departmental PhD committee that includes myself and a couple of other academics and we say, ‘you can approach any of us.’ Also we go through the annual report issues … and I think in some cases there is a perception that if they are having a problem they shouldn’t mention it in the annual report. We emphasise that they need to, so that we can monitor the situation and if they find it difficult to say it, they can certainly again approach the departmental PhD committee members to discuss these issues.

Academic 3 SP

At the departmental level in hard pure fields, the general view was that orientation was the responsibility of the supervisor and that it should take place on a one to one basis, so enabling programs to be tailored to the needs of each particular student. As one supervisor explained:

… if we take a student in at the postgraduate/higher degree level we don’t actually put them through any program like that, we just take them in and it’s more like an
apprenticeship model. They're closely associated with the supervisor going through something.

Academic 1 HP

Postgraduate coordinators in the hard pure fields in two universities had provided orientation in this form, personally greeting all new students, showing them around and conducting a follow up interview to ensure that their needs were being met.

On the whole, however, the provision of orientation programs appeared to be uneven across the different discipline groups and the institutions in the study. Various reasons were given to explain the absence of such provision, including the small annual intake at departmental level and the diversity of needs between honours graduates from the home university and doctoral students entering from a different one, as well as those between domestic and international candidates. The various substitutes for formal orientation programs at departmental level included placing new students in groups with established students and organising regular social functions for postgraduates.

While students argued the need for induction, and particularly the need to understand what was expected of doctoral work, their recollections of orientation and induction programs were often vague, given the amount of time that had elapsed since they first embarked on doctoral study. However, the following components were seen to be important for any orientation program:

- An introduction to academic, technical and administrative staff and to already established doctoral students.
- Information on expectations, rights and entitlements; expectations in undertaking a doctorate; roles and responsibilities of supervisors and students; availability of funding and other resource support; and guidance on sources of help when problems arise.
- Availability of learning support at faculty and institutional levels, including information on thesis writing, IT, library entitlements and use.
- Health and safety issues such as fire drills, first aid, laboratory safety.

5.3 Learning support

Alongside the formal courses provided as part of doctoral candidature (see section 4.6), universities made available other opportunities to acquire and develop skills relevant to successful PhD research. Frequently mentioned forms of learning support included ‘how to’ guides on writing a thesis or a literature review, broad methodology courses, courses on basic computer skills and library and database searches, thesis writing workshops and introductions to bibliographic management software. They were available at all universities in the study, typically offered by the central student learning unit, library, university graduate school or postgraduate students’ association.

On the whole the students in the study appeared to be well catered for in terms of the availability of generic learning skills programs at the institutional level. Such offerings ranged in duration from two hours to one or two days. Nearly all students were aware of them and used them selectively, depending on need.
Three universities in particular stood out in their provision. In one, the university graduate school with an associated website focussed attention on doctoral student support and was notably well received by students:

*Well, I was pretty impressed with some of the things they had to offer … I went to a workshop about supervision … I thought it was just fantastic that they would actually sit down and talk to students …*

Student 40 SA

In a second, large research intensive university, there was extensive provision at institutional and faculty levels, although the Deputy Vice-Chancellor acknowledged that there was variability across the faculties, particularly in disciplines relatively new to research. At a third university, also a large research intensive university, it was a matter of concern that the university might have failed to make supervisors sufficiently aware of the extensive range of available facilities.

Good supervision, it was argued, included ensuring that students got training in areas that they needed. As one dean explained:

*… it’s also a lot to do with the proactivity of the supervisor, like if I know of courses that are being run by the Graduate School or the library … I get print outs … I make seven copies, I pass it out, I say ‘look, this course, I’d like you to go to’… I’m emphatic enough so that they feel obliged, but I don’t demand that they go … I say ‘I recommend highly that you go for what you need, unless you know this very well I would like you to go.*

Academic 34 HA

The importance of ensuring that students were aware of all opportunities was underlined by several of them: ‘my supervisor gave me a brochure. They publicise their classes by email’ (student 15 HA). By the time students reach doctoral level, however, generic courses tend to have limited value. In some instances this led to disappointment:

*They are very useful classes but the one I did on literature review for instance … there were people there that were in other disciplines as well and trying to squeeze so much into two days to make it relevant for everybody … I didn’t find it as useful as I thought it would be.*

Student 15 HA

Students in soft pure disciplines in particular commented that there were special skills needed in their areas that could not easily be taught:

*… so like there are things I feel like I need to work on and improve on. But they’re sort of you know, they’re not like you can run a training course and give them to people, they’re not that sort of a skill …*

Student 122 SA

Since specialised or specific requirements were not addressed by general learning support structures, students acquired them in various ways. In most instances they were acquired by private study:

*I collected a whole pile of maths textbooks … if I can’t understand it in one then I will go and look at the same section in another book. … I will go from one to the other until I get enough angles in to find my way.*

Student 21 HP
Where highly specialised skills were needed which lay outside the supervisory relationship—for example the requirement to use specialised instrumentation located in other units or at other institutions—a student might be sent on a course elsewhere, either within the university or outside.

An important outcome of such provision, less tangible than the skills gained by attendance at learning support courses, was the experience students gained of being included in a working group, and the useful contacts they were able to establish:

*I think it helps you feel linked in … just sometimes I go along not thinking, I probably would know how to fill out my ethics form and I don’t really need to go … but I just want to go and meet the person from the uni giving the lecture or the other students or whatever, just to feel part of it.*

Student 37 SA

and:

*They [the graduate school] tend to keep in touch with you, and I have done a couple of little short courses, for a couple of hours we all go there and meet, and they’ve been useful. Certainly you feel that someone knows you’re out there.*

Student 44 HA

### 5.4 Career development

The major form of career development available to postgraduates was the opportunity to teach. Most doctoral students did not however aspire to an academic career, acknowledging that opportunities were limited, that it was not seen as particularly desirable, and that in any event ‘you have got to be outstanding’ (academic 17 HP).

A number of academics acknowledged that guidance on career development was in general not well provided for doctoral students:

*We have a whole lot of careers showcasing and all sorts of things here but maybe they are for undergraduates and maybe we could give some more thought to whether we need to build something into that for the doctoral students.*

Academic 10 SA

In any case, the immediacy of career prospects in the minds of PhD students was open to question:

*Most people that enter a PhD do not have a job in mind. They know they want to get employed and they would like to think that the PhD would add to their employment …*

Senior Manager 42

As another academic put it:

*Mostly they don’t think of their PhD in those terms … they’re not thinking when they write their PhD of acquiring skills which will prepare them for employment. In fact, I’ve never known anyone approach me in that way, with those kinds of skills in mind. So no, we don’t really consider the acquisition of skills which are specifically oriented towards some kind of career.*

Academic 56 SP
An academic spoke about a ‘piecemeal’ approach to career development in the department concerned, because past experience of presentations from career professionals for PhD students had been poorly attended:

_I try to emphasise to them that they need to make connections outside the institution before they graduate because these connections may be very important to them in terms of seeking other kinds of employment … I also encourage them to make connections in terms of professions that are related to [the discipline] … and I have a lot of connections and so I work hard to use those connections …_

Academic 8 SP

Another academic, in the hard pure area, saw it as important that students should consider career opportunities at the earliest stages of candidature, in order to prepare themselves for subsequent employment, and accordingly incorporated the discussion of career development into the supervisory relationship:

_The first question I would ask a student who came to me to talk about the possibility of doing a higher degree is: ‘what do you want to do with your life?’ … And so I always start the students at that end strategically, ‘where are you trying to get to?’_

Academic 94 HP

However, career development needs vary across the discipline and the type of doctorate. For example, those undertaking professional doctorates were already established in careers and the doctorate was seen primarily to have a personal rather than a specific career benefit. A dean acknowledged:

_A lot of our students are already engaged in a career and so the doctoral work isn’t, for them, a stepping stone into a career. They have a developed career and this is sort of pursuing an interest but for those who want to move on into a career from a doctorate, I don’t know that we would do anything in particular to facilitate that._

Academic 10 SA

Giving students the opportunity to gain teaching experience was seen as important to career development by both academics and students. However, despite the frequent acknowledgements by academics that many PhD students would not be going on to academic appointments, where career development opportunities existed they still tended to concentrate on skills that would benefit the intending academic rather than wider career possibilities.

Internships in soft applied fields had been offered to students at two universities, where in conjunction with doctoral work they were given the opportunity to acquire some of the skills necessary to become an academic.

Despite their stated reservations about academic careers, a number of students appeared to share a tacit assumption that they would become academics, and accordingly focussed on the perceived desirability of teaching and tutorial experience. As one student said:

_… if I want to work out how to do it, I have to get experience at it. If I’m going to put together a course, and teach it, I’ve got to understand the mechanics of putting together a course and teaching it and that’s what I’m trying to do. So that’s why I’ve devoted a fair bit of my energies into tutoring and lecturing._

Student 69 SP
Conflicting time demands between doctoral research and career development activities were reported by several students, who coped with them with varying degrees of success. While the prevailing attitude was that it was a good thing to gain teaching experience, there was also a sense that in some cases doctoral students were making up staff shortfalls, as opposed to doing their PhDs or developing their future career prospects:

…the pressure for teaching for students. I think it’s lovely to have to the opportunity to do it but often you just–, because there are so few academics they need students to do demonstrating, it’s really good and I do enjoy it but now I find myself actually lecturing. It’s a big workload … And then I got landed with two tutorials, and I’m being put under pressure to do a lab as well.

Student 100 HP

An academic in a soft pure discipline confirmed the reliance placed on PhD students in some universities:

… because you have to understand that this department cannot function without us using up to 15 of our postgraduate students every semester to provide part time teaching assistance. We couldn’t function without it.

Academic 8 SP

There was an awareness among students that it was not wise to allow themselves to become part of a pool of casual labour. Nonetheless, the lack of opportunities to develop teaching skills was a problem for some students:

… I’ve been trying to press for them to give more PhD students first year tutorials. … because it’s such a good experience and it helps you develop these kinds of skills. I want to do it myself, but the school isn’t offering much and we can’t do lectures yet or anything.

Student 51 HP

At one university international students were less likely to be offered teaching work. One student, actively seeking to acquire skills relating to his intended role as an academic when he returned to his country, commented:

No, I don’t do that because my supervisor has a lot of Australian students who can do that, and who have to do that because they have scholarships from the school, and he never asked me to do that … I don’t have practice for that, but I try to notice, or try to get information from when I am in the class, or when I do coursework, how the lecturers teach and how they do the tutorials, how they set up experiments, the way they do tests for examinations.

Student 73 HA

The time demands on students attempting to gain this experience can be considerable: ‘… someone I know said ‘hey, do you want to give a lecture in my course?’ So I spent a week writing a lecture’ (student 4 HP). Others took a more measured view: ‘I think tutoring should be fairly containable and you should be able to set aside a certain amount of time and be able to manage that along with your PhD’ (student 39 SP).

Publications and conference attendance were also perceived by students as a necessary part of career development for the intending academic: ‘In science so much comes down to publications … if you don’t have any publications, you’ll never get a job’ (student 4 HP). Another said, a propos of publication:
It is also adding to the pressure and expectations now—, for lecturing or postdoctoral positions is that you are required to—, not required but it would be good if you had publications.

Student 115 SP.

Academics also warned of the potential consequences of competing time demands upon students:

“It’s so competitive to get academic positions that if they spend too much time on teaching or learning to be teachers and sacrificing time on doing research that they’ll blow their chances.”

Academic 1 HP

Some students found career development opportunities in other activities. One who had accepted a casual job developing a web page found it stimulated his interest in a potentially new career area:

“Yeah, I could see myself doing programming and especially with the programming that I am doing now, I could see myself doing that quite easily. I could work in sort of instrumentation like hardware … and I have a good understanding of the vacuum system and so there is quite a lot of directions I could go with skills that I have learnt here and I know there is jobs out there.”

Student 67 HP

In one large research group each student gained additional expertise through an allocated responsibility within the group, such as looking after equipment or maintaining the web page. Suggestions for career development structures from students included a designated contact person for doctoral candidates. A possible approach to effective career development for PhD students was proposed by one senior manager. It involved a suite of courses on leadership, management, consultancy, IP and other topics, to be provided by specialist lecturers at a moderate cost to students. This was to be a centrally provided, generic career planning exercise as well as a response to employers’ needs, and was expected to be well received by students, judging by the apparent success of a similar program at another university.

5.5 Resources

Resource support for doctoral students includes the provision of workspace, computers, filing cabinets, phone, fax and photocopying, together with the necessary laboratory space and equipment where applicable, specialist software, library facilities, and access to technical staff.

All the universities visited had policies which specified the minimum provisions for doctoral students, although at one institution this was a relatively recent development. The resources listed were usually a subset of those noted above. There were however differences in resource provision based on the discipline group and institution.

A gradient was apparent in the resource provision, with full time students in the hard areas universally provided with basic facilities. In the soft fields the provision of computing and desk space on a large scale appeared to be fairly recent. Some soft pure students had no access to desks or computing facilities. The extent of the
variation was mentioned by several students, with universal agreement that the high end of the slope was with science and technology based subjects, while the soft pure humanities occupied the lower end. Various reasons were given for the gradient, ranging from ‘… a very long cultural history and cultural baggage to get over’ (student 4 HP), to perceptions that ‘there is this attitude to humanities students and they are just in pecking order’ (student 116 SP).

Students in the soft areas frequently reported that the provision of resources was a comparatively recent occurrence. In general students in soft applied areas were adequately catered for and most students in these areas were satisfied with the resources available to them. However, many students in soft pure areas either had no access to basic resources:

*I am at the end of my candidature … I have never had an office, not a computer, a desk in the department the whole time.*

Student 116 SP

or the resources were available in theory but unsatisfactory in practice:

… there are two old Macintoshes and two IBM computers in that communal room that is supposedly a place where students can come and meet. They are absolutely virus infested because no one takes care of them.

Student 7 SP

or grossly under provided:

*Even the best facility in Arts … you have 25 computers, 40 desks, but 300 people with access cards, and there’s a waiting list of two years to get on.*

PGA

In general communal facilities were not favoured by students, who saw no benefit in access to a workspace that was not dedicated to their own use. This deficit in resources for students in soft pure areas ran across all the universities in the study.

Some students in the soft areas had gained access to basic resources in virtue of their positions as tutors, or the seniority of their supervisors:

… it’s kind of luxurious when your supervisor is the professor and can pull rank, so … Paul and John had an office to share, they’re not entitled to it, but our supervisor wanted them to have it, so long as a staff member didn’t need it they got it … and they have the right to help themselves to a free photocopy allowance … which I gather most other people don’t have.

Student 98 SA

The consequences of these limitations were demoralising:

*I feel sometimes it’s like if you actually survive and get out the other end with a PhD its like, wow, well done, you survived the isolation and lack of facilities, you must be really good at what you do.*

Student 7 SP

This student and others commented that even after a considerable time spent as doctoral candidates they still felt like outsiders in their departments, although the provision of work space within the department would have alleviated this:

*There is nowhere for students, there is nowhere for them to actually come and meet … And it is not just somewhere to type, it is somewhere to be where you can meet and talk.*
The need to provide space for students was acknowledged by academics in the soft pure areas who expressed frustration at their inability to make it available: ‘we are struggling at the moment even to provide rooms for the postgraduate tutors to share to consult their students’ (academic 8 SP). There was however a sense of puzzlement amongst some academics that students did not always take advantage of the communal facilities that existed:

… we were trying to find out what the students want and we were trying to build more facilities for them, we were building a really nice room and we put in 16 computers in. … They hardly even used the facility, hardly even used it.

Academic 109 SP

A negative consequence of under resourcing, that of possible demotivation, was identified by a student who claimed that: ‘I will only do my best work and represent my university and the country well if they have the resources to help me be my best and I think that is really important’ (student 111 SP).

Finally, it must be acknowledged that there were students, nearly always professionals, studying part time and predominantly in soft fields, who preferred to work at home where they had established their own offices:

I think if you have got an office here it makes a difference. But I have so much crap that I would have to have in my office and I have got an office, it is sort of like, ‘why would I come here’? Got another computer and another phone—, when I have got all that stuff there and so I can keep this joggling thing going.

Student 111 SP

The needs of such candidates rested with departmental access to photocopying, a forum for socialising with and meeting their peers and access to a well stocked university library catering for doctoral students.

Students in hard areas were frequently the recipients of side benefits from their supervisors’ funding, commonly taking the form of access to equipment, technical staff, or contributions in kind:

… so there’s the money side but a really large part of the support I’ve had or required has been people’s time. The deal has been that if I organise a field trip, my supervisor will pay for the food for anyone who goes along, and provide vehicles … and the petrol will be paid for, and the food for people to go along. … if they’re a research assistant, they don’t take leave or unpaid leave to go on the trip. It’s not part of their job to help me in the slightest.

Student 4 HP

or by unrestricted access to small additional funds on request:

So anything from that point of view that I need … if we really need something that’s not too expensive, my supervisor will just buy it … I don’t really know where the money comes from for that sort of thing, my supervisor has money from here and there that he uses … I don’t need to worry about it.

Student 20 HP

A head of school at one institution commented that: ‘… if we were relying on university funding to run our PhD students we wouldn’t be able to do it. They are
very expensive’ (academic 108 HA). The strategy adopted in this field at this university for providing adequate resource support was to link all PhD projects to external bodies which could be tapped for funding.

There was evidence of institutional as well as disciplinary variation. Two universities received more negative comments in resources than the other four. In one university several students who had been committee members of their postgraduate association complained strongly about the slowness of action by senior managers on the results of the association’s survey on facilities:

*We started having regular meetings with [the Deputy Vice-Chancellor] about trying to get more computer facilities and so forth. Yeah, [the postgraduate association] does get in the ear of relevant people around the uni to try and improve the lot of PG students. It’s a pretty slow and frustrating process for a number of reasons. One is because there’s a lot of cultural change that needs to be effected within the university. Universities are very slow in changing … when you point that out to the university they say ‘yes, yes, well it takes a while to change’ so there’s this sort of inertia to effect any change. At the same time it’s also very difficult because planning anything in a university, it’s like a corporation and it takes a very long time and the money to build a new computer facility—, it means actually taking space that was devoted to something else, and that can only be done as part of a refurbishment of a whole building, so there’s a lot of very good reasons why things take a long time as well. We try, it’s difficult.*  

Student 4 HP

* [The Deputy Vice-Chancellor] tells us there is going to be a big change, they are going to try and do something in the library, make extra space in there. That is terrific. That should have been done a long time ago. And I think the actual university gets away with blue murder in terms of facilities it provides for its postgraduates.* 

Student 50 SP

At another multi campus university, students in soft fields reported particular difficulties in gaining workspace. A university survey found that ‘about 80 per cent of students actually worked off campus’ (senior manager 109).

### 5.6 Financial resources

#### 5.6.1 The availability of scholarships

The importance of funding cannot be overstated. According to one of the postgraduate association presidents, ‘most of the problems affecting postgraduate students would be funding and resources’ (PGA). All students need to be able to support themselves throughout the duration of their doctoral study. For many students the availability of a scholarship to study full time is crucial. In our enquiry, at the time of the interviews 62 per cent of students were on a scholarship, less than five per cent had held a scholarship which had run out, and less than five per cent were paying fees. Of the latter group one student was paying only a token annual fee. The main scholarships held were the APA, APAI, and the International
Postgraduate Research Scholarship, as well as some individual overseas country scholarships. These were also examples of individual university scholarships.

Overall competition for APAs was high, not withstanding the difficulties that some disciplines, notably in the hard fields, have in attracting students to doctoral study. There was some contention about institutional processes for scholarship distribution. In one university their distribution was performance driven, taking into account both faculty load and weighted completions in the previous two years. The similarities with the new RTS were obvious. In another university the distribution across the faculties took into account research strengths, academic merit and some equity considerations. At yet another university the distribution of scholarships was based on consistently high grades throughout the undergraduate program:

The scholarship process at this university is very much based upon the undergraduate record and consistency of achievement. In other words, a student who doesn’t perform so well in year one or year two, but then performs outstandingly in year three and at honours gets a first, is probably not going to get a scholarship, and I find that a real problem. I think that is very problematic for the humanities, because in my experience, the kind of person who does well in the humanities is very often a late starter.

Academic 56 SP

There were numerous examples of students having a first class honours and still missing out on a scholarship, or of taking a non traditional route and even having research publications but still not qualifying for a scholarship—at least not in their first year of doctoral research.

The general perception among students was that that science and honours graduates stood a better chance of obtaining a scholarship. It was argued that assigning marks to undergraduate and honours grades discriminated against the soft fields, since it was virtually impossible to get 100 per cent in a humanities examination, though not unusual in the sciences. Indeed, one student stated that ‘our medallist would still only have an average of 82 per cent’ (student 28 SA). At another university a student maintained:

…it’s much harder for arts honours graduates to get scholarships in the last four, five years, because it seems they’re going directly to those other areas. … that’s the impression we’re getting. We had a university medallist last year, fantastic undergrad record, fantastic honours record, just an outstanding student who not only missed out on a postgraduate scholarship, s/he was something like 23rd on the list, good people missed out. Now it seems to me that’s just fundamentally wrong, whether it’s a persecution complex or not, it seems to me that they’re targeting the other schools … it’s an uncertain future.

Student 69 SP

An academic at another university observed that:

The way the APAs work is a problem because it is so biased towards having an honours degree and so you may get a good applicant but they didn’t do honours but they did a research masters. They are very discriminated against and so funding is difficult.

Academic 86 SA
Such instances of difficulties in obtaining scholarships for good students also occurred in the hard fields, particularly where older, non traditional applicants were concerned:

The proportion of such people [with a non traditional background] is lower but they can make very good students. They’re certainly mature and dedicated. It can be a problem for them to get scholarship support of course because their career is not the normal one and their scholarship ranking may be difficult. … [and] their academic records, there has been an unacknowledged but definite inflation of marks in the university sector over the past decade. So, if they’ve been out of the sector for a while their marks will probably look lower than their ability would justify by today’s standards, just due to that inflation effect. So they may be struggling to get a scholarship on the basis of their academic record, you have to again make an allowance for their professional experience, but it’s difficult to do that. … there are real resource issues associated with such people.

Academic 14 HP

Students who do not qualify for a scholarship for these various reasons often experience a vicious spiral in which, even though they may be as good as or better than others with first class honours, they must begin their doctoral studies—whether on a part time or full time basis—working full time. The financial pressures on these students are considerable. The HECS exemption provides qualified students with a place to undertake a PhD, but they must then find employment to earn enough money for their living expenses. One doctoral student with an active undergraduate life, now past the thesis deadline and paying a HECS contribution, commented:

… but I still had essentially two jobs, even though I was employed at the same place. So, I kind of shot myself in the foot with that one and that’s also been about not having a scholarship and being worried about paying bills, so I’ve always had jobs—, … And that’s been the case all the way through the thesis, and in 20–20 hindsight, had I known that I was going to be doing postgrad research and wanting to apply for scholarships would I have studied harder as an undergrad? Who knows. I was out having a good time as many undergrads were.

Student 33 SA

Nevertheless, even students on APAs in this study also had to work, since ‘an APA just pays for rent and a bit of food’ (student 36 SP). According to one dean, it is ‘probably the minimum they need to keep their head above water’ (academic 10 SA); the criticism of another was that the scholarship took no account of the differential costs of living between the cities.

Chapter 3, on the recruitment and selection of students, highlighted the need for scholarship ‘top ups’ to attract students in the hard disciplines. Such ‘top up’ funding could be for both APA and APAI scholarships. In some cases the amount can be quite substantial. One academic commented:

I’m just amazed at what some institutions will now offer. As far as a PhD scholarship, I mean, the standard, the baseline for a PhD scholarship is about $17 000 a year, and you’re getting some students who are being offered $10 000 more than that a year, so $27 000.

Academic 58 HP
In one university the hard applied area was relying on the more lucrative industry scholarships (APAI) as the means of supporting their students. These scholarships provide some $5000 per year extra:

> Things have got better over the last, what is it, 5 or 6 years or so since the start of the SPIRT program which is now called some stupid other name, but the concept was an industry partner involved, that’s been a real boom for us. Having the industry partner involved makes the project more interesting, the scholarships worth more for the student, the student can see a connection to his potential job later on there is some one sitting there who wants to develop this thing he is working on and so the big thing that we have been able to do recently is pick up, go to all our first, second class honours graduates and say, ‘you have got a job, how much are you earning now?’ and tell them, we can match it, they can come back here and match their starting salary with all the freedom of being a postgraduate student.

Academic 65 HA

In another hard applied faculty the aim was to provide students with support worth $40 000–$45 000 per annum, the equivalent of an initial salary for a professional in the relevant field. In this case the deal comprised the higher funding APAI scholarship, a ‘top up’ and $8000 in teaching salary. Although several industry scholarships were held by students in soft applied disciplines, the financial advantages of ‘top ups’ were overwhelmingly found in hard fields. One soft pure faculty had however offered a small number of free standing ‘top up’ scholarships with the aim of attracting students who would not otherwise gain an APA.

In most cases the ‘top up’ was discussed in terms of student recruitment. In some instances its continuance was performance based, and in one hard pure field in one university the ‘top up’ was a reward process after a successful first year. It is evident from interviews with academics and students that ‘top up’ funding does make a difference. It is seen as a necessary means of helping to ensure completions by avoiding the temptation to work away from doctoral study to earn income.

A matter of interest is who funds the ‘top up’—the faculty, the department or the individual supervisor. In one case a faculty supported ‘top up’ funding from one of its research accounts and in others the department and supervisor contributed jointly. It was however more common for individual supervisors to provide all the funding from their own grant money. Such situations can result in different ‘financial classes’ within the same laboratory since different funding sources will provide different levels of support to students:

> Right now there is in fact a policy in place that [students] do get a top up but the trouble is that the top up has to come from the supervisor’s own funds and if the supervisor doesn’t have them—, I mean not everybody’s supervisor’s got masses of grants—, I am not really sure what happens, I am not party to all these things—, in the same lab there may be several students and they have all got different amounts of scholarship.

Academic 55 HP

In exploring the matter of inducements other than ‘top ups’, there was reference to institutions and faculties providing ‘carrots’ such as overseas trips to attract students. While there did not yet appear to be fully competitive bidding, the continued scarcity of funds in a competitive environment may indicate where the
The Doctoral Education Experience

future lies. Nevertheless, one academic at a large research intensive university stated:

A good student may apply for an APA from three to four different universities and when we find out that the student applied has come from [a major rivalling research] University or something, we might do something like [offer an inducement] … I don’t think we get into an auction with another university, at least I hope not. I think that is dreadful. The student should decide where does he want to do the research, which is a better research project, rather than ‘how much money are these people going to give me?’ Goodness me.

Academic 55 HP

The apparently heavy reliance on industry funding in most hard applied and many hard pure fields warrants further comment. It is arguable that industry scholarships provide students with greater research opportunities. There is access to otherwise scarce resources, opportunity to diversify the research group through the employment of research fellows and technicians, and of course potential career links for doctoral students:

Because there is less money available, and not just for the scholarship but for the other resources around, a lot of just the straight APA students would have a much more limited experience. They can’t develop—, if they are doing experimental work, they can’t develop you know, sophisticated experimental rigs because there is no money there to do it, there is no internal money to do it and so it is limiting.

Academic 55 HP

However, the previous chapter highlighted some of the tensions research students can experience when undertaking doctoral research funded by industry. Some of these tensions were especially evident in soft applied fields, so much so that industrial sponsorship was discontinued in one faculty:

The tension between trying to get something out that satisfies an industry sponsor, something out that satisfies the requirements for a PhD can be fairly difficult to manage. … it was just so difficult that we banned them in the end.

Academic 86 SA

Further, these scholarships are not without risk. There were examples of students who had lost such support during their candidature (see section 6.3) and of course industries can ‘go broke’, as several academics had experienced.

5.6.2 Funding doctoral research costs

The potential for scholarships discussed above, coupled with the differing levels of physical resources highlighted in the previous section, underlie the greater opportunities available to students in hard fields. This advantage continues throughout the research process, primarily because of the extent to which external funding—either directly or indirectly—subsidises doctoral research. The disparity between hard and soft fields was readily acknowledged by senior managers:

I mean the biggest complaint I find if you talk to students is usually coming from humanities and social sciences and it is usually of the form of, ‘how come the students in science or engineering have got much better facilities than we have?’ Part of the answer to that is of course that what is happening is basically
external research funders are massively subsidising the training of postgraduate students because in the sciences and engineering and medicine, universities would not be able to provide the resources to training students if the supervisors weren’t bringing in external grants because it is the external grants that do it. And that is the difference then between the humanities and the social sciences, because the grant income is much less. I mean a supervisor who has got a couple of grants for $70 000 a year has got flexibility an degrees of freedom to assist students to go to conferences, to make sure they have got this, to make sure they have got that etc. Now if you are working with a supervisor who doesn’t have external grants, then you don’t have access to those benefits and so then we get back to the question of the inextricable relationship between research and research training.

Senior manager 16

It was stressed that, successful grantsmanship does not necessarily signify good supervision. Nevertheless in some faculties in some universities, an academic without a grant is not entitled to supervise students. One senior manager remarked:

> And other cases a school will say to an academic, ‘well unless you’ve got the research funds to support the student you don’t take a student, because you’re not getting any from the school.’

Senior manager 132

The manner in which universities allocated internal funding for doctoral students was claimed by many academics to be opaque. The advent of ‘one line budgets’ to faculties left decisions on resource distribution and priorities to the faculty deans and other senior members. In a forthright comment, one senior manager observed:

> But you know I know of situations in this university where people say, ‘well we don’t get enough funds from the administration to support a student, so therefore we’re not taking a student.’ … Which goes a bit against the grain, because I want to know where the money that’s coming into the school, or coming into the faculty for the support of the research training students is going. It’s going to support first year teaching programs is it? That’s the area where I think a [senior manager] is going to have a real impact, is to trace that line through and say, ‘well is the money that’s being given to the faculties to support research and to develop research training being used for that purpose?’

Senior manager 132

At one university it was stated openly that 51 per cent of the RTS is allocated to students directly. At most universities, however, the financial aspects were less clearly understood by academics:

> I have to say that [the funding] hasn’t been totally resolved, of how you allocate the research funds that come into the university. I know there is a policy I know they’re implementing, but I as an academic, back in the school, I’m not aware of what that policy is.

Senior manager 132

There was considerable variation between the universities on the background support provided to students, ranging from $600–$2000 annually. In one university up to $4000 was available once during the period of candidature on a competitive basis. In another university $600 per year was available on a competitive basis to support conference attendance. ‘Not a very generous amount of money’ according
to one postgraduate coordinator (academic 17 HP) and ‘spare change’ for a student (student 36 SP) who used it to help fund a two month overseas data collection stay.

At another university, students were offered a $2000 per year entitlement which could be used for conference support provided a paper was being given. Many doctoral students across the discipline groups, however, complained about not receiving this entitlement when they needed it. In theory, the entitlement was cumulative, enabling students to use the money at a time most suited to their research. Many had been saving it to use for an overseas conference at a later stage of their research, only to find that the money was no longer available:

There have been mix ups with funding, conference funding because every time there has been a restructure the money disappears and they have a new set of rules and if you don’t get in on time you have lost an entire set of money. … I have been saving up my conference money for three years to go to an international conference and they restructured the funding.

Student 116 SP

The error here was acknowledged by senior managers, since apparently faculties had been unaware that the money had been allocated specifically for postgraduate research students and were refusing to provide money to students for their research:

All of the money for research student support was given to the faculties without telling them that it was included in their money and so they spent it of course. … They have been really strapped and so there is no money held centrally and so we were encouraging them to use consolidated RQ [Research Quantum] that’s lying around and they are saying, ‘oh no they have earmarked it for something else.’ Really it has been pretty awful.

Senior manager 118

This of course is little consolation to doctoral students completing without having had an opportunity to draw on their research entitlement. It further underlines the powerlessness of doctoral students in the organisational structure.

Students were not always clear what financial entitlements or opportunities were available for them. They often heard about funding potential through word of mouth but usually found it hard to track down precise information. One academic acknowledged that the availability of departmental money to assist with student travel costs was kept quiet:

[Department] money is used for supporting conferences and travel, I mean given that airfares are cheaper now. But it is not an advertised thing. If a staff member feels that a student is doing very well, has got a paper that is worth presenting and will lead to a journal publication afterwards and so on, then generally the head will put a bit of money in to go to a conference.

Academic 65 HA

The interviews highlight the extent of variation in the money to support students’ research:

[My supervisor] provides the vehicles and the petrol money to get us to any conference. So whether it’s in Perth, or Cairns, or, the last one was in Melbourne, we can drive over there without paying for it. We pay for our conference registration and our expenses while we’re there and everything else. So
we are supported to a fair extent, and to place that in context of—, in some very well funded groups—, people working in CRCs and cooperative research centres, they tend to have all their expenses paid to go to conferences, and a lot of people have no expenses paid, so we’re in the middle, but we’re towards the lucky end.

Student 4 HP

Students in hard fields evidently receive greater background support than those in soft ones. Students in soft fields attended fewer conferences that those in the hard disciplines, attributable at least in part to the lack of funds. On occasions a soft pure student was fortunate to obtain a grant from a foreign university, a very specific research fellowship or fund or, in the case of more mature part time students, to tie in research data collection with overseas work travel. One student in a soft pure field who needed to go overseas for archival resources received the usual $600 allowance but estimated that the two necessary trips cost around $20 000, taking into account air fares, accommodation and living expenses and the expenses of data collection. Most of the difference had been borrowed from family members: the student was embarrassed and depressed about the debt.

That grants ‘affect PhD opportunities’ (academic 14 HP) was underscored countless times in the interviews. Students on industry scholarships, which could include annual research support costs, were generally satisfied with their financial situation and arrangements. There were few complaints about being out of pocket. Similarly students in well funded research groups, regardless of their own scholarship type, seemed to experience few difficulties supporting the costs of their research. One international student explained:

…just before I came … they were awarded a key centre, … so they get a considerable amount of funding in for supporting the work that they do. There’s also a lot of industrial support for the work we do, some of that goes towards employing postgraduate students to work jointly on industry funded projects whilst at the same time pursuing research. Which is good, I mean it’s a good environment to be in, to not be scraping for every cent. And there’s been quite a bit of support for taking work we do to conferences and things, both within Australia and internationally. Pretty much everybody gets a chance to go overseas and talk at a major international conference, which is good too to get ideas from outside of the group to see what everybody else is doing and to see that we are doing some fairly competitive research.

Student 19 HA

Technical support in hard fields was almost always covered through a supervisor’s research grant. Given the short term nature of the funding there is however quite a bit of competition between research groups; students outside them do not seem to get the benefits of technical support:

The structures people are supporting a number of technicians from their research grants so they assist the structural group students. We have our own technicians in [our research group] that we pay for and they support our students but we wouldn’t put one of our technicians on to structures work for a long period of time, they might do small things to help each other but basically if we are paying for them we want them to work for our students.

Academic 9 HA

Where students worked without such financial advantages, support was virtually non existent, since university funded technical support was earmarked for
undergraduate teaching. The many examples underline a system under financial strain. One academic commented:

> I’ve had good grant support over the last decade and that’s been very useful in adding to the pool of equipment. So the facilities in this department for support research students ... are all of good standard. ... a department where staff are not winning grants will be really struggling at the moment. So, you know, it’s one of those Sword of Damocles, you either get the grants and build up the infrastructure or you don’t and it becomes very hard.

Academic 14 HP

If an academic misses out on a grant in a hard field, then PhD opportunities are affected. For example, students may take longer to finish because the necessary equipment is not available. In the soft fields the equivalent of such support could arguably be in terms of interview transcription. Funding to cover this was rare: in general it was undertaken by the students themselves, possibly adding to their completion time, or in some cases farmed out to family members or friends.

Some international students in particular appeared to suffer by not being eligible for institutional research support. Those mainly affected were students who held scholarships from their own country as against students with an IPRS. One student spoke of his difficulties:

> I’ve got a scholarship [from my government] ... and I think they [the university] treat me as a private student. This is not good for me, but very good for the university, they get a lot of money and they never give me a discount and they never pay me for conferences or conference fees or anything. I have published a lot of papers but I never went to a conference. I tried to get some money from the school or the university but I can’t. It’s not part of my scholarship but if some student from an Australian scholarship did it they get their fees, or the conference fees, or the registration fees for the conference ... so they can go to conferences. I ask every time I want to go, but I never get anything. ... the school doesn’t have the funds for me for my category or something.

Student 73 HA

Not all students availed themselves of the funding offered. Part time students in particular appeared less likely to do so, in that their work or family commitments gave rise to time and travel constraints. In some cases part time students in a supportive work environment had access to other resources and hence made institutional monies ‘available for someone who needs it’ (student 37 SA).

Other institutional initiatives provided funding to students across the discipline groups for particular purposes. The completion scholarships and ‘publication’ scholarships (see also chapters 2 and 6) were institutional initiatives funded from central research funds. In addition, some faculties provided funds for specific research opportunities. As one such example, a soft applied faculty at one university supported an annual postgraduate conference primarily for their own students, but inviting attendance from postgraduates at universities around Australia. There was also one example of academics in a department pooling some residual funds from their grants to finance annual departmental vacation scholarships for undergraduates. They saw this as a type of pre doctoral research experience from which the department later reaped the reward of attracting very good doctoral students.
5.7 Summary of findings

Induction
- Three universities in the study offered institution wide orientation sessions, while in nearly all universities at least one discipline group offered students an induction program.
- The need for induction to doctoral study was strongly urged by interviewees. Students argued for the following components of an induction program: introduction to staff; information on entitlements and expectations; availability of learning support; and health and safety issues.

Learning support
- Students in the study appeared well catered for in terms of institutional generic learning skills programs. Nearly all students were aware of them and used them selectively.
- Many students argued that generic courses tended to have limited value at doctoral level.
- The learning of specialised skills was addressed mainly through private study or external courses.
- Incidental benefits of learning support provision included a sense of collective participation and the establishment of wider contacts.

Career development
- Career development was acknowledged to be inadequately covered for doctoral students. Attempts to provide it were generally piecemeal.
- Opportunity for teaching experience was the major form of career development, although serious aspirations toward an academic career were held by only a few.
- Teaching opportunities presented time conflicts for some students and were not available to international students in some universities.
- Given the competitive climate in present day universities, publications and research networking were considered more important for an academic career than teaching experience.
- Alternative career development opportunities took the form of activities such as developing web pages and maintaining equipment.

Resources
- All universities had policies specifying minimum resource provision for doctoral students.
• The actual provision of resources varied across discipline groups and institutions.

• Students in hard disciplines fared well, and offered no comments on inadequacy of resources. Their resource needs were usually subsidised by their supervisors’ external grants.

• In the soft fields the provision of computing and desk space on a large scale was a fairly recent occurrence. However, communal workspaces were not favoured: students argued the need for access to a dedicated workspace.

• Academics in soft fields expressed frustration at not being able to provide more work space for doctoral students.

• Part time students, nearly always professionals in soft disciplines, preferred to work at home, where they had already established offices.

• There were institutional differences in the adequacy of resource provision.

Financial resources

• The competition for scholarships within universities is high.

• The institutional distribution of scholarships was held to favour students in hard disciplines from a traditional study background.

• The stipend level of APAs was argued to be too low to attract students in many hard disciplines.

• The trend to ‘top up’ scholarship funding to attract students was virtually exclusive to the hard pure and hard applied disciplines.

• Funding for ‘top up’ scholarships came mainly from supervisors’ external grants.

• The level of a supervisor’s research funds influenced the opportunities available to doctoral students.

• The level of direct and indirect subsidisation of doctoral research from external sources is significant, especially in hard fields.

• There is an increasing disparity between funding opportunities for students in hard and soft fields, and a consequent funding hierarchy, of which soft and especially soft pure fields are at the bottom.

• The financial differences between students in hard and those in soft fields are marked and appear to be increasing.

• There is a lack of clear information available to students on funding opportunities and entitlements.

• There is a lack of transparency in the funding of doctoral research across faculties and departments.
6. Quality assurance

6.1 Introduction

Government policies in the past decade have led institutions to focus on quality assurance. The *White Paper* makes it a priority for doctoral education. The new Research Training Scheme, introduced during the course of this study, is designed to reward financially high quality doctoral environments:

*The Research Training Scheme (RTS) aims to recognise and reward those institutions that provide high quality research training environments and support excellent and diverse research activities. The scheme will strengthen Australia’s knowledge base and research capabilities by enhancing the effectiveness of the research and research training system in the higher education sector.* …

DEST 2002

The documentary and interview data in this chapter outline institutional policies, structures, and practices for quality assurance relevant to implementing the RTS. The areas discussed are the overall institutional structures and policies for doctoral students, the specific processes for reviewing progress and satisfaction, and, how the issue of completions within time is handled. The identification of the sources quoted is deliberately omitted.

The universities in this study were differentially positioned in terms of quality assurance, and, while all of them had in place policies relating to all aspects of candidature, the related procedures and their perceived effectiveness varied considerably. However, it needs to be acknowledged that:

… sooner or later there are going to be problems, not withstanding their very best attempts to manage things in a clear way.

and:

*I mean human behaviour such as it is means that you will always get some difficulties and some conflicts and you just resign yourself to managing them, you can’t eliminate them.*

The annual statistics of one large postgraduate association at a university in the study dealt with complaints from around six per cent of postgraduate research students in the year prior to the study. Based on the interview data, the instances of students being dissatisfied and having genuine and serious grievances with the university and with their supervisors are in the minority, representing around five per cent of the student interviews. Nevertheless their prevention, or at least early resolution, is crucial.
6.2 Policies and structures

The documents collected and reviewed covered the different stages of candidature, progress monitoring, and surveying of student satisfaction. All universities in this study had policies relating to all aspects of candidature. One of them seemed particularly well positioned in relation to quality assurance, while two others were refining and modifying various aspects of their practices. Three universities were reviewing their research degree procedures and structures during the study, clearly compelled by the implementation of government policies to reposition themselves more favourably for the new funding arrangements.

Doctoral students were provided with a handbook or other documentation about their candidature in nearly all universities. The degree of detail and the readability of such handbooks varied across the universities. In some, access to the necessary information for students required a concerted effort.

Each of the universities also had relevant information for doctoral candidates on their websites. In all but two, the material was located in different sections of the website. This could make it difficult and time consuming for newcomers to acquaint themselves with relevant information such as degree rules, codes of supervisory practice or even library regulation.

By contrast, in one university in particular, the handbook provided on enrolment was a comprehensive reference document on the supervision process, within a format rich in context. The inclusion of relevant sections of, for example, degree and examination rules within the appendices to the documents made it easier for candidates to look up advice in the main part of the document if and when they needed to. The university handbook was complemented by faculty handbooks for students.

From the interviews with students, it was clear that their most immediate focus was their research, and their supervisors. Institutional handbooks and policies only become a priority for them when they had to complete a formal administrative process relevant to their candidature—usually the preparation of their thesis for submission—or when something was not going smoothly. One university was particularly concerned to encourage students to keep the handbook, signalling its importance by requiring students on enrolment to certify that they had received and read it, so introducing a quasi legal aspect to their candidature.

Quality assurance in a devolved university structure, as noted earlier in chapter 2, may present a greater challenge than where there is greater centralisation. As one senior manager observed:

One of the disadvantages of having a decentralised system … [is that] you don’t necessarily get good practice spread across the University. Now I mean, if you have it centralised, the risk is that if you don’t do it well when it is centralised, then it is not done well for anybody but if you do it well, then it is done well for everybody.

Several senior managers discussed the need further to tighten quality assurance monitoring within devolution, since university deans for example ‘don’t control what the faculty does’, and there are no direct reporting lines to senior managers in research and research student administration. They recognised a need to counteract faculty resistance to change, cynicism about ‘up the hill bureaucracy’ and complaints about ‘far too much paperwork, bureaucracy gone mad’. There were
concerns that ‘postgraduate research students were just brushed over’ in the faculties.

From interviews with some academics it became clear that institutional policies and guidelines, and in particular, imminent changes resulting from new government policies have not always percolated through to the ‘coal face’. In two universities in particular there appeared to be a culture of ignoring institutional policies and the requirements of senior management. Several senior managers referred to instances of non completion of progress reports and neglect of ethics clearance for doctoral student research. Such comments and instances give rise to calls for supervisor development and registration, an issue covered in more detail below.

The question was also raised of surveying students on their satisfaction with various aspects of their programs and of carrying out institutional research and analysis on doctoral study in order to inform institutional policy and practice. However, the evidence here is limited and inconsistent. All universities had undertaken at least one survey during their candidature period of doctoral students’ levels of satisfaction with existing resources. In one university such surveying had been carried out by the postgraduate association. In only three universities did there appear to be serious efforts to discover doctoral students’ views, and in none was seeking student opinion a regular annual feature.

There was a general reluctance to discuss national surveys such as the controversial PREQ, though one senior manager admitted:

*The PREQ was not terribly good the last two or three years. It was a little better last year than it had been for a bit before and it is interesting that whenever I go and talk to a group and suggest something, there is a lot of resistance to change.*

One very large research university had established web links to encourage academic staff to examine Graduate Destinations data and PREQ results and to use the information to assist the supervision process: there was a strong concern to keep such information confidential. This university also undertook periodic surveying of doctoral students, often in conjunction with the postgraduate association. At another very large research university, three infrastructure surveys had been undertaken prior to 1998 to establish minimal standards of student support. At yet another university surveys of satisfaction—not related merely to resource issues—had been undertaken at different points during students’ candidature:

*We conduct our own exit surveys here. I don’t like the PREQ. I don’t think it is a very good one but we do our own exit surveys and … we are coming up to our third year of data, we will put it all together and we will be looking to see if we can identify any areas of concern. … we apply the exit survey to the students in the fourth and sixth semester of their enrolment. We choose fourth because they are really well into the research by now, they should be able to almost wind down, to wrap it up, to be in the last stages of the program and so if there are resource issues, personality conflicts and those sorts of things with supervisors, they should have been at the stage where they can be articulated now. We choose the sixth because in principle their thesis is either done or almost done. That always provides a different outlook when you have got to sit down and not be looking at what results you get out next week but all of this compilation of results and how you are going to write it down and come up with an answer to whatever hypothesis and so we have been doing that.*
All in all, student satisfaction does not appear to have been a high priority for the institutions in the study—perhaps diverted by concerns to improve completions with the imminent introduction of the RTS—though at least one senior manager remarked that monitoring satisfaction needed to be undertaken throughout the period of candidature. Only one senior manager claimed to have tried to get information on attrition and to undertake its analysis. There is accordingly only limited evidence of the use of existing survey data to monitor, inform or change policy and practice.

6.3 Monitoring and reporting progress
The main formal avenue for reviewing progress in all universities is an annual, in some instances biannual, progress form. This is ‘definitely the primary place for finding’ out about supervision difficulties and depending on its implementation, can be seen as helpful to students and as a useful institutional tracking tool.

The procedure at most institutions is similar: the student completes the form around August or September of each year. It is then passed on to the supervisor for completion of their section, and finally it goes to the head of department for sighting and signature before being sent on to the university dean or equivalent.

For most students and academics this procedure works well. There is widespread acknowledgement that formalities for checking up on both student and supervisor are needed, as well as an opportunity for both to reflect on accomplishments and to set goals for the next stage.

From the reporting procedure and the sequence of form completion three aspects are however potentially problematic. The first is how seriously this reporting is taken. One senior manager complained about the limitations of the exercise when forms are not completed honestly:

*I view it with a certain amount of cynicism. When we uncover a situation where we find there are problems and go back and look at the report on progress, it is almost invariably the case that the student has said that progress is fine and the supervisor says that progress is satisfactory and then the next year you get the same brief report and then finally the whole story comes out, and the student hasn’t been consulting with the supervisor, or the supervisor is being a difficult so and so to work with, or there have been some problems with resources, or the equipment doesn’t work properly, or the results that they are getting are not within the expectations in the discipline, and so on, and these things should have come out in the progress reports.*

There can also be frustrations when a faculty or a department or even individual supervisor fail to comply with the institution’s monitoring procedure, or when an individual academic, sometimes senior and influential, ignores requests to complete student progress forms. One postgraduate coordinator commented:

*I view it with a certain amount of cynicism. When we uncover a situation where we find there are problems and go back and look at the report on progress, it is almost invariably the case that the student has said that progress is fine and the supervisor says that progress is satisfactory and then the next year you get the same brief report and then finally the whole story comes out, and the student hasn’t been consulting with the supervisor, or the supervisor is being a difficult so and so to work with, or there have been some problems with resources, or the equipment doesn’t work properly, or the results that they are getting are not within the expectations in the discipline, and so on, and these things should have come out in the progress reports.*
not working within that and so I mean structures are not going to make any difference …

To some extent the ability to deal with non compliance rests in the institutional authority structure. Another postgraduate coordinator remarked:

Well the problem with the role … is that actually I have no authority, the (faculty dean) has the authority, although the supervisor, of course, actually reports to the head of school which is a different line. So all I can do is exhort people to do things. … I'm not in the chain formally for anything because the university doesn’t acknowledge really that departments exist any more. … you know what do you do with an academic who thinks they're above everything that happens around them? There’s not really a lot you can do. You can’t discipline someone you know for being arrogant, it’s part of the requirement.

The second problem relating to progress forms is that students never see any other comments on their progress than their own. Thus if they raise an issue ‘they expose themselves’. This difficulty was acknowledged, one senior manager stated:

The student is actually asked to say ‘what was the frequency of your meeting?’ rather than an evaluative comment, and they have the opportunity there also to make an evaluative comment if they wish. And that becomes the tricky point, it’s very hard to make that, seen in the chain, so that’s where the feedback mechanism is limited in terms of people feeling dissatisfied with the current supervision they’ve been getting.

In awareness of this one senior manager proposed that the completed progress reports should be centrally copied and sent to the students; however this suggestion was not always followed up at the university in question.

The third problem arises from the considerable time lag, often several months, between a student’s completion of the form and the conclusion of the whole process. In consequence, there is some delay before measures can be taken to deal with any difficulties raised. The effect is to highlight the power differential between the student and the university.

In some cases where the student legitimately expresses a concern, the consequences can be devastating. For example, one student, on the advice of the faculty dean, had raised in the annual progress report the dilemmas experienced in the supervisory relationship when working on industry funded research. The student outlined the sequence of events:

… in my progress I wrote that I’m having all these difficulties. I went and talked to [the dean] who said ‘just put it in your progress report’. … So what did I do then? What’s the structure of the progress report? You write down all your problems, you take it to your supervisor and they get final say. So if you write something positive, they just sign it off and they’re happy. You write something negative and then wham, you get smashed with a terrible report. … so I followed the advice of this senior person and then I gave it to my supervisor, supervisor wrote a terrible report and I just sat and waited. … you’re just required to do everything and people just keep hitting you with requirements and then when you try to meet them, like you just get smashed for it. And it just seemed a totally unfair process.

Eventually the report made the rounds, reaching the university dean who then referred it back to the—by this time new—faculty dean to deal with:
And then I get a letter saying you've got a bad report, come and address these claims. So I did. I went there and the new [dean] was initially rude … you know like it’s all my fault. And I just let him have it, you know. … He toned it down when I confronted him.

The follow up was to arrange another meeting, this time to include the supervisor and the departmental postgraduate coordinator:

So they get me, the [dean] organises it, the department’s research person, my supervisor, just my supervisor. I turn up, my supervisor doesn’t turn up. He says he’s coming, doesn’t turn up and doesn’t turn up, they try to call him, he’s not there. Nothing. That’s it, he doesn’t say anything, there’s no call to say ‘oh I’m sorry.’ … so we’re all there, ok what are we going to do?

The upshot was that the student lost the scholarship, continued as a part time student and was allocated a new supervisor. There was also a promise that the situation would not affect the future of the individual concerned, with due details placed on file. However, the student was refused a copy of the file on the grounds that the supervisor needed to be protected:

[The dean] said I’ll write something at the top of your file about this whole process and leave it on your file. … and so I asked him for a copy of the report, he said ‘oh, I can’t give it to you because your supervisor’s written confidential on the top of it.’ I thought ‘oh you know there’s just nothing in my favour and I sort of want a copy of it so I can address it’. And he said, ‘no well it’s got confidential on it, you can’t see it.’ … I said, ‘I don’t think that’s fair that that should be there on my record’. He [the dean] said, ‘look I’ll write something on it,’ but it wasn’t clear what he wrote. But see at that particular time things were such a mess you know that I was just happy to get out of it with a supervisor that I like, or I thought that I could go forward with.

In the course of the interview the student revealed that his supervisor and the first faculty dean had coauthored books and papers:

I was very confused because he’d [the dean] had relationships—, he’d written a book with my supervisor … The problem was that it was extremely incestuous. Even the people that I felt should be representing my interests had written books and had associations with the people that ultimately were working against me.

In another case a student was surprised to learn, some months after the formal report had been lodged, and after what had been signalled as a satisfactory doctoral assessment presentation to the department, that the supervisor had reported negatively. The student had taken a brief holiday on completion of the assessment period, and this had apparently displeased the supervisor. The student outlined the sequence of events:

[My supervisor] put in a report because I was absolutely exhausted at the end of doing my doctoral assessment, which here is made into a huge drama. It is really awesome in terms of the kind of role they put on it and it is important and I was just exhausted at the end of it. I just needed to take a holiday … and so [my supervisor] got upset about that and wrote nasty comments on my progress report … it took two months to get from the research office to [my supervisor], right, and because of that there was no communication in that time because I was thinking, ‘well you go to my report but you don’t want to talk to me’ and she was thinking, ‘well he just hasn’t responded. He didn’t write anything’ or something and so there was no communication and so after seeing a university
The Doctoral Education Experience

counsellor as well as the [university dean who] suggested having mediation, which I thought was an excellent idea. …

Mediation was conducted but the supervisor refused to meet the student about the thesis afterwards, and went on leave for an independent reason. At the time of the interview the associate supervisor had assumed main supervision responsibility:

Mediation was conducted by the [faculty dean] with my supervisor and we had a discussion and said ‘ok, things can now progress from there’ and things did not progress, so my supervisor and I did not meet for seven months … so I thought, ‘well I have done my bit. I organised the mediation and we had a discussion’ and I sort of get on and was doing the sort of things that I wanted to do … and [now my supervisor] is not around, gone. And so my number two supervisor is now my number one and so we are sort of back on track with it …

The process consumed most of the student’s second year of full time enrolment and proved an emotionally draining and frustrating experience:

I didn’t want to draw it out and I am sort of trying to step ahead, I am trying to move ahead all the time and concentrate on the bloody thesis, not on the politics of it all.

In the event, some months after the interview, and with about six months left to complete, the student was notified that the scholarship had been withdrawn and that continuation as a part time student with yet a different supervisor was a slim possibility but that a withdrawal was more likely. The students in both this and the earlier case expressed throughout the interview thoughts of abandoning the PhD and doubts about whether there would eventually be a completion.

Such instances underline the ambivalence with which many students view the reporting process, the reluctance they may feel to record unsatisfactory experiences, and the emotional exhaustion experienced in dealing with them. They also highlight the importance of good communication and trust, both of which are lacking when mutual satisfaction begins to break down.

A positive aspect of the formal review process is that it may be accompanied by a seminar or mini conference at which students make a presentation on the development of their research. In nearly all instances they welcomed the opportunity this offered for feedback from other students and academics, even if the experience was somewhat nerve racking at times:

It [the formal review process] is quite a good process. It is one of the things that I think is quite good about [this university’s] academic approach. So you present your year’s work in front of other students and in front of your supervisors and other reviewers and examiners and they sort of give you a satisfactory, unsatisfactory or whatever, they tick you off. You put down your own comments, you can comment about resources etc. You can make complaints and things, and it is all signed and filed and off you go. … the presentation process is a good one and you are getting some feedback from other people other than your supervisor and it forces you to have some deadlines. Deadlines are good at keeping you on track … It gets your experience up for giving papers too I guess.

The review process worked particularly well when students were required to meet a review panel, usually of three academic staff, but without their supervisor. In one decentralised university this model was found in every discipline group studied. It
was also found in some discipline groups across the other universities. One student expressed satisfaction with this procedure as follows:

The [review] in September—, they actually chose really well with the people that they got to be on the interview panel. They chose our third year and honours teachers. They had four of them and they just sat down, they just went through really sort of simple things first like, do you have an office, do you have an adequate computer, do you like your supervisor, is everything going ok? And then they had a list of questions, you had to do a brief summary of your work, all prepared earlier and they had it about three weeks beforehand so they could go through and check it and then they could ask you questions about it. So they just basically went through my work with me and said, ‘now what do you want to get out of it? Can you do the work in time? Are you feeling confident with the work? Are you comfortable with it?’ and then that was about it. It was only about 20 minutes.

Asked whether, in the event of their supervision not going smoothly, students felt able to raise any problems with the group, the student replied:

On absolutely, … no [my supervisor] wasn’t there. They get a report and if there is anything wrong they have a little chat first with you to see that it is ok, and they bring the supervisor to have a little chat and then blah, blah, blah, blah but it wasn’t necessary for me.

However, even in these situations, power differentials can work against a student. The following experience, described by a student at a different university, illustrates how a student can be left exposed, despite a good supervisor and a congenial supervision situation, when other more senior and powerful members of a department have their own agenda:

[There is a progress review interview] at the end of each year. The first one I went to, it took about 40 minutes. He [the head of department] had himself and two other members of the department … Anyway, I thought it was quite testing, it was what I thought was a fairly rigorous intellectual interview and I actually quite enjoyed it and I was quite surprised four months later when I read his version of what actually took place and it was basically that I had no substance to my degree, it was going nowhere, it was hopeless and that I should be reviewed in four months time … Now [the head of department] had a political agenda, which had nothing to do with me but had everything to do with my supervisor and I believe that one of his tactics was to try and squeeze out the postgraduates—[my supervisor's] postgraduates—and push them to someone else. And I'll stand by that, I've said it in other places, I have told [the university dean] that, I have no problem about that. And I think anyone in the department knows that was what was going on.

In this instance the situation did not improve in the next review meeting, and given that the only other academic present was more junior than the head of department, the student decided to seek recourse from the postgraduate students’ association and the university dean:

The next one I went to, I had my upgrade, … now [the head of department] turned up 20 minutes late and the only other person was [another departmental academic] and I had had a quite pleasant and reasonably wide ranging discussion about what I had been doing. [The head of department] walked in and went on the offensive … he was aggressive, loud, hectoring, you know, all the
adjectives you want to throw into it … It was really over the top … if I was 20, 21, 22, whatever a normal postgraduate was, I think I would be fairly intimidated by a head of department who went on like a bully, that is the best way I can describe it. He had an agenda. He was upset because my upgrade had gone through without his knowledge, apparently. I didn’t realise that but that’s what was part of it, but also I think he’d felt his agenda had been somewhat thwarted. … It had to go to an umpire. That’s what I think is the unfair basis. There was no way that I could resolve that. The head won’t talk to me in a lot of instances. You can tell when things are going my way because he won’t talk. And when things are going his way he is effusive. I mean that is quite serious. It is ridiculous.

At the time of the interview the outcomes of this second review appeared to have been resolved through external intervention. However, the student provided examples of the continuing ‘payback’ given by the head of department, such as refusing payment for conference attendance.

A further refinement of this panel model was recommended by one senior manager, involving the inclusion of an external member on the review panel. He noted that in his university:

The best faculties probably represent best practice in that they have an annual review, they bring in someone from the outside and they really do it very thoroughly.

Although no specific instances of this particular process were found in the study, there were several suggestions about changing or refining the questions asked:

It is very clear that we need to change the report on progress forms so that we ask questions on a graded scale so that we don’t just ask a dichotomous yes or no but get a more informed question and a more informed answer. I think that is also an area where devolution and responsibility to the faculty would be appropriate so that they can follow up more intensively a limited number of research students, the ones that are in their faculty, to engage that process in more detail so that they can actually confirm that the progress is satisfactory.

While there may be advantages in such changes, particularly in detecting problems earlier—‘a lot of problems can develop in a year’—the issues noted above, of delay from the time of report completion by the student and the power differentials between students and staff, would still exist.

6.4 Resolution of problems and disputes

The previous section focused on the monitoring procedures within the universities in the study. There are however occasions outside the formal review period when students may need a sounding board, a sympathetic ear, or even external support or intervention.

Information on grievance procedures and dispute resolution was included in advice to students on enrolment. The procedures in two universities signalled that they were clearly aware of the fragile nature of the student supervisor relationship and the potential power imbalance: each had developed grievance and dispute procedures specifically for research degree candidates. As noted in relation to
general handbooks on policies, such advice, though important, is not foremost in students’ minds unless something in the event goes wrong.

All policies bearing on grievances and dispute resolution from all the institutions commenced with the advice that potential problems were best faced early, informally and locally. They also recognised that a supportive and independent recourse for students outside their department and even their faculty was important. Thus when problems arose there was a progression up through a hierarchy from supervisor, departmental postgraduate coordinator, faculty dean, university dean or even deputy vice-chancellor as a last resort. However, it was also recognised that by the time a student’s problem reached the dean or deputy vice-chancellor’s office, it was already complex, and at times difficult to resolve satisfactorily without external assistance.

It seemed that, in those universities where the deputy vice-chancellor handled problem cases without a university dean, students were reluctant to come forward. One DVC felt that this was because he was at a great distance from the ‘coalface’ as well as being a power figure:

*It is usually an over the counter—, the first contact would be an over the counter contact with one of the people in the Postgraduate Research Student Section downstairs. The second one, if they consider it is serious enough, the second one will probably be a one on one interview with the manager for the Postgraduate Research Student Section. Students are never forced to come to me. They are given the option of coming to me because I am an academic in a power figure. The manager for Postgraduate Research Students is an administrative person. Therefore in the power play that does definitely occur, let’s face it, it is there between supervisors and students, I am still seen as being on the supervisor’s side. So—, but we do a lot to try and help the students through and in general we get—, I mean even the supervisors are not inhumane or anything. Many of them get surprised when they’re told there is a problem and will immediately take steps to rectify it because they have not perceived that there was a problem in the way they had been behaving. But it is still a fact also of course that students see the supervisor as the most powerful person in their life.*

In such instances senior managers relied on information passed on from their administrative units and in several universities through good communication with their postgraduate associations. One senior administrator commented:

*We have got a student representative on the [postgraduate] studies committee. I have quite a bit to do with her and we talk about things. She refers them to me. And the postgraduate association also knows to contact me about things. We have a reasonable sort of rapport, not that we talk all the time but when we do it seems to be going ok. Some students know that they can contact this office and get an answer for some sorts of things but our role from now on will be to make our profile higher and publicise the fact that we are available …*

Another senior manager with substantial experience of postgraduate students stressed the importance of pastoral care at the institutional level. He was concerned that a recent reorganisation of the Research Office in the university in question implied that this function could be accorded a lower priority in future. He noted that there was a distinct decrease in past years of litigation against the university as a consequence of the ombudsman role of the university dean. This role had been built up over time and had given rise to a strong sense of trust between students and the university:
You just don’t put a shingle on the door and say ‘ombudsman’ and somebody wanders in. It’s a reputation that’s built up, it’s by word of mouth from students. It’s like a straight counselling position, it’s saying, ‘well if you go and talk to this person you’ll get a reasonable hearing’, because obviously you can’t resolve it with the supervisor and usually they see the department as being conniving with the supervisor, they’re not going to cross the supervisor, the dean wants an easy life, ok. So people have gone through all those three and then found me. Other people didn’t want to proceed that way and have come and talked to me. But it’s something that was word of mouth, it’s something that came through the student board, that’s where the clientele came from.

Several senior managers observed that on occasion students merely wished to seek advice about an issue that concerned them, rather than to pursue any action. Only where a student wished to make an official complaint could it be properly investigated and action taken. An insight into this pastoral care cum ombudsman role was provided by one senior manager:

Maybe I would have two or three, maybe four or five on a heavy week, enquiries. People wanting to come in and discuss things. Now sometimes it was just in relation to regulations and you know they’ve been put on notice that they’ve got to finish, it could be scholarships. I was probably dealing last year with about 12–15 students who had come to me with really serious problems and they were at some stages of advancement. So it wasn’t big in terms of that. … But the real ombudsman’s role where you’re counselling students that had very severe problems—. Now I know for a fact, and from what they told me, that they have colleagues within their schools that are having the same experiences but weren’t game to come and talk to me. Or didn’t want to come and talk to me, and said, ‘we’ll just wear it. That’s part of the game and I want to get out of here as quickly as possible so I don’t want to prolong the agony.’

At the same university one student reported on the difficulties of speaking confidentially to departmental postgraduate coordinators:

These things are so politically sensitive, if I went and spoke to another member of staff or to the postgraduate coordinator, I have absolutely no doubt that would get back immediately, absolutely immediately and that would have repercussions. And so yes, there are structures but I mean what else can the department do? I mean I can’t see how they can get around that. … that is just how it is and they couldn’t get around that in anyway. But at the same time that means that there are going to be students that are going to go through difficult things frustrating things and sometimes unjust things I would say and not be able to say anything about it. … It is a total power imbalance and that can be large, it can be small. It depends on who your supervisor is and what power they have in the department, in the faculty and in the university.

It was for such reasons that one hard applied faculty at another university was taking the prudent and somewhat unusual step of establishing a new academic position—outside the dean’s reporting line and physically located near research students—who would take on the role of mentor cum counsellor. The intention was to head off problems before they developed, and to provide advice and support to research students for all aspects of their candidature. The dean explained:

We are just about to appoint a half time position, student academic position as research student mentor, who will be a buffer between the supervisor and the
Dean, who will talk to students initially and get their concerns, set up student staff consultative forums so on and so forth. That has been approved just two weeks ago … The need was very clearly identified that there is no particular person that owned them [i.e. students] collectively, aside from administrative responsibilities of producing regular research reports or progress reports. … someone who could be involved with the general issues that research students are facing … to be a buffer between the dean and the supervisor if there are issues that can be addressed and arrested early, before they get out of control, because by the time a problem gets to the dean it has exploded already. … it becomes a big problem, so you want to arrest it. So if there are problems with the supervisor for whatever reason, the supervisor is not seeing the student not regularly enough or has been slack or harassment of any sort they might have felt. So they have someone that they can go to, sort of like the mentor/counsellor as well as administrator … but not someone that chases them and says ‘where’s your report?’

It was hoped that such a faculty position would fill a void and provide students with a knowledgeable and supportive ally outside the power figures in the faculty.

6.5 Issues in supervisor development

All the universities in the study were aware of the White Paper’s criticism of supervision quality and the government view that poor quality supervision was to blame for high attrition and long completion times. Interviews with senior managers revealed mixed responses to these criticisms. Their current and planned approaches to supervision development in general could be seen to reflect institutional history and the ‘length of experience’ with research supervision.

In the universities with a long history of research, large amounts of external research funding and also a relatively strong completion record, improvements in supervision were held to need approaches that were different from the imposition of supervisor development courses. In one university the deputy vice-chancellor had funded an institutional research project on supervision quality, producing a booklet on ‘best practice in the university’:

I have provided funds for example for a study with good supervisors, so that they can distil from that what constitutes good supervision according to those supervisors and that has been widely, well it will be widely, it’s only just been printed, but it will be widely disseminated in the University.

The university provided ample opportunities and encouragement for supervisor development in a manner that suited its particular culture:

We haven’t gone down the route that some of the smaller and newer universities have done, which is to be quite heavy on supervisor training and registers of supervisors and so on. I mean frankly, I just haven’t felt the need to do that at the moment. I mean there is good opportunity for supervisor training [in the university], … [there is] the online course, I mean people can and do access it from their own offices and that works so much better than organising seminars for people that don’t tend to come. There is always a good reason why you can’t do it.

Similarly another university was encouraging improvements in supervision through institutional research designed to inform development programs. The view was that
such programs needed to be underpinned by research. Senior managers in at least three universities strongly believed that staff development based on shared reflection of experience had limited value:

*Now there is a group within the university that have been running training seminars for supervisors. These are mainly half day affairs. It's mainly a sharing of experience type, which to my way of thinking was not what's required in an institution like this where you've got [such a large number] of academics.*

While in all universities only academics with a PhD could supervise a PhD, those with a more recent history of research had in addition set up a register of academics eligible to supervise. Their main concern was that such registers had been in existence for several years: the main issue was how to update and upgrade them.

One senior manager explained:

*Well the admission is for five years at the moment, so that after five years people would have to show that they are working the same deal but there might be an additional component now. It probably wasn’t appropriate before but probably now it’s worthwhile after people supervise a number of people to look at elements of their performance as supervisors to whether they should be. I want to avoid people seeing the register as kind of like struck off the register … I don’t necessarily want to see it as a punitive thing for really poor performance. I’m trying to work my way through that because if you have it … it’s like a lawyer being struck off for really outrageous behaviour. Whereas I want to give people who are struck off a capacity to save face … and it could go to the courts. Why is this person off the register?*

Another university was equally sensitive to the implications of its existing register for the Enterprise Agreement:

*But there is an issue that really comes down to getting people off the supervisor’s register. That is a question anyone in Australia would like answered I think. … Well it has got implications. You know, if you are not allowed to have students, what happens with your workplace agreement? It’s pretty tough stuff.*

One senior manager at a very large research intensive university held the view that to begin changing the culture within the university, a register of academics undertaking recent supervisor training needed to established:

*I think the idea of a register of academics who have at least done a retraining or have attended seminars … is the way to go because then you can convince yourself that being in a position to understand what the new regulations are and how the whole system has changed with the new Research Training Scheme. But it would be difficult, very difficult, to implement here.*

The data in this study reveal quality improvement activity in each of the universities visited. However, no institution has at this stage introduced compulsory supervision development for already experienced supervisors and there was no view that such a move would be desirable.

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**6.6 Completions**

The new Research Training Scheme (RTS) was introduced in September 2000, a few months before this study began. Consequently the institutional focus on
completions was strong. In a sense this study captures doctoral education in a period of transition: the students interviewed had become candidates prior to the introduction of outcomes based funding. Under the previous funding policy students were funded by the Commonwealth for up to five equivalent full time years and if they had not finished at the end of this time they were generally supported by their university. The RTS only funds doctoral students for up to a maximum of four full time equivalent years. The clear expectation is that three years will be the norm to complete their degree.

The funding formula for the RTS is a complex one, based 50 per cent on within time completion, 40 per cent research grant income and 10 per cent on publications. A separate IGS (Institutional Grant Scheme) formula also includes a 30 per cent component for enrolment load. Completions are averaged on the previous two years and there is a separate weighting for separations or ‘drop outs’. While the full impact of these new calculations was still being debated when the study commenced, the seriousness of its consequences was in every senior manager’s mind. There was a view however that not all academics were sufficiently aware of the full implications of the funding changes. Their claims that a doctorate required longer than the allotted time, that the way things were done in the past should prevail, received short shrift from senior managers:

I have had some people say, ‘our average time, it took me seven years to finish my PhD full time and that is what I expect of others.’ That’s fine, but you are not going to do it here. … That’s the line we are sort of taking.

Of the students interviewed in the late stages of their doctoral research, the fastest was a student in a soft applied field who was submitting after two full time years of study. In this case a full six months had however been devoted to the research prior to enrolment.

All students were conscious of greater institutional monitoring and concern with progress towards completion within the funded time, as were the three postgraduate student association presidents. One student about half way through the doctoral program commented:

Well the university is cracking down. They are sending out email messages. We were required to do a six monthly progress report where we say what were our goals, what did we achieve, how do we feel that we went and what were our goals for next semester and I said, ‘oh wow what is this?’ … and one of the guys said, ‘oh you don’t worry about them, I haven’t handed one in twelve months’ … but I handed mine in anyway and six months later there was a big crackdown and it was like if you don’t hand it in you are in big trouble and they come down on you and so that was the first sign that they were starting to crack down, because that had been the way it had been for years and they just allowed them to go through whatever they want and now essentially it is that you have to have it in by the date or you are in big trouble and they have also made it very clear with anyone who’s enrolling now that you have to be done in three and a half years maximum or four years I think … they are not swaying on that.

Several students in the study were either at or past the time limit for their candidature:

There’s a real pressure to get people through. I think I am very fortunate that I’ve got the wholehearted support of my supervisor … I think [my supervisor] has been disappointed by my slow progress but is very supportive. I think
supervisor] is disappointed and frustrated and exasperated, but supportive in spite of all that. … and I think if I got to the end of February next year and didn’t submit at that point I think they’d say ‘right you’ve had your chance, you’ve been on funding, we’re carrying you’. I mean, I’m already beyond funding now, so they’re carrying me on goodwill, I have to pay HECS.

Many students believed that the government pressure to complete was a positive development, welcoming the increased push but noting the need for flexibility:

I actually think it’s a good step in some ways because it’ll make people think at the start ‘I’m going in this for 3.5 years, it’s going to be really full on, I have to finish it’ instead of think ‘oh my mate who’s just about to finish took 6 or 7 years’. So, I think it’s a better option.

There was evidence in the data from this study that the culture is changing. A variety of institutional strategies had been put in place to assist with the changes and to position each university well for the RTS.

Several universities, and the two newer universities in particular, had been moving to identify and review all students enrolled for a long time and to agree with each individual concerned a timeframe for completion or, if there was not to be one, a ‘separation’. One faculty dean explained:

This whole new environment is just so pressureful and crucial for this university, crucial that we actually increase our completion rates. We soon move up the ladder but we have to look at some of these sorts of things. … And in our case in particular, as a university, some of our research training scheme places are contestable so at the end when our students graduate a lot of these students will go back into a national pool and we will have to compete for those. And so a part of our winning those students’ places back will be based on our successful getting them through in the first place. … we have identified those students who were over time. I then wrote to the students and their supervisors and outlined the situation and indicated that they would have until the 30th March of this last year to submit their theses. So that they should meet with their supervisors at the earliest possible time and map out a timetable for the submission of their thesis. And then they should get that timetable endorsed by their supervisor, send it to me and then meet with me. So I ended up meeting with each one of those students individually and where there were problems in doing this within those timelines, identified those problems with the students and where those problems had to do with supervision or some sort of internal problem that I could have influence on, I then met with supervisors and did whatever could be done there. And then called for reports some time along the way. I haven’t done a final tally up, but most of those students have submitted or are about to submit. So there are a few … who are a bit late through lingering on another month and that sort of thing, and a couple dropped, which was useful because those students, their circumstances were such that it would have been very difficult to revive their candidature and they, without any pressure from me, just agreed not to continue on, or to withdraw. So it was not a total success story but most of those students by the 30th July will have submitted, graduates.

Many academics and students held the view that part time study was a hindrance to completing on time. One faculty dean stated:

I spent a good part of last year dealing with students who were way over time, and, you know, in a lot of cases should never have been let in the door in the first
place. ... because it's typically the part timers ... who often have a busy career ... so there's a down side to our part time population and some departments will look to policies to take in only full time students ... and the reason for going this pathway is again completion rates.

As noted in chapter 3, faculties in some universities had been operating unofficial policies of greater selectivity in the recruitment of various categories of student for some years. However, one senior manager believed that part time study need not necessarily lead to slower completions; another agreed, especially when measured in full time equivalent years, but suggested that the dropout rate might be higher.

Other institutional strategies involved providing students likely to complete in the near future and not currently receiving financial support with short scholarships to assist them to complete their theses more rapidly than would otherwise be possible. One university was in addition planning a publication scholarship to allow chosen students extra time to write up for publication material from the thesis.

Moves were also afoot to bring about cultural change in the supervision process. One was to speed up the stage of early proposal development and research planning (see section 4.5) from the 'traditional' one year; another was to encourage early writing among all students; a third aimed specifically to encourage writing for publication across all disciplines. To reinforce these strategies it was recognised that universities needed to provide more support to individual supervisors. One senior manager acknowledged that universities had left supervisors without sufficient support in pushing students’ performance:

I think far too much responsibility has been given to the individual supervisor to nip that in the bud and deal with it and it is very difficult. I don’t think they should be solely left responsible for that. They need support and assistance and other mechanisms that will trigger actions that will, you know, help to resolve that kind of thing.

It was also argued that fuller and more relevant information needed to be communicated to students about their progress. One senior manager urged the need for an annual transcript showing satisfactory performance rather than simply continuation of enrolment:

I think the other side of it and part of the thing that comes into the debate is people particularly doing PhDs are involved in at least three to four years of full time study and yet along the way, as an outcome, they get very little ... I mean we don’t say to them ‘this is your first semester’. We enrol them in a first semester subject. We do not say to them, ‘this is your first semester result pass’, for example. We look at a report and the student may under certain circumstances get no more feedback than to say, ‘recommended continuation of the course’. They may get comments back in some cases but it is not a very satisfactory process. We are looking to change this, in the sense that the student doesn’t get a feeling of accomplishment as they go through.

Given that there were readily identifiable stages within the doctoral process, the reporting on their achievements should be a part of the feedback to students. A senior manager explained:

My attitude is that there are a series of stages within the PhD that can be recognised and can be flagged and can be assessed, what the movement is along that sort of continuum. It’s no good somebody doing five years in a PhD and failing it, and then looking for the reasons why, whether it was the supervisor’s
fault, or the student’s fault, or the topic’s fault or what it was. So this constant performance based review—candidates need to be getting feedback as to whether they’re doing satisfactorily or they’re not doing satisfactorily with their progress.

Several other implications of the new funding approach were raised. It was recognised that examination arrangements needed to be reviewed, in particular looking for further ways to reduce the time allowed for examiners to submit their reports. One view was that vivas might accelerate the process; another was that the length of the thesis might need reconsideration:

I think students by and large tend to write theses that are too long still. Nothing is sacrosanct about the notion of 100 000 words, if you can say it in 80 000 then you should.

In one university there had been a review of examination procedures for theses in non traditional areas and ones presented in non traditional ways, since such theses were more likely to produce divergent examiners’ reports. It was further thought that interdisciplinary research and other types of projects which involved greater risks were less likely to be taken on. The earlier discussion on topic definition (4.5 and 4.5.1) showed that there was already some evidence of these trends. One student nearing completion explained some of the time consuming aspects of experimentation:

… getting out in exactly three years it seems to me is a fairly rare thing with the work we’re doing because there’s a lot of the practical work really takes a lot of time to get working and then the theory on top of that sort of has to mesh together. There’s a lot of little stumbling blocks that sort of add a bit of extra time. … I had some fairly large scale simulations that weren’t quite working, there’d be little bits and it’d just take me a couple of weeks to really figure out why things weren’t working the way we expected and to fix them up. Also I guess taking the vehicle out was always a big deal, I mean we had problems … and we had to rewire a lot of the computing hardware within the vehicle to make it more reliable and all that takes time, sort of doesn’t get factored into the initial planning I guess. You hope that things will work straight off and often they don’t.

Students in other fields commented in similar terms on the hazards of data collection where ‘you have only one shot at it’ with no margin for error, bad seasons or the like. Students enrolled in departments where there had been large recent academic staff reductions were concerned about the availability of supervisors with relevant expertise, and about stability in supervision, given the prospect of further staffing cuts and the high workload among the academics concerned.

Specific strategies mentioned by students designed to assist successful completion were:

- Having the right motivation—undertaking research in an area of strong personal interest and having a love of research, not just an attraction to the idea of writing a thesis.

- Selecting the topic carefully and planning data collection to match the essential needs and no more—here there was some qualifying concern that examiners might require more data than was feasible within the timeframe.
• Being able to plan well and stick with the plan, resisting side tracks, however interesting.

• Working on the thesis daily and regularly, especially as a part time student.

• Receiving feedback from departmental progress seminars.

• Starting to write early and continuing to write regularly.

• Being supported by one’s supervisor in a trusting and open relationship throughout the doctoral program, and especially in the process of writing up.

• Using coursework as a support structure, particularly in the early stages.

The clear message from students was that timely completions were considerably harder where there were problematic personal situations, financial uncertainties or a poor relationship with the supervisor. Many nevertheless commented that ‘at the end of the day, it’s up to you to get your PhD’.

### 6.7 Summary of findings

#### Policies and structures

- All universities in the study have in place policies relating to doctoral candidature. However they are differentially positioned for quality assurance.

- The readability and accessibility of university policy and handbooks for doctoral students is variable. In many cases it would appear difficult and time consuming for newcomers to acquaint themselves with relevant information.

- Quality assurance in a devolved university structure may present a greater challenge than where there is centralisation.

- The results of surveys of student satisfaction with various aspects of the doctoral program are limited and inconsistent. Such surveys do not appear to have been a high priority for most institutions in the study, although most have undertaken at least one review of student satisfaction with resources.

#### Monitoring and reporting progress

- The main procedure for reviewing student progress in most institutions is an annual, in some cases biannual, progress form. For most students and academics this works well.

- Three potentially problematic aspects of the reporting procedure were noted: non compliance; students raising issues which expose them to trouble; and a considerable time lag in completing the process.

- A variation to the progress form is a review panel meeting—usually without the supervisor. Students appear well satisfied with this approach, though it is not unproblematic.
The formal review process is positively regarded by students when it is accompanied by a seminar or a mini conference at which candidates make presentations on their research and receive feedback from other students and academics.

Resolution of problems and disputes
• General information on grievance procedures and dispute resolution is included in advice to doctoral students on enrolment. Two universities have developed procedures specific to research degree candidates, thus recognising the fragile nature of the student supervisor relationship and the potential power imbalance between them.
• All universities advocate early, informal and local resolution of problems. Procedures call for a progression up the hierarchy from supervisor to university dean or deputy vice chancellor.
• The pastoral care and ombudsman role of the university dean is clearly recognised as important. It calls for a strong sense of trust between doctoral students and the university.
• One faculty in one university is in the process of establishing a new academic position as a counsellor, outside the dean’s reporting line, specifically designed to head off problems before they develop.

Issues in supervisor development
• In universities with a long history of research, improvements in supervision and supervisor development include institutional research on best practice in supervision, in place of the imposition of supervisor development courses.
• Registers of staff eligible as doctoral supervisors are found only in the newer universities, where the main concern is how to update and upgrade the registers.
• At the time of the study no universities had introduced compulsory development programs for experienced supervisors.

Completions
• All students, academics and postgraduate association presidents in the study were conscious of an increase in institutional monitoring and concern with completions within the funded time.
• Many students welcomed the increased pressure to complete but stressed the need for flexibility.
• Several universities, and the two newer universities in particular, have required students enrolled for a long time either to complete within a short period or to withdraw their candidature.
• Some academics and students maintain that part time study is a hindrance to completing on time but this view is not universal.
• Institutional strategies to encourage completions include: completion scholarships, publication scholarships, reduced time for research proposal monitoring, review of thesis examination arrangements, encouragement to write at an early stage and the recognition of greater institutional support for supervisors.

• Several senior managers are considering fuller and more relevant information on progress and achievement for students, for example through the university’s annual academic transcript.

• There are some views that the quality and diversity of research have been affected by changes in national policy.

• Specific student strategies to assist completion include: strong motivation to undertake research, careful topic selection and planning, regular work, early feedback on the thesis and supportive supervisory arrangements.
7. The changing nature of the doctorate

7.1 Present variation

In this study the variation within doctoral requirements and structures was wide ranging. There was no particular differentiation based on structure between PhDs and professional doctorates. Within each, there were some programs based exclusively on the research project and thesis, with no formal requirement for coursework. In two of the professional doctorate programs there was a coursework requirement which had to be completed as part of the candidature. In both cases the coursework related to the various stages of the research process; one of them included specific research methods courses. Similar examples were found in PhD programs across the universities and the discipline groups. Within PhDs coursework served either to support the research process or to broaden the content area. There was no specific structure which could be described as typical of the PhD or typical of the professional doctorate. One professional doctorate stood out as involving three different research and professional tasks: it was seen by some academics as being more demanding and in some respects less clear in its expectations than a PhD.

7.2 Models of doctoral education

It is clear from our enquiries that doctoral education itself is in a state of change. The following sections explore some of these changes, current and speculative, as presented in the interviews.

As already stated, the large majority of students were happy with their PhD experiences, believing that the process ‘worked very well’ (student 67 HP) for them and even that they were ‘having so much more fun than [they] thought [they] would’ (student 40 SA). Perhaps because of their greater experience with doctorates, academics offered more detailed views on how doctoral education could develop. The interviews with senior university managers and experienced supervisors allowed scope to explore issues related to the future development of the doctorate. In particular the relevance of the doctoral degree was canvassed.

Those in the research intensive universities generally believed that the PhD was working well and was able to meet the demands and pressures of the present and immediate future. There was nothing in its current format to preclude, for example, the adoption of coursework in disciplines where this was deemed appropriate, provided that such requirements were consistently applied. As one senior manager commented:

*I don’t think there is too much wrong with the PhD as it is actually, to be honest. You can talk about whether or not we should include coursework in*
there. … I wouldn’t want to move too far away from our current system. I mean
the system that I introduced at the university was that departments if they wished
could have up to 33 per cent coursework in the PhD program and if they made
that decision then that was a decision that they made for their discipline and that
meant that every student who went through that department had to do it. So if
one discipline wanted a lot of coursework they could. In another discipline if they
wanted it to be a straight research degree, they could. But they had to make a
decision and it had to be for all of their students that went through.

Senior manager 16

The PhD model held ‘many virtues and few handicaps in making it possible for
students to compose a program’ suited to their needs (senior manager 5).
Importantly, students and academics believed that there was sufficient scope for
‘non traditional’ PhDs, including those in fields such as the creative arts. One
student, discussing the decision to transfer from the PhD to the DCA during
candidature observed:

The DCA really appealed to me. Everyone said to me, you can do exactly what
you’re doing through a PhD, and in fact some people in the faculty said stay as a
PhD. … and I know University P has this view too, you can do a doctorate, a
straight PhD that is kind of non traditional exploration. And you know I had
that choice.

Student 112 SP

Students, as well as academics and senior managers, commented on the
international nature and standing of the PhD. The value of a degree that is well
established and recognised beyond national borders should not be underestimated:

There is a kind of currency for a PhD which might well be contested around the
world, but one of the reasons we have external examiners is that a lot of the
criteria and a lot of the attributes are embedded in the examiners’ minds and
they are at other universities so it’s beyond institutional capacity to control that.
And no matter what we write to examiners, they will have their own perception
of what makes a good PhD and what deserves a pass and what doesn’t and
what quality should be exhibited by the student via their thesis. So that’s a
constraint on the institutional capacity to stipulate the attributes … that’s the
tension that I see in addressing the issue …

Senior manager 6

It was however argued by all senior managers and many academics that some
current practices in undertaking a PhD needed to change. One related to the
selection and definition of topics. Focusing the PhD on manageable topics within a
reasonable, finite time of three to four years with reasonable resources were
fundamental requirements. ‘Navel gazing’ research encompassing up to a decade of
study was deemed inappropriate and irrelevant. Above all the emphasis had to be
on research training and not on academic career development per se, though a
further tension concerns whether there must be an original contribution to
knowledge and what this entails across the various disciplines. A clearer focus on
the requirements for a PhD would result in shorter theses:

I think a thesis has to tell a story. There has to be a beginning, a middle and an
end and what you are looking for is whether or not this person is capable of
undertaking systematic and programmatic research and scholarship under
supervision so that they can identify a problem, put it into a larger context, devise
a methodology to ask some interesting questions, come to some conclusions, point out some difficulties possibly in what they have done and that basically is what a thesis is all about. So I think you should think of it in those terms rather than a thesis that can be up to 100 000 words and if you do that, then we will start to see shorter theses I think.

Senior manager 16

Among the students’ associations there was however some concern that shorter theses implied a watering down of standards. One postgraduate association president maintained:

*I don’t think any research student would be happy—a lot of them don’t like the amount of work they have to do, but you’d have to imagine that the amount of work they’d have to put in to get their PhD—to have people coming in a few years later with exactly the same degree, having done a whole lot less work, Drop minimums? ‘I was writing 80 000, now people behind me are writing 40 000 and get exactly the same degree? You must be joking!’ … If you have proactive people in your university who are willing to push, effectively dumbing down on what a PhD is, then you’ve got to watch out for it, it’s just deadly, deadly, deadly, deadly. Not only is it bad for the students, I think it is ultimately bad for the university.*

PGA

Further, it was argued that supervision of doctoral research in the humanities and social sciences could be, and already in some cases was, able to follow more closely the ‘science model’. The role of the supervisor was to set more strongly the parameters of the research topic and method rather than to promote the discovery approach associated with the humanities. One senior manager explained:

*I don’t think that thesis work in the humanities and some of the social sciences will ever be as team orientated as in the sciences but they can go a long way towards that and a long way further than they are at the moment. I mean if you have got a bevy of PhD students—and if your interest is in 19th century English literature—they could all be working on different aspects of that but the underlying unifying theme could be 19th century English literature. Now there is no reason why they can’t operate as a team, they can’t meet once a week, they can’t talk about what they have been doing. That’s the kind of change that I think should happen in humanities and some of the social sciences.*

Senior manager 16

Several senior managers also discussed the need for introducing greater flexibility into the PhD through the introduction of more entry and exit points. The aim should be to create accommodating barriers which do not deter capable students but also allow scope for students to exit with grace. One senior manager was in the process of introducing such opportunities at his university:

*I would want people who have the gift of undertaking research to be able to get into research programs by having enough entry routes available to them for them to be able to get from wherever they currently are. The other side of the coin is that I would expect them to be gently dissuaded from undertaking a four year research program if it is clear at the outset that they are not going to succeed in it. So I would want barriers, low barriers, not the ‘Guardian of the portals’ model … barriers which people must at least be able to stagger over to prove that they have some capacity to proceed. I would like them to be able to demonstrate that
they have the capacity to do research when perhaps their present state is one in which they have had not opportunity to demonstrate the capacity and I’m currently putting in place, … a linked set of programs which will allow people to experience the nature of research through certificate and diploma programs. … I want to provide exits for people who are not going to last the pace and also various graded entrances for people that can’t show that they meet PhD entry criteria.

Senior manager 5

This development reinforces other views in favour of the increased flexibility of a PhD, through opportunities for separate skill development, possibly with additional certification in areas such as project management. One long standing senior manager reflected on an unsuccessful attempt to introduce such an opportunity in his university some years ago. However, the idea was now back on the agenda with a newly appointed senior manager. At another university it was already possible to obtain a Certificate in Research Management by putting together several subjects which already exist in the university. There were also currently inter-institutional plans for a qualification in project management.

In two areas there was a divergence of views. The first was whether a PhD by publication should be recognised as an alternative model. One senior manager argued that five publications appropriately linked into a thesis would be akin to a Doctor of Professional Practice for academics. Another senior manager noted that this model was similar to the European practice. He argued that it was inappropriate for Australia since:

People get their thesis at a much older age than in Australia and they are not quite a mid career degree but in some cases they are getting towards being a mid career degree whereas that is not the case here.

Senior manager 16.

A second area of contention was the appropriateness of the US model for Australia. Again one view held that the US model catered for a different type of student as compared with the Australian situation, where graduates from honours programs were seen to be further advanced. A postgraduate coordinator contended that:

… in the North American model I think the starting point is lower. The American undergraduate education produces a student who is much less skilled and fortified than our undergraduate students. I think that especially with our department, and most psychology departments with a fourth year honours degree, we have pretty good students, they have gone through a lot of competition. They have a lot of generic skills, they know how to write, they are trained in essay writing and report writing and just looking at some of the students we had that came recently from overseas, the comparison is really just enormous.

Academic 3 SP

Another head of department argued to the contrary that the Australian PhD was of a lower standard in his hard pure field than its US or European counterparts. He maintained that:

The Australian PhD is not of an international standard in my opinion. … when it comes to hiring and I look at candidates with PhDs from other countries versus PhDs from Australia, I have a very strong preference for hiring people
from other countries. They do so much more in a PhD. If you compare the German system or the American system, they have way more.

Academic 1 HP

However, one international student, with experience of undertaking his PhD in Japan and Australia observed:

And that is one thing about the PhD in Australia, you just learn how to do the research, or how to do a PhD and it’s different. In Japan they just teach you one thing and you just do that thing. I think the way to get a PhD in Japan is very narrow where in Australia it is very broad. You have to learn a lot of things and after you get out what you get is the confidence. You can get a PhD. You can do everything else.

Student 73 HA

A final consideration may be further consideration between the roles of doctorate and masters. One senior manager argued for the revitalising of research masters, as opposed to using the PhD, for industry funded research:

We’re strategically allocating places to masters honours students as opposed to doctoral students. In certain areas it makes a lot more sense, particularly those where they are industry funded and industry sponsored. A masters student is a much more appropriate student for an industry that’s paying their people to come in ... Shorter throughout—well the difference between a masters honours and a PhD, you know, that notion of novelty, originality, sustained writing, major contribution to the literature or the theory or whatever. And the requirement in a masters is much lower. You can also have it much more focused on the industry itself, you get a quicker turnaround and it’s cheaper for the industry to sponsor it.

Senior manager 109

### 7.3 Differentiating professional doctorates

The inclusion of professional doctorates was a conscious element of the study. In the event there were fewer programs than expected that could be included: there were in fact more professional doctorates on the books than there were candidates for inclusion in the study (see section 3.3.1). Several programs at two different universities only had a small number of active students. One university had decided that it was opposed to professional doctorates; another had decided not to enrol students for the foreseeable future in its small number of existing programs; and yet a third university was reviewing its professional doctorates.

Despite this, it was possible to include four professional doctorate programs, three of them very successful in terms of duration and numbers of enrolments. As discussed in section 3.3.1, careful recruitment and promotion may explain this success. The structure of the three successful programs was interchangeable with existing PhD offerings. Other faculties spanning hard and soft fields within one of these universities were considering introducing professional doctorates. In that they wanted to counteract flagging enrolments over the past few years, as well as to generate more income through fees or advantages in kind, their rationale for such a doctorate seems clear.
Based on the interviews in this study, it could be argued that there is a need for greater differentiation between professional doctorates and the PhD. For example, as was pointed out in chapter 3, the major distinction between the two types of doctorate appears to be in terms of entry route, technicalities of thesis length and provision of coursework:

Well the first difference between the doctorates, the SJD has more coursework and it is a shorter thesis and so for some students who go into the SJD straight from an undergraduate program, they’ll do three courses, some standard courses and three legal research units and then the thesis and that suits them very well, it’s sort of a transitional point between undergraduate programs and the thesis. The other thing I should say is the rules for the SJD only permits students who have a law qualification whereas we will take students into the PhD program here who have any relevant prior degree. And so that’s another distinction, which is a little unusual. So people come into the PhD who are not lawyers, we also have lawyers in the PhD but to do the SJD, you have to be a lawyer and it has to be a continuation on after a LB degree and so that’s a formal difference. But the students—, the differences I see are more personal to the students I think rather than reflect that distinction between the PhD and the SJD. Some students are very self directed, don’t need a lot of support, are very competent and confident and get on with it. Other students have different needs and that is a more individual thing, I can’t predict that on the basis of which degree they are in.

Academic 10 SA

Several interviewees with experience in both types of doctorates observed that the total workload requirements within a professional doctorate could be more onerous than those for a PhD.

The professional doctorates included in this study were all in the soft fields, which tended to recruit older students than the hard. However, in terms of substantive issues such as types of research topic or research method, it was argued that there was no difference between the PhD and the professional doctorate. While PhD students in general were not aware of professional doctorates, professional doctorate students maintained that their research topic would have been no different in a PhD. Indeed, several students changed from a professional doctorate to PhD or vice versa mid way through candidature, with either no change or only a minimal change in topic. Interviews with academics confirmed this view. For many of the students the professional doctorates appeared to hold closer affinity to their profession: in their words it was ‘a better fit’ (students 112, 122 SP). These students were not in general looking for an academic position and did not expect the award of a doctorate to enhance their career prospects within their profession.

An academic engaged in the supervision of students in a DBA as well as in a PhD had put considerable thought into conceptualising the two degrees:

I think the DBA concept is not well developed … I always had concerns about the DBA versus the PhD … And I was also concerned a little bit in terms of basically it would be seen to be a second level doctorate instead of a doctorate. You know, we suffer for these things, we ought to walk through the door with something worthwhile.

Academic 129, SA

The main concerns of this individual were in trying to ensure that students from two different programs would achieve the same standard of output, judged against
identical criteria. He felt that the definition of the professional doctorate within his
institution and within Australia generally, was not well developed:

>You think of the joke, you walk on one side of the road, you walk on the other
side of the road, you walk down the middle and you’re going to get killed, right. I
think that’s what’s going on with some of the DBA programs. They haven’t got
it clear in their own mind. They’re certainly not clear when they’re
communicating to students as to what these things are all about and consequently
people are wandering all over the highway here and somebody’s going to get hurt.
That’s where it’s going … I think the thing is that there is no clean, clear
distinction between a DBA and a PhD between universities.

Academic 129, SA

Another experienced supervisor of professional doctorate students commented, off
the record, about concerns of creeping credentialism by the promotion of
doctorates in non traditional disciplines for PhD study.

In discussion of their selection of a professional doctorate, students commented on
the perceived rigour of professional doctorate programs. While one DBA student
was confident about his own program of study, he was less convinced of the value
of others:

… the DBA here is the only genuine PhD equivalent. … I believe that the
rigour side of the equation had been maintained at this program and is
examined against the same criteria as the PhD. … I think that a lot of the so
called professional doctorates are bogus. When you look at the entry standards,
the time required to complete and the content of what the student has to produce,
and what the professional doctorates are, as far as I’m concerned they are
glorified masters programs and as much as anything, they are just becoming
money making ventures. I mean there are a lot of masters and masters honours
programs that are as rigorous and more rigorous than some of the so called
professional doctorates … I’m just very sceptical about it …

Student 2 SA

There was a generally acknowledged view that a professional doctorate ‘is a second
rate doctorate’ (student 33 SA) and that ‘it’s not quite got the standing of a PhD’
(student 121 SP). The portability of an international qualification such as the PhD is
an important consideration:

I guess I felt that if I am to use [the PhD] as a professional qualification to get
more teaching jobs, … I thought it might be more recognised overseas, not that I
have big plans to go and teach overseas, but I wanted to keep all my options
open.

Student 121 SP

There was some contradiction among the participants about areas in which
professional doctorates as opposed to PhDs were appropriate. One senior manager
with a background in a hard pure discipline noted that the PhD was the
professional doctorate in his field. Another senior manager argued that the
distinction between a professional doctorate and a PhD in a soft applied field like
education or management was hardly defensible. Yet other senior managers
maintained that professional doctorates were more appropriate for professional
disciplines, but claimed when questioned that the disciplines concerned did not
include those related to the engineering or medical profession. Other respondents
saw the professional doctorate as a legitimate measure for increasing funding to the university in areas where fees could be supported.

Given that the majority of students in professional doctorate programs have enjoyed career success and do not anticipate substantial career furtherance on their completion, and that such completion requires a considerable investment of time and often money, it is appropriate to consider what benefits a professional doctorate confers, and on whom. In the light of our findings, it seems reasonable to argue that a solid educational—as opposed to political or financial—rationale needs to be made for the continuation of the award.

7.4 Some more radical views

One academic in a hard pure field claimed that he was open to replacing a written thesis in his discipline:

The ability to write a thesis is an attribute of a PhD program. There are other attributes of being a theoretical physicist that might be sufficient for them to get through. So it’s conceivable to have another model but you’d have a big cultural shift to face and they wouldn’t get jobs in academia.

Academic 1 HP

Aware of the strength of historical and cultural influences, two senior managers, both from the newer universities, advanced some more far reaching possibilities for the doctorate, though not necessarily replacing a written thesis. The first of these was progressive but arguably also thoroughly practical. The university would offer high quality doctoral research programs, but the actual title—PhD or professional doctorate—EdD, DBA, SJD etc—would be selected by students based on their experiences, career stage and perceptions of their career needs.

It should be a mixed model. If you are doing something in theoretical physics or polymer engineering or something like that, I think it is quite appropriate to just go to a straight wet lab PhD because that is your experience. You have to look at people who have graduated. You know, psychology is an interesting example. Psychologists are well trained in research at undergraduate level. They can go straight in and do their PhDs and then they can get the professional experience or they can just keep going with research. You look at education or nursing or law, you can’t really come back and do your research until you have been a practicing professional and so you might be out for five or over ten years and then when you come back to lecture, you still have to have a curriculum review of the world, you still have to do professional development programs. You still have to be a practitioner or clinician and so you are caught between two worlds, you can’t just be a research … and so to have one model—an Oxbridge model for all—is not appropriate and to have a professional doctorate model for all is not appropriate. We should have a PhD as the doctoral name with a range of different alternatives. … I know it is provocative to say … but maybe I still keep that choice so you can either take a PhD doing the same as your professional doctorate title and do the same portfolio and maybe that is the flexibility we need.

Senior manager 109
Thus disciplinary background and career motivation should enable students to elect whether to take out a PhD or a professional doctorate. This fitted within the same manager’s philosophical view that a doctorate should take into account a student’s life needs:

I am really committed to the notion that the PhD is not just a diploma. It is not just a piece of paper. It is a total experience in life and the more you can contribute. … The dissertation itself, I tell everyone, is a small component of your doctoral candidacy. … That is where I think we have got to reconceptualise these PhDs. They are not just something that the natural and physical sciences have developed for themselves. Where you take a kid of 22 who has got an honours degree in pure or theoretical physics or something like that and give them that and then they go back to a bench where they came from. It is much bigger in my opinion than that. And the more you look at professional doctorates, the more you realise that we have got to reconceptualise the whole experience. It’s a total life experience, not just a dissertation.

Senior manager 109

Perhaps the most radical view involved introducing a new doctorate in professional practice, not to replace the PhD but to sit alongside it and provide an alternative at a time when society was beginning to embrace new forms of knowledge. The idea is to go beyond what has begun with the professional doctorate, and to analyse professional practice by moving outside the content of the discipline—any discipline. Indeed, the program would sit outside the university’s existing faculties. The proponent of this view expressed his ideas as follows:

… this kind of thing with professional practice and engaging with the professions which is part of this notion of new forms of knowledge and the new economy and all the rest, so that no longer do universities have a monopoly on the creation of knowledge and the production of knowledge that this happens elsewhere as well and more and more we are recognising that the knowledge creation process occurs in working life and so on. So I would like to see in connection with that, a slightly expanded version of what counts as legitimate knowledge within a doctoral program and while maintaining traditional views of what counts as legitimate knowledge, which is your kind of high level, theoretical analyses and capacity to identify a gap in research and so on and then carry out the data collection to fill that gap and or to fill that theoretical space, I’d like to see other forms of doctoral enquiry emerging and I think they begin-- they have begun a little bit with a professional doctorate, but it’s not quite like how I’d like to see it. But it’s begun with a professional doctorate in a sense … the kind of analysis of professional practice is equally important as the analysis of the theoretical literature for example which is not common in a normal PhD, the analysis of professional practice is seen as somehow not quite as legitimate. So how you go about that analysis of professional practice is something that needs to be developed.

Senior manager 6

He acknowledged that the concept was a tricky one and was somewhat sceptical that its realisation could be achieved, but maintained that explorations such as these were important and apposite. Indeed this particular senior manager, along with several other participants, claimed that ‘you’d see a lot of innovations’ if it were not for the funding constraints imposed by the government’s two-thirds research requirement.
7.5 Summary of findings

Present variation

- The present study reveals wide variation within present doctoral structures, none specifically based on contrasts between PhDs and professional doctorates.
- Around half of all doctorates have a formal coursework requirement, the other half being solely research based. One professional doctorate required a series of research and professional portfolios.

Models of doctoral education

- Most research intensive universities consider the PhD to be working well and able to meet current and future demands and pressures.
- Both academics and students take the view that there is sufficient scope for the inclusion of coursework and non traditional doctorates within the current structure.
- The PhD is a recognised international qualification: its importance as such should not be lost. There are however concerns about maintaining acceptable standards.
- There is a need for manageable topics, sufficiently resourced over a finite three to four year period, with the doctorate serving as an initial research qualification.
- There is a case for the introduction of greater flexibility through more entry and exit points.
- There is a divergence of view on the appropriateness of the US PhD model for Australian universities.

Differentiating professional doctorates

- Professional doctorates are in a state of flux: In some universities they are under review, others are opposed to them, and yet others have plans to increase the range of their offerings.
- The key distinctions between a PhD and a professional doctorate lie in the mode of entry and the exercise of student preference, rather than in academic and content differences. In a few instances workload requirements are seen as more onerous than those in a PhD.
- The majority of students in professional doctorate programs already enjoy career success and do not anticipate substantial career advancement through completion of the doctorate.
- Radical views on the development of doctorates include, firstly, the offering of high quality research programs in which students select a degree title based on their experiences, career state and perceptions of their career moves; and
secondly the introduction of a new doctorate on professional practice, sitting alongside the PhD and embracing new forms of knowledge within society.
8. Conclusions and considerations for practice

8.1 Introduction

The preceding chapters have depicted the doctoral education experience based on interview and documentary data from four discipline groups across six different universities. The aim has been to portray the students’ perspective of their experiences. The study has been concerned to adopt a broad view of doctoral education, going beyond the immediate student supervisor relationship to include aspects such as the acculturation and educational roles of the department, institutional support structures, progress monitoring, and, the nature of the doctorate itself.

The trigger for the study was the imminent changes arising from the Commonwealth government’s White Paper, introducing outcomes based funding for doctoral students. At the time of the study universities were differentially positioned to deal with these impending changes and their impact was clearly being felt at all levels, including the individual student experience.

The findings highlight the diversity of experiences, shaped by mode and stage of enrolment, discipline and institution. This creates a level of complexity which does not always make for simple policy solutions. This chapter discusses the study’s findings within a policy context and suggests areas for consideration at four levels: government, institution, faculty/department and individual.

8.2 Considerations for government

As noted, the concern of the White Paper to focus attention on quality and completions through funding arrangements has filtered through to all levels within universities. Institutions have been concerned to position themselves to advantage in the new funding climate. In this context, the interview data suggests some areas which government may wish to consider:

- Students and academics support the focus on completions. However, there is concern that the funded time is one year too short; that there are inflexibilities in the new approach; and that the quality of doctoral programs will suffer from an undue emphasis on outcomes.

- There is greater selectivity in recruiting certain categories of students and avoiding others. Such strategies may lead to faster completions in the short term but may be counterproductive in the longer term. They clearly restrict diversity in the student population.
• Faculties covering hard disciplines consistently report difficulties in attracting enough well qualified students. The problem is argued to be particularly critical in some fields.

• In some disciplines the trend towards ‘safe’ research has resulted in projects which can be assured a minimum time completion, but which do no more than ‘add another brick in the wall’. Such projects are seen to affect the international standard of Australian doctoral research and to be counter to government innovation policies.

• The analysis of the types of doctorate and the nature of their programs has highlighted the lack of educational differentiation of professional doctorates from the PhD.

• Industry funded research, including scholarships for doctoral project work, have been an important component of government research policy for the past decade. This study has shown that industry supported doctoral research can work well and provide excellent research, networking and career opportunities for students. It has also shown that the reverse is possible. A disciplinary effect was found: for hard applied students there can be conflicts between industry and thesis expectations, while for soft applied students topic definition emerges as a major issue. Further study may be fruitful in enhancing the understanding of this area of doctoral research.

• The stark resource differences between students in the hard and soft disciplines are a cause for concern. Doctoral research is subsidised by external funds in experimental hard disciplines and personally by students in the soft disciplines. Such differences can affect both the quality of research and the time taken to completion.

8.3 Considerations for institutions

The considerations for government raised above are also of importance to universities. Institutions can, for example, establish policies to reflect their philosophies on the degree of diversity of the student population and on measures to alleviate resource discrepancies between the discipline groups. However, there are also a number of specific areas for universities to consider:

• The document and interview data highlight the variation in the readability and accessibility of doctoral policies, handbooks and information. Ensuring ease of access to relevant information should be a priority.

• The major part the web plays in recruiting students underscores the importance of providing websites which are easy to navigate and offer dedicated doctoral student information.

• Both documentary data and interview comments show that consultation on students’ satisfaction with their programs is limited and inconsistent. More regular surveys of doctoral candidates’ needs and opinions could highlight problem areas for improvement. The organisation of such surveys should ensure the protection of students from being penalised for critical comments.
• Half the universities in the study offer voluntary university wide induction. The case for induction, and in particular for clarification of the expectations and entitlements of doctoral research, is supported by many students. The development of induction programs, coupled with strong inducements for student attendance, serve to meet an expressed need.

• The issue of resource allocation, particularly in the soft fields, has been raised in the previous section. The serious difficulties experienced by some supervisors and postgraduate coordinators in these areas in finding dedicated space for their students warrants institutional support.

• As noted above, the level of financial support available to students to support their research costs varies considerably between universities. There is a large level of personal subsidisation of costs by students, especially in the soft fields and where supervisors do not have large enough amounts of external funds. The distribution of government allocated money for research students within the university does not appear to reach many students. Clarification is needed for students concerning financial entitlements and how to access discretionary funds.

• Along with induction, career development opportunities is an area of support generally lacking for students. The major form of career development is through undergraduate teaching opportunities, even though a minority of doctoral students seriously contemplate an academic career, and though it is widely contended that for such a career research publications are paramount.

• The very strong recognition of difficulties with the annual progress reporting format would warrant investigation. Students favoured a panel review without the supervisor present.

• Doctoral candidates need to be provided with meaningful feedback on progress and achievement through formal means such as annual academic transcripts.

• The study has a variety of organisational structures for the administration of doctoral students. No one particular structure appears to have merit over any other. However, some important considerations stand out:
  - The first is the message which organisational structure sends on the institutional value accorded to doctoral students. The graduate school in one university in this study is held in particularly high regard by both students and academics. Its existence provides visibility to doctoral students. Its active dean and positive administration broadcast a highly positive institutional message that research students are important.
  - The second is the importance of the pastoral care and ombudsman roles at the institutional level. Some universities do not have specific positions to fulfil these roles; among others that do the appointees often carry a heavy responsibility but little authority. The existing gaps and deficiencies deserve to be addressed at the institutional level.
  - Thirdly, there is a clear need to encourage structures and practices which support individual supervisors and do not make them ‘the meat in the sandwich’. Such support includes reasonable and formal recognition of supervision workload; awareness of the tensions between undergraduate
teaching and doctoral supervision; and transparent procedures for resource distribution.

8.4 Considerations for faculties/departments

The department comprises both the doctoral student’s administrative and educational home and—after the supervisor—the most immediate contact with the culture of the discipline. This gives rise to a number of specific considerations:

• The reputation of individual academics and the status of the honours program play a major role in recruitment.

• Induction to doctoral study works best at departmental level. Students in particular are entitled to a clarification of expectations and entitlements and, where they are new to a department, an introduction to its key personnel.

• The needs of doctoral students are evidently different from those of undergraduates. They are members of the departmental research effort, but do not always consider that this is acknowledged. Small administrative changes—such as formal listing as researchers in the department in directories and email address lists—can make a large difference to a sense of recognition.

• The department plays a key part in fostering a research culture through contact with other experienced researchers and research groups. Departmental fragmentation reduces acculturation opportunities for doctoral students.

• Students need dedicated work space within their departments both to carry out their research and as a venue to meet their peers informally.

• The value of coursework emerges as a strong feature. It does however have different roles across the disciplines, and students and academics in some areas discern no need for it. Where they are relevant, courses should be specific for doctoral (and not undergraduate) needs; they should recognise adult learning principles and provide opportunity for feedback.

• Supervision in the experimental hard fields is widely seen as positive, admitting no student comments on isolation or lack of support. There are some early indications that some departments in soft fields are adopting and adapting similar supervision practices.

8.5 Considerations for individual students and supervisors

The heart of the doctoral student experience lies in the individual student supervisor relationship. In most cases the experience is positive for both. Important considerations at this level include:

• Many students comment on the care with which they first selected their supervisors. Increasing selectivity is also evident among supervisors. Although there is no formula for ideal matching, students stress the importance of
personal knowledge of the supervisor and recommend soundings from other doctoral students.

- Students should take opportunities to attend induction programs to learn about the expectations of doctoral research and to give careful thought to their own expectations and attitudes.

- The most important message from the students interviewed is that ultimately students must take responsibility for their doctoral research.

- Motivations for doctoral study play a key role. Passion for a research area or particular problem is a fundamental prerequisite.

- There is no one ideal model of supervision, but arrangements that encourage peer interaction are favoured by the majority of students.

- Both students and supervisors need to be conscious of the inherent power differentials in the supervisory relationship and guard against their wrongful exploitation.

- Open and frequent communication can be seen to underpin a good supervisory relationship. Among its important characteristics are an intellectually stimulating environment, a trusting and trustworthy supervisor, and effective supervisor support and guidance.

- Perspectives of the doctoral experience can be seen to change with the stage of enrolment, reflecting the different research emphases of each stage.

- Writing plays a key role in topic development and completion of the thesis. Early and regular writing is recommended by experienced supervisors and many students.
Appendix A: Institutional Profiles

Institution 1 is a medium sized, ‘gumtrees’ university, established in the era of rapid student growth. This institution has a medium sized doctoral population of 700–800 students and a research quantum allocation over $5,000,000.

Institution 2 is a new university, established with the creation of the UNS. It is on the large side of medium, created by the amalgamation of preexisting institutions. It is a multi campus institution with a relatively small doctoral population of 500–600 students and a research quantum allocation of around $2–$3,000,000.

Institution 3 is a large ‘sandstone’ university. It is research intensive across all disciplines and has a large doctoral student population of 2000–3000 and a research quantum in excess of $20,000,000.

Institution 4 is a medium sized, multi campus ‘gumtrees’ university. It carries the legacy of several past amalgamations which is reflected by its discipline composition which is disproportionately skewed by one faculty. This is a regional university with a doctoral population of 500–600 students and a research quantum allocation over $5,000,000.

Institution 5 is a large, well established university. It is a research intensive institution with a doctoral student population of 2000–3000 and a research quantum allocation in excess of $20,000,000.

Institution 6 is a large university, founded through the amalgamation of several discrete entities in the UNS. It is a regional, multi campus institution with a medium sized doctoral student population of 700–800 and a research quantum allocation between $2–$3,000,000.
Appendix B: Invitation letter
Appendix C: Graphical representation of student age distributions

Figure C1  Age distribution of the total student sample

Figure C2  Age distribution of SP students
Figure C3  Age distribution of SA students

Figure C4  Age distribution of HP students
Figure C5  Age distribution of HA students

Figure C6  Age distribution by gender
Appendix D: Disciplinary and university differences of the student sample

Figure D1  Mode of enrolment by discipline group
**Figure D2**  Gender by discipline group

![Graph showing gender distribution by discipline group](image)

**Figure D3**  Mode of enrolment by university

![Graph showing mode of enrolment by university](image)
References


