

**BUILDING RESEARCH SUPERVISION AND TRAINING  
(Australian Learning and Teaching Council project):**

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**INTERIM ANALYSIS OF INTERVIEWS WITH RESEARCH LEADERS AND SUPERVISORS  
OF HIGHER DEGREE RESEARCH SUPERVISORS IN AUSTRALIA**

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## **BUILDING RESEARCH SUPERVISION AND TRAINING**

### **SUMMARY OF OUTCOMES FROM INTERVIEWS**

The project **Building Research Supervision and Training in Australian Universities** has included three major sources of data: a symposium, a survey and a series of interviews. (see Preamble below for further details of the purposes of the project and its research design). The interviews were designed to follow up issues that had emerged from the survey, and the purpose of this report is to summarise outcomes from interviews. The interviews involved a total of 59 research leaders, coordinators and supervisors in individual or focus group discussions. Interviewees responded to questions on purposes and priorities in research education; likely future directions; implications of changes for supervision and for supervisor training and support.

Four major themes were evident from discussions that occurred during the interviews. These were

- formalisation and professionalisation of research degree education
- diversity in research degree education
- the changing nature of research degree supervision
- support and development of supervisors

**Increasing formalisation and professionalisation** was identified as a major factor in research degree education by all interviewees. Discussions in interviews addressed ways in which processes of formalisation are interwoven with the introduction of quality assurance processes and with specific structures that support and implement quality assurance in research degree education. They also addressed the implications of such processes and structures. Some differences in opinion were evident between research leaders and coordinators on the one hand and supervisors on the other in relation to these issues. Research leaders and coordinators generally had a more positive take on the implications of quality assurance and its associated structures than most supervisors.

Discussions in interviews also addressed the related issue of development of a more professional approach to research degree education as a whole, and the implications of this for supervision. As interviewees noted, the result is that supervision has become increasingly visible, transparent and accountable. Here, there was broad agreement from all interviewees that the move to a more professional, open and transparent approach to supervision was a positive thing.

**Diversity in research education** was also of major importance to interviewees. Research leaders, coordinators and supervisors agreed that increased diversity constituted one of the most significant recent changes in research degree education. Discussions of this theme included diversity amongst students; diversity in processes of study; and diversity in outcomes from research degrees.

Some differences between the views of research leaders and supervisors were evident regarding the challenges posed by diversity amongst students. Research leaders and coordinators tended to focus on the overall balance of students and funds in research degree programs, and on challenges to program management posed by diversity. Supervisors were more concerned with the day-to-day challenges of working with students that diversity imposed, and here academic English was identified as a big issue. Overall, interviewees were positive, and at time excited about diversity: in their students, in modes of study; and in outcomes from research education. They were also aware, however, of the challenges posed by diversity.

Interviewees addressed the theme of the **changing nature of contemporary supervision** in some detail. They pointed out that the increased capacity and diversification of doctoral education, coupled with the

requirement of accountability (and the QA systems to achieve this) has led to increased demands on supervisors. The result is that the roles of supervisors are becoming more complex. Interview discussions addressed pressures on supervisors and supervisors' workloads; the changing nature of supervision practices, and implications for interpersonal relationships between students and supervisors.

There was general agreement that pressure on supervisors and supervisor workloads were substantial. There was also general agreement that this pressure resulted not from supervision per se, but from the need to balance competing demands from teaching, research and supervision. There was also general agreement that, with formalisation of research education and introduction of QA procedures, supervision practices are changing. Interviewees most frequently described these changes as a shift from a 'private space' where supervisor and student worked together to a more 'public space' where supervision practices are open for discussion, reflection and negotiation, and where, as supervisors, they are also more accountable. An issue of particular concern to supervisors was that of interpersonal relationships between supervisors and students. As interviewees pointed out, changes in the nature of doctoral education have resulted in changes in interpersonal relationships between supervisors and students. Supervisors' views regarding the kind of relationship that they should now have with their students, including the extent to which they should become involved with their students' personal lives, varied considerably.

Of central concern in this study is the **support and development of supervisors** that is currently provided and that should be provided by universities in the future, and interviewees were specifically asked their views on this matter. Outcomes from the interviews indicate that supervisors are positive about some aspects of available support; however, their responses also indicate many believe that more/different support is needed. A factor here is difference in requirements for support of new and more experienced supervisors.

All interviewees agreed that systematic support for the development of new supervisors was important, and there was general agreement that a systematic program with some kind of central and formal component was likely to be of benefit. The consensus however, was that while centralised formal courses were useful for covering the roles and responsibilities of supervision, for introducing necessary quality assurance processes, and for exposing supervisors to a wider range of practices beyond their discipline, they were not enough. Other kinds of support need to be provided at more local levels. Many interviewees saw mentoring as being particularly important for new supervisors.

In contrast to broad agreement on the need for some formal structure in the induction of new supervisors, interviewees expressed considerable disagreement on the need for, and nature of, any ongoing professional development of experienced supervisors. Research leaders and coordinators were more supportive of some component of formal and central courses, but many supervisors expressed great reservation about the value of such courses. Despite this, mentoring again emerged as having broad support from all interviewees. Although they acknowledged possible problems that would need to be overcome, research leaders, coordinators and especially supervisors spoke very positively about the learning that occurred when less experienced supervisors worked with more experienced supervisors. The benefits included the relevant and practical nature of learning; learning at point of need; and the two-way benefit to both less and more experienced supervisors. The frequency with which mentoring has been raised in survey responses and interviews, and the value placed on it by so many supervisors, suggests that universities could usefully allocate more resources to facilitate and support mentoring programs.

In response to questions about the kinds of support and resources most needed to help them fulfil their roles more effectively, supervisors identified the following as priorities:

- support with academic writing;
- support to encourage students to publish;

- support in supervising students who are located outside of Australia
- support in supervising interdisciplinary projects
- support in dealing with demanding students and difficult situations
- support in enabling students to develop the generic skills identified by universities

## **PREAMBLE**

In 2007, the Australian Learning and Teaching Council (then Carrick Institute) provided funding to a UTS based team, working in conjunction with the FIRST\* consortium, to undertake a project with the overall aim of building and supporting research supervision and training across Australian and New Zealand universities.

Specific aims of the ALTC project were:

- to identify existing higher degree research supervisor training provisions
- to identify current and future needs of supervisors
- to make recommendations that assist universities in their on-going development of effective higher degree research supervisor training.

The project has involved collection of data from three major sources. The first of these was from a symposium of key academics in the field of supervision pedagogy; the second was from a survey of supervisors across Australian and New Zealand Universities; and the third was from a series of follow up interviews. Outcomes from both the symposium and the survey are available on the FIRST website ([www.first.edu.au](http://www.first.edu.au))

The purpose of this report is to provide a summary of outcomes from the third of the major sources of data – the follow up interviews. These were undertaken with leaders of research and with focus groups of supervisors in a representative selection of Australian Universities. This report consists of a brief description of design, implementation and analysis of the interviews, a summary overview of major outcomes, and then a more detailed discussion of these outcomes.

## **DESIGN, IMPLEMENTATION AND ANALYSIS OF THE INTERVIEWS**

As indicated, the interviews represent the third major source of data, and they provided an opportunity to follow up, in greater detail, some of the major issues that had emerged from both the symposium and the national survey. The interviews were of two kinds: those that sought the views of leaders of research within universities and faculties; and focus group discussions with groups of supervisors. Predictably, these two groups overlapped to some extent. Research leaders were also typically active supervisors, while some of the supervisors who attended focus group discussions were also coordinators of research programs within their faculties. Nevertheless, the two groups did provide some differences in perspectives and in the summary provided in this report we have attempted to reflect these different perspectives.

From the total of 47 universities that had responded to the survey, we approached six universities to participate in the follow up interviews. These included two Go8; two ATN and two Regional universities. Universities were selected on the grounds that they were representative of different categories of universities, and that they were from different Australian states. Our initial approach to universities was via the representative on the Deans and Directors of Graduate Studies group (DDoGS). We then followed up with a series of emails to the DDoG representative at each selected university; to research leaders (identified by DDoG representative) and to focus group participants (identified by research leaders). Following an involved process of negotiation we agreed on interview times at each university.

In total we conducted interviews with 59 participants. Of these 8 interviews were with research leaders (these included: PVC Research; Deans of Graduate Schools); 14 with research degree coordinators (these were coordinators of research degree programs) and 37 with supervisors in focus group discussions. We do not have a breakdown of the balance of new and experienced supervisors within the focus group

discussions; however, the majority were in fact relatively experienced supervisors. Henceforth in this document, interviewees will be referred to as *research leaders*, *research degree coordinators* and *supervisors*.

Interview questions were developed around a specific number of topics. For research leaders and research degree coordinators these were (see Appendix 1):

- The changing nature and purposes of research degree education: interviewees' perceptions of the extent to which research degree education is changing; changing purposes of research degree education; likely future directions in research degree education;
- likely implications of any changes for research degree supervision;
- likely implications of changes for research degree education training.

For focus group interviews with supervisors, these were (see Appendix 2):

- purposes and priorities of research degree supervision;
- challenges of being a supervisor;
- influences on own ongoing development as a supervisor;
- priorities in research supervision training and supervisor support.

All interviews were audio recorded.

Analyses of interviews began with a detailed summary of what was said in each interview. These summaries were checked, and then became the basis for content analyses that aimed to identify the major recurring themes and issues in interviewees' comments. On the basis of these content analyses, a framework was developed to summarise major themes and to identify major features within those themes. This framework in turn has provided the basis for the summary of outcomes presented in this report.

\* fIRST [for Improving Research Supervision and Training] is a website that was created by a consortium of Australian and New Zealand universities with the aim of providing access to a range of resources that help universities and individual supervisors improve the quality of their postgraduate research education.

## OUTCOMES FROM INTERVIEWS

As indicated, the interviews were designed to follow up issues that emerged from the survey component of the project. Thus, themes evident in the interviews reflect and overlap with many of those that emerged from the survey. The value of outcomes from the interviews lies in the fact that they provide more nuanced insights into these themes than were available from the survey. As indicated in the *Summary of Outcomes*, four major themes were evident from the analysis of interviews. These were:

1. *Formalisation of research degree education*: the expansion and increased accountability in doctoral education; the impact of introduction of explicit standards and accompanying quality assurance systems;
2. *Diversity in research degree education*: the expansion of doctoral education, a diverse set of students, processes, outputs and outcomes;
3. *Nature of contemporary supervision*: the effects of the formalisation and diversity of doctoral education upon supervision; requirements for a wide set of skills and knowledge beyond supervisors' disciplinary expertise;
4. *Support for supervisors*: needs of supervisors; development of supervisors' skills; provision of support services and resources.

Although the major purposes of the project were to address issues of supervision and supervisor development and training, such issues are necessarily located within the broader context of research education. Interviewees' responses and comment inevitably raised issues relevant to the broader context, as well as those more specifically related to supervision and supervisor development. Thus, in this report, the first two of the themes listed above address broader contextual issues of change and pressure within research education as a whole, while the third, and especially the fourth themes, address issues more explicitly at the heart of the project.

### Formalisation and professionalisation of research degree education

The first major theme/issue to emerge from interviews was the increasing formalisation and professionalisation of research degree education that has taken place in recent years. Although not asked directly about this issue in interview questions, it was identified as a major factor in research education by all interviewees - leaders of research, research degree coordinators, and supervisors. Interviewees noted that with the growth in research degree education, and increasing intervention from government and other peak bodies, there was pressure for a more systematic approach to research degree education and for greater accountability to various stakeholders. The consequence, especially in large institutions has been increasing formalisation and professionalisation of research degree education. The process of formalisation is interwoven with the introduction of specific structures within universities, but is also interwoven with increasing professionalisation of research degree education as a whole. The complex nature of this shift was evident in the ways in which it was discussed by interviewees.

Interviewees identified two major components in the process of formalisation and professionalisation. These were:

- the introduction of quality assurance (QA) processes that aim to ensure consistency of standards, and compliance with regulations;
- the development of a more professional approach of research degree education, with a push to make supervision more visible, transparent and open.

## The impact of Quality Assurance

Quality Assurance, standards and compliance were identified as major issues by all research leaders, research degree coordinators and by supervisors. Overall discussion of QA by interviewees highlighted the relationship between formalisation and the introduction of specific structures and mechanisms in research education programs. Examples of such structures and mechanisms raised by interviewees included student progress reports, student surveys and supervisor registers. Other examples included imposing limits on the number of students per supervisor; mandating the frequency of meetings with supervisors; and documenting what students might expect from their supervisors. Perhaps not surprisingly, research leaders, coordinators and supervisors had a somewhat different 'take' on the value and usefulness of these mechanisms.

The research leaders and coordinators who were interviewed in the project were people who had responsibility for research education and who were involved in implementation of QA. Most regarded QA mechanisms fairly positively. They generally agreed there was a need for structure in research education and saw QA processes as ensuring all supervision within their university or faculty was at an acceptable standard. One research degree coordinator described this as needing to protect the brand of her institution when it came to doctoral education. She said, *'There has been a massive change in the doctorate, from being a personal relationship to one that is with the institution. Previously the relationship between the supervisor and the institution was one of trust, which worked when the numbers were relatively small... now it is not about the personal relationship between supervisors and their students but about the product name. Now you have to protect the product name, you have to have quality control mechanisms'* (Research degree coordinator, Go8). Others mentioned the need to prevent malpractice by supervisors, which in extreme cases could result in litigation. Some however, expressed reservations about overemphasis on QA and with the resulting possibility of narrowing supervision. For example, one research degree coordinator said, *'I worry about 'one eye' views of what supervision is. I also like to expose them to other supervisors from other faculties and to different ways of doing things.'* (Research degree coordinator, Regional Univ).

Research leaders argued that pressure for QA in universities has resulted in the development of more centralised policies, structures and procedures in relation to doctoral education. One research leader stated, *'there is a real role for central focus and a real benefit in having a graduate office with central responsibility for QA and monitoring enrolments through to management of thesis submission and examination process etc'* (Research leader, Go8). This view was reflected by another research leader who stated *'you can develop policies at central level to say that faculties must do xxx and generally faculties will comply, but it is preferable to have the backing from DVCs and some notion of sanctions... These moves have been partially responsible for the setting up of graduate schools'* (Research leader, ATN Univ). More centralised control of doctoral education has also resulted in greater compliance with ethical standards in doctoral research. One research leader commented, *'I discuss ethics often, most believe that ethics are necessary and if planned for are not a great problem, e.g. Ethics and IP requirement are fundamental and indeed facilitate effort with the university. A little effort at the beginning is worth the effort in comparison with the problems that might occur later. ... We are developing a 'light' version of the ethics process where there is a very low likelihood of harm to participants'* (Research leader, ATN Univ).

Research leaders and coordinators pointed out that moves towards increased QA and centralised management were often entwined with pressure from stakeholders such as governments and sponsors for more timely completions. Some interviewees identified the pressure for timely completions as the most profound recent change they have seen. As one research degree coordinator commented, *'One of the greatest changes I have seen since I completed my degree is the pressure on timely completions, the days*

*of 8 years to complete are gone* (Research degree coordinator, Regional Univ). This pressure was a cause for concern for some interviewees, although as a number noted, most universities are reasonable about completions. One research degree coordinator said, *'The pressure for completions means that 3 years for a PhD is a bit tight, the PhD is a bit undercooked. I believe 4 years is about right for a PhD, you have got to have some flexibility. However, it is healthy to have a bit of pressure'* (Research degree coordinator, Go8). Another from the same university commented, *'Timely completions are always an issue, but the university is flexible here but we do not view that it takes as long as it takes. There is some pressure to complete, but it is not excessive. It does not mean students have forever, as we do want them to complete'* (Research degree coordinator, Go8).

Focus group interviews revealed that supervisors saw the formalisation of doctoral education somewhat differently from those whose role was to oversee it. For many, it was difficult to see the benefits of structures that had been imposed by their universities, and in particular to see the benefits of some of the QA processes. As one supervisor put it: *'Academics balk at being asked to jump through hoops. The ultimate benefit, of course, seems to be for university to confirm it is compliant'* (Supervisor, Regional Univ). For a number of supervisors, the QA processes were seen simply as surveillance. As one supervisor said, *'I think we need less surveillance, it seems counter-productive. You have to acknowledge supervisors as experts'* (Supervisor, Regional Univ). Another took the view that, *'the whole university system is becoming more bureaucratic; we now have to register as a supervisor. I think it is not necessary. There are professors who have had many years of supervision and had many completions. It is just not needed. Faculty level registers are more useful'* (Supervisors, ATN Univ).

Some supervisors, however, could see the need for QA processes and indeed felt there were some tangible benefits of such systems. One supervisor said, *'Some of the formalisation I am grateful for, such as the confirmation process, which although at the time is a lot of work, and you never write the thesis that you say you will, it does save a lot of time at the end'* (Supervisor, ATN Univ). Another supervisor had similar views on this issue. She said, *'Things when they are put right up the front, like Intellectual Property Rights, can help later on. I think annual reports are important; they make you consider the timelines for the research. I think they are good markers and you feel more comfortable about giving tough feedback'* (Supervisor, ATN Univ). To some extent differences in supervisors' views tended to reflect discipline differences, with those in humanities, perhaps surprisingly, more inclined to see the value of QA procedures than those in sciences.

Supervisors had mixed responses to specific QA mechanisms. Some could see the benefits, for example of a supervisor register. As one said: *'I think mandatory registration is important. I was thrust into supervision with no mentoring; I wish it had been there when I was a new supervisor'* (Supervisor, ATN Univ). Others felt that it had no useful role to play and was just a way of controlling them: *'With the introduction of the supervisory register, there is a requirement to attend a training course, many experienced colleagues are not happy about this. They say, 'we have been getting many PhD students through for years and we don't need to do any training'* (Supervisor, ATN Univ).

Some supervisors were concerned that QA mechanisms removed the heterogeneity of supervisory practices, and many commented on the 'single model' they saw being promulgated by their institutions. For example, one supervisor said, *'There is a 'one model fits all' approach here; it assumes a unitary way of doing research'* (Supervisor Regional Univ). Another reflecting on her attendance at the focus group for this study said, *'I have gained more things to think about post grad supervision talking here and pooling what we have in common, whereas anyone who is running a seminar has to be in some way promoting a model or pushing a line of advice'* (Supervisor, Go8).

## Professional approach to research degree education

The second component in formalisation and professionalisation of research education evident in interviews was the overall shift to a more professional approach to research degree education within universities, faculties and amongst supervisors. Discussion of this shift was generally framed in association with a shift toward making supervision more visible, transparent and open. This notion of professionalisation of research education is reflected in a comment from a research degree coordinator who said: *'we aim to improve the resources that universities are putting into degrees; and the efficiency of students; and hopefully what students have learned about their subject, and their research skills'* (Research degree coordinator, ATN Univ). Overall there was a greater level of agreement amongst all interviewees regarding the value of professional approaches and of making supervision more transparent and visible than was the case with quality assurance and compliance.

Research leaders and coordinators were very positive about the value of placing supervision pedagogy more centrally in institutional thinking, and of making it more open. A number of interviewees commented on the value simply of having discussions about supervision. As one research degree coordinator put it, *'we need to have dialogues about good supervision. When we have problems in institutions this is the only sensible way of addressing them'* (Research degree coordinator, Go8). A similar view was expressed by a research leader: *'discussion about supervision are beginning in ways have never happened before. People are becoming aware that things happen differently in different parts of the university, sometimes for very good reasons. Previously supervision was a private matter and covered all sorts of sins. Now it is becoming more open to public scrutiny'*. (Research leader, Go8).

Discussion around the value of making supervision more transparent and visible included debate about whether research education (and supervision) was primarily pedagogy or research. Many research leaders and coordinators argued that supervision is primarily a pedagogical issue. As one research leader said, *'I see it (supervision) as a pedagogical relationship; although the students are producing a research product. Supervisors should see it this way but it varies by discipline'* (Research leader, Regional Univ). A research degree coordinator commented *'We need more emphasis on the pedagogical relationship and more recognition of the PhD as a professional qualification and as a preparation for academic and professions. The professional role of supervisors should be seen as much as being concerned with teaching and learning as research'* (Research degree coordinator, Go8). Another research degree coordinator at the same university said, *'One of the problems in the sector here and internationally is that there is so much emphasis on research that there has been insufficient emphasis on teaching and learning. We need to position PhD programs in a more holistic way'* (Research degree coordinator, Go8). One institution had recently moved doctoral education from the research portfolio to the teaching and learning portfolio, and a research leader from that university commented *'we needed a community or network where people are sharing and are informed by pedagogical thinking; this is the idea and I think research supervision needs to fit within that. This is why I am so pleased that supervision has been placed in education portfolio'* (Research leader, Go8). However, this view was not shared by all. One research degree coordinator said, *'I see it as both, but it is better to align supervision with research rather than teaching, I think the one thing that makes doctoral education different to other teaching is the need for research. It therefore aligns more to research activities but it does have a pedagogical element'* (Research degree coordinator, Go8).

Focus group interviews indicated that supervisors also responded positively to making supervision more visible. They commented on the value and usefulness of having opportunities to work collaboratively with their peers and of having opportunities to talk about supervision. They valued, in particular, opportunities to talk to others if they faced challenges with a particular student, and they learned from strategies that others used in their supervisory practices. As one interviewee said, *'another supervisor*

*came to talk to me about a student who was not progressing well. I just had a normal conversation and he said that was really helpful; but I think it was because we broke it into pieces; so creating an environment where people feel free to come and ask advice about things' (Supervisor, Go8). Supervisors also commented on the importance of experience in supervision. For example: 'The vast amount of learning to be a supervisor is learning on the job; you also learn from talking to colleagues; I have been to a few seminars, but mostly you learn by talking to others and then by doing and working out how to do it a bit better, so when to get in there (when supervising a student) and push further and when to let it go' (Supervisor, ATN Univ).*

Supervisors frequently described research education with passion and commitment, and expressed concern that the core value of research education as engaging with knowledge be maintained. For example: *'The value (of research education) lies in developing knowledge and understanding of a topic, in growth of knowledge; and of personal growth. We need to keep this in picture along with emphasis on institutional requirements.*

*It's not just instrumental value but it's the broader and more intangible benefits from doctoral education and engagement with the process (of knowledge and research). Identity (of students) can change as result of being involved in the doctoral process; individual benefit cannot be measured and it's not to do with productivity and getting jobs.*

*The research process involves learning (not just about end product) but about interactions you have with people and the excitement and joy of discovering things and of engaging deeply with issues; it's the joy of early reading and engaging with new theories and discoveries.'* (Supervisor discussion, ATN Univ)

However, the consensus was that there was value in a professional approach to research education. As one supervisor explained: *There is pressure to be more accountable, and I am interested in holding onto the good things of the traditional thesis; but we have got better at doing things; we now have new structures that help students to streamline the process; so we have got better at helping students'* (Supervisor, ATN Univ).

## **Diversity in doctoral education**

A second major theme evident in interviews in the project was that of diversity in doctoral education. This theme emerged as major priority in interviews with research leaders, research coordinators and supervisors. Discussions of diversity included:

- diversity amongst students themselves in terms of
  - o cultural and linguistic backgrounds, and
  - o reasons for undertaking research degrees;
- diversity in processes of study, in the impact of globalisation and technology, and in ways of engaging with data;
- diversity in outcomes from research degrees:
  - o diversity in what counts as a thesis
  - o diversity in range of outcomes
  - o diversity in career pathways following completion of research degrees

All interviewees agreed that increased diversity constituted a major change in research education.

### **Diversity amongst students themselves**

Diversity amongst students was identified as a major issue by all groups of interviewees. In line with comments made earlier during the project symposium, interviewees commented on the impact of globalisation on research education and saw globalisation as a major contributing factor in the increasingly diverse nature of students enrolled in research degrees. Interviewees described this diversity in terms of the cultural and linguistic background of students, but also in terms of students' reasons for undertaking research degrees, and in the career pathways they see for themselves following graduation. While, overall, interviewees were positive about diversity, there was some variation between research leaders, coordinators and supervisors regarding the challenges that this diversity posed. Not surprisingly, research leaders and coordinators tended to focus on the overall balance of students in research degree programs and on challenges to program management posed by diversity. However, supervisors were more concerned with the day-to-day challenges in working with students that diversity imposed, and here academic English was identified as a big issue.

The issue most frequently raised in relation to diversity of students was that of international students. Research leaders and coordinators spoke of the pressure to enrol increasing numbers of doctoral students and in particular to enrol international students. One research leader commented that for her institution, *'The main recent change (in the last 5 years) has been the diversification of the student body due to the increased number of international students' (Research leader, Go8)*. Some interviewees expressed concern about the understanding of what was involved in doctoral study and with the (inadequate) preparation of international applicants. As one research leader said: *'We get lots of queries and applications from international students but they are often not up to PhD standard. We therefore reject them and so the next question is what do we need to do to get them up to standard? At the moment we don't have facilities to support students to make the transition but we are under pressure to take students because of the money they bring' (Research leader, ATN Univ)*.

Some research leaders and coordinators noted that whereas in the past they had been under pressure simply to enrol students (and especially international students) into research degree programs, now they are more selective. They also noted that, with the overall formalisation of research degree programs, entry criteria had tightened considerably and are more consistent. Some also noted that recent government pressure to expand research programs is likely to present problems. The concern is that, with increasing global competition for good doctoral students, even with international students, the pool of potential research degree students is too small. As one research leader said: *'we are concerned with (over tightening) the strategy around recruitment of PhD students, and we will need more students to recruit with the expansion of funding for PhDs. With additional funding (from the government) for more students, it's now not difficult to get scholarships. So the question is where to place the bar for entry to PhDs. Or whether there is some market that is untapped of top quality students who not coming to Australia ... I don't believe there are a lot of people out there' (Research leader, Go8)*.

Supervisors also commented on international students in relation to diversity. However, as one supervisor pointed out, diversity in research education programs as a result of international students is not new: *'We have had international students for a long time, the only difference appears to be the level of English language they have; it is not as high as it once was' (Supervisor, ATN Univ)*. A number of supervisors expressed concerns about 'inadequate preparation' of research students. By this they appeared to mean that students brought with them very different notions of education systems, and that frequently they had an inadequate understanding of what was involved in research degree study in Australia.

The issue most frequently raised by supervisors in relation to international students was that of academic English, although as some pointed out, academic English is an issue not only for international students. One supervisor commented, *'I have a fairly balanced group of students in terms of international and domestic enrolments. They have a high degree of difference in their English language capabilities; some*

*are excellent whilst others are very problematic. The demands are hugely different. One I have to check word by word to even get the meaning' (Supervisor, Regional Univ).* The majority of supervisors were sympathetic to the demands that their students faced in reading and writing in their second language, but felt frustrated at times because they did not have the resources (or knowledge) to be able to assist their students adequately. Many also felt that supporting students' academic English was not their job, and they felt that universities needed to provide higher levels of resources here. One supervisor said *'I have not responded as well I have could have to the change in the student body. I say to students I am here to teach you science and not English, so I expect them to present work which is readable. I think I cannot carry on with this as I feel I need to teach them how to write' (Supervisor, Go8).* Another supervisor said *'the challenge is to establish balance of what is my work and what is student's (in regard to academic English) and the amount of support I should provide; and how hard I should push the students (Supervisor, Regional Univ).* For interviewees, it is not only writing skills that present challenges, reading skills are also problematic. One supervisor said, *'I am finding more effort is required to the early stages of the PhD to foster reading skills' (Supervisor, ATN Univ).*

Supervisors noted a number of other ways in which both local and international students are diverse: in age; in background; in personality; and in the pressures that the students need to juggle while studying. As supervisors pointed out, students come from wide sets of background. Some come straight from their honours year and are able to commit full time to their studies, others are mid-career, have family responsibilities and can only commit some of their time to their studies. All of these factors produce challenges to supervisors and those who manage doctoral education. For example, one supervisor reflecting on these issues said, *'Diversity for me is not that sort of diversity [international students]. It is about students' personalities and their needs. I never had one type of student. To me this is the issue. The main thing is the different demands they make on me. I am finding students are having more demands on their lives, rather than making more demands upon me. I have one who is a single mum and working part-time, one is flying to Hong Kong for a divorce, and another is working as a cleaner' (Supervisor, ATN).* Other aspects of diversity amongst students identified by supervisors include the level of demands students make on supervisors; and in the skills and knowledge that they bring to their study. As one supervisor commented, *'My perspective is that the older generation are more self-directed and self-motivated. You can tell them things and not do it for them. Whereas with the younger students they need more motivation, they are lot more insecure and they need a lot more feedback' (Supervisor, ATN).*

### **Diversity of processes and modes of study**

In addition to diversity amongst students, research leaders, research coordinators and supervisors all commented on increasing diversity in processes and modes of study within research degree programs.

The choice of full time or part time mode of study is not new in research degrees. However, as interviewees indicated, mode of study has an impact on the research culture of faculties and has a considerable impact on supervision practices. Mode of study is also related to disciplinary differences in what is regarded as 'usual practice'. For some faculties, typically in the sciences, the usual practice is full time student enrolment, and for them, the challenge is to accommodate part time students. For other supervisors, typically in social sciences and humanities, usual practice is where most, if not all of their students are part-time. Typically here there are processes in place to accommodate the needs of part time students. Some supervisors across all disciplines have a mix of full-time and part-time students and they need to address challenges associated with supervision of both full time and part time students.

Diversity in full time and part time mode inevitably intersects with diversity of students themselves. Full-time students tend to be younger, have fewer family responsibilities and usually undertake less paid

employment, while part-time students typically are older, work longer hours, and have significant family responsibilities. A research degree coordinator commenting upon the issues of recruiting doctoral students in her area said, *'the real dilemma is that there is a shortage of doctoral students in nursing. Our students tend to be older, have a mortgage. They don't want to be full-time, they want to be part-time'* (Research degree coordinator, Regional Univ). A research degree coordinator from another university said, *'The model of students being full-time and on campus does not apply here; we work with students from all over the place. You can only really do it in the social sciences because of the absence of bench work. One of the things the doctorate needs to do is become more flexible to allow more types of students to benefit from it'* (Research degree coordinator, ATN Univ).

As indicated, discipline differences impact on what is regarded as 'usual practice' regarding full or part time mode of study. Discipline differences also impact on what is considered 'usual practice' in how students undertake their research. In some of the sciences, for example, it has been usual practice to undertake a doctorate in a team based laboratory environment, while in the humanities or social sciences, usual practice has more often been the more solitary experience of students working with one supervisor. As interviewees pointed out however, usual practice in the humanities and social sciences is undergoing some change. There are, for example, a growing number doctoral studies being undertaken in the humanities that are part of larger research projects – typically those funded by the ARC. A supervisor, reflecting on these changes, said, *'APA (I) scholarships present some challenges to supervision as you have the dual aims of the project and the student'* (Supervisor, ATN Univ). Another commented that, he had *'done a number of linkage projects in the past and they leave a bad taste in your mouth. You put a lot of effort into setting them up but you get little out of it. However, the advantage of an APA (I) is that the supervisor can choose the topic'* (Supervisor, Regional Univ).

A further dimension of overall diversity in processes of study within research education is the physical location of students in relation to their supervisors. Interviewees pointed out, students are now able to be enrolled in an Australian university, and be supervised from that university, while living and working in another country. As one supervisor explained: *'I am getting more international students who are not on campus. I have one student where I have been to his country more often than he has been here'* (Supervisor, Go8). Another supervisor commenting on her experience with international students said, *'I have one doing an Australian PhD, who lives in China, her project is about China. What Chinese people consider being normative in comparison to what Australian people consider to be normative is a minefield'* (Supervisor, Regional Univ). It is not only international students who may be located at some distance from their supervisor. One supervisor, commenting upon the location of her students, said, *'The bulk of my students do not come onto campus, I meet them in my own town'* (Supervisor, Regional Univ). In addition, it may be the supervisor who is located outside the university. They may work for an affiliate of the university, another university or an outside organisation.

### **Diversity in range of outcomes from research degrees**

A final dimension of diversity identified by all interviewees was that of diversity in range of outcomes from research education. Discussions of this issue included: increasing diversity in what counts as a thesis; diversity in the kinds of skills that research degrees are expected to develop; and increasing diversity in students' career pathways following completion of their degrees.

Research leaders, research degree coordinators and supervisors all commented on the increasing diversity of theses within their universities and faculties. They saw theses, especially in creative arts and in some of the less traditional disciplines, as pushing the boundaries of what was possible and as opening up new modes of knowledge. Interviewees were, in general, accepting and, at times, excited by the possibilities

for non-traditional theses. As one research degree coordinator explained: *'we have a strong sense of the notion of diversity of doctorate outcomes in creative faculties, for example, music performance plus some kind of written text. There are interesting questions around what is the written text that accompanies performance and what makes it a doctoral level work? It's very impressive how creative arts people can articulate what makes this doctoral level work'* (Research degree coordinator, Go8).

While there was general interest and acceptance of non-traditional theses within areas such as creative arts, there was reservation about developments in some other disciplines. One research leader for example, expressed concern that some health areas wanted to introduce doctoral programs where the outcomes would involve only practice, and would require no thesis at all. He said: *'the big issue is the professional doctorates, and the taught doctorates. These are highly contested at our university. Some are now all course work with no thesis .. so they are doctorates by virtue of their clinical training program. These raise difficult issues. They have the title but are not doctorates in sense of a PhD. Professional doctorates, where there is a thesis component, are a different issue. Legitimate doctorates need to have a thesis component of certain length'*. (Research leader, Go8).

A number of research leaders and coordinators raised the issue of compulsory students' publications. While publication of students' work during their study has long been encouraged, a number of universities and faculties are considering making publication a requirement for completion of a research degree. As one research leader stated, *'We are thinking about formalising that students must publish before completion. One aspect of this is to move away from the idea that the conversation during candidature is primarily with the supervisor to one that engages directly with the wider scholarly community'* (Research leader, Go8). The push toward making publications compulsory was supported by some supervisors. As one supervisor argued *'journal papers are more of a quality control than the thesis, it harder to get a journal paper written than a thesis'* (Supervisor, ATN Univ). Others were concerned that the push for compulsory publications raised the thorny issue of supervisor – student publications. A research leader at another university stated, *'Those (supervisors) who get their students to publish are those who want to get their name on the student's paper. I don't like that very much. I don't push it, the university as a whole would like it more pushed than I do, but I think academics should produce their own publications and not sit on the back of students'* (Research leader, Regional Univ).

A considerable number of interviewees commented on the additional skills that research education programs were now expected to deliver. While the thesis of approximately 80,000 words remains the major outcome from doctoral programs, they pointed out there are a growing range of other outcomes expected from research degrees. One research leader commenting on this, said, *'So that is one element: broader development of students beyond just the thesis, or either thinking of the thesis as developing those broader skills, e.g. understanding of national codes, ethics, abilities to give a conference paper, to teach in higher education, to disseminate your work; to understand and articulate your work'* (Research leader, ATN Univ). Others saw the outcomes in terms of more specific skills students developed during their studies. For example, one supervisor said, *'the process of writing is one outcome, other skills are conducting focus groups, designing surveys and project management skills. The students who flounder are those who have problems with these other skills. Also having and developing interpersonal skills is important when your project engages with people'* (Supervisor, ATN Univ). A research degree coordinator commenting upon the skills said, *'One of the main outcomes is generic skills, such as reading carefully, writing carefully, thinking carefully, speaking articulately etc. It is their confidence, their way of looking at ideas'* (Research degree coordinator, ATN Univ). One supervisor felt that completion of the thesis itself provided the means by which other skills could be developed. He said *'There are some interesting benefits from the thesis, one is to become independent, it is also about intellectual dialogue, it's about sustained dialogue with the supervisor. The combination of these is a focus on the thesis'* (Supervisor Go8).

Many interviewees also commented on the increasingly diverse career pathways that students take on completion of their degrees. The traditional career path following graduation has long been an academic career. While this is still a common career path for students, it is by no means the only one. Many doctoral graduates work in industry, in government, in consultancies, in NGOs. A supervisor, with industry based research experience, commented, *'The outcome of the (students') research will inform policies. They have to go out and disseminate the outcome of their research beyond the thesis'* (Supervisor, ATN Univ). Another view came from a supervisor who said, *'in my area (creative writing) the process overtakes the importance of the thesis. That is, writing the creative novel is more important than the thesis. It depends upon whether you view the short or long term development of the scholar as important'* (Supervisor, ATN Univ).

## **The changing nature of contemporary supervision**

The third theme evident in interviews was that of the changing nature of supervision: what is required of supervisors, how supervision is undertaken and who can do it. Interviewees pointed out that the increased capacity and diversification of doctoral education, coupled with the requirement of accountability (and the QA systems to achieve this) has led to increased demands on supervisors. As a result, the roles of supervisors are becoming more complex: their roles now include the need not only to be discipline experts, but also managers, mentors, coaches and facilitators.

Discussions in interviews of the changing nature of contemporary supervision included:

- pressures on supervisors/ supervisors' workloads
- supervision practices (including who 'leads' the project)
- relationships between students and supervisors

### **Pressure on supervisors and workloads**

Research leaders, research degree coordinators and supervisors all agreed that pressure on supervisors and supervisor workloads were substantial. Research leaders and coordinators, however, had slightly different perspectives on these issues than supervisors.

University leaders and coordinators reported being aware of the pressures faced by doctoral supervisors, although, on the whole, they felt that workload requirements for supervisors were reasonable. They recognised that compliance with the QA requirements, such as the completion of annual student reports, training, ethics, placed some pressure on supervisors, but felt that these pressures were not excessive. Nevertheless, they acknowledged the pressures faced by supervisors in juggling time available for teaching, research, publishing and supervising. As one research degree coordinator put it: *the pressure varies slightly from discipline to discipline; but it hasn't necessarily increased. The pressure on academics to be research productive has increased but this is a joy for academics; time pressures on academics have grown a bit as universities have become more complex organisations ... if academics are good at organising their time, they can deal with the pressures'* (Research degree coordinator, Go8).

Some disciplinary differences were evident in regard to perceptions of the demands of supervision. As one research degree coordinator said, *'It is a well known paradox that science students contribute to supervisors' research but in humanities they take away. This has to be recognised within institutions and in workload, productivity and promotion committees. Many universities generally have taken this on board; so academics are judged by their own peers (where this paradox is recognised)'* (Research degree coordinator, Go8).

An issue of concern to many research leaders and coordinators was that of numbers of students per supervisor. Most reported that their universities had restrictions on the numbers of students that could be supervised by one supervisor at any one time. However they also acknowledged that this restriction was not always adhered to, and that some of the more experienced supervisors had considerably higher than recommended supervision workloads.

Not surprisingly, the issue of pressure on supervisors was high on the list of supervisors concerns. While some had grumbles about the compliance with regulations, as indicated earlier, many felt that compliance was not too arduous. Some, in fact felt that these requirements actually assisted the supervision process and reduced pressure on supervisors. In addition, few supervisors expressed concern regarding the numbers of students that they were supervising. The issue for most supervisors was completing pressures on their time and the need to balance time required for supervision with time required for teaching and for their own research and publications. As one supervisor said, *'Supervision is seen as a 'tack on' even though there is work allocation. You have a full-workload and then you are given research students. You need to do the reading, the writing, the thinking'* (Supervisor, Regional Univ). Another supervisor said, *'In terms of the balance in our overall workload, I believe supervision is getting the short straw'* (Supervisor, ATN Univ). Many supervisors commented on the various strategies they used to cope with their workloads: some said they had had to become more efficient in the way they operated; some said they had dropped some activities (often their own writing); and others said they were working very long hours. As one supervisor said, *'I am spending a lot of time getting students to write at the expense of my own writing. I have very little downtime and I have become fairly efficient'* (Supervisor, ATN Univ).

## **Supervision practices**

Research leaders, coordinators and supervisors agreed that supervision practices have been changing. As indicated earlier, this is in part seen as a result of formalisation of research education and of the introduction of QA procedures. It is also seen as a result of broader processes of professionalisation in research education and resultant shifts in thinking about supervision. Many interviewees described the change in supervision practices primarily as a shift from a private space, where student and supervisor worked together with little interference or contact from others, to a more public space where supervision practices are more visible and more open for discussion, reflection and negotiation, and where they are also more accountable.

A consequence of overall changes is that the experiences of many supervisors' own doctorates no longer provide appropriate models for supervision practices today. A number of supervisors recalled their own supervision as being left alone to get on with their studies, and as being expected to be self sufficient, independent and self-motivating. While many reported favourably on this model of supervision, they commented that it would not be appropriate today. As one supervisor said, *'When I was a PhD student I was pretty much left on my own. I was given the task and left to get on with it. I think this is a good way to do it, you give them the ball and they run with it and they adapt ... but it would not work with my students. The problem with my students is that they need much more supervision. The bulk of them I have to watch carefully otherwise they will go off in their own direction'* (Supervisor, ATN Univ). Another recalling his own experiences, said, *'I think I did my doctorate differently to my own students, if I found a problem I would do most of the problem solving and then present it, whereas my students present me with the problem, I really have to push my students to be independent'* (Supervisor, ATN Univ).

Supervisors generally agreed that students now expect higher levels of support from their supervisors than in the past. Some supervisors argued there has been a change of culture where students are now treated as customers, with the result that there has been an associated a shift of the responsibility from student to

supervisor for the success of the study. As one supervisor said, *'There is also the dynamics of liability of what happens if the student does not complete within four years. How do you show who, if anybody, is at fault'* (Supervisor, Regional Univ). Another reflecting on this aspect of contemporary supervision said, *'There is also a risk of something 'blowing up', it can fall apart and they point the finger at the supervisor. Hence, I keep emails to ensure that if they accuse me of not meeting I have an audit trail to show what has happened'* (Supervisor, Regional Univ).

Supervisors also discussed the question of who has responsibility for leading the 'project' of the research degree. Here supervisors had a range of opinions. The majority view was that, since students differ in their needs, supervisors need to be flexible in the level of direction they give to their students and the amount of time they allocate for supervision. One supervisor commented, *'We are trying to stay on top of ensuring that students who fall off the radar are contacted. In other cases you need to work out whether you should leave someone alone because they work better that way. There are others who you have to stop becoming too dependent'* (Supervisor, Go8). As other supervisors pointed out, flexibility can be very difficult. One supervisor said *'I am a good supervisor with some students and not with others, and that is due to every student being different. What I have learnt is to pick the right student. Treating everybody differently is difficult for me. You can have the best student in the world but if they don't fit your personality it is not going to work'* (Supervisor, Go8). Other supervisors commented on the need to clarify students' expectations of the supervisor-student relationship at the beginning of the study. One supervisor said, *'I always give the students a little talk at the beginning I am never going to chase them, they have to take the ownership of this, if they fall by the wayside, that's their problem... [but] they are all very engaged in their projects'* (Supervisor Go8).

Despite overall agreement regarding the need for higher levels of supervision support now than in the past, there were different views amongst supervisors regarding the scholarly relationship that supervisors should have with their students. These differences did not appear to be related to disciplinary differences. One research degree coordinator in a faculty with a relatively new research degree program put it this way, *'I think there are a variety of relationships between staff and students, some see themselves as the 'top dogs' and it is a master-and-apprenticeship relationship, its handing out the morsels to the students. However, there also those who are more attuned to the students where the students' skills and knowledge are close to that of the staff'* (Research degree coordinator, Go8). Supervisors in some other faculties saw themselves as equals to their students and saw their role as supervisor as mentoring their students through the process. A humanities supervisor stated that she wanted, *'to empower them [the students], the moment I take on the role of manager this goes. Some of my students are highly experienced and knowledgeable'* (Supervisor ATN Univ). Others saw it quite differently, a research degree coordinator in an education faculty stated *'it is a more of a master and apprentice relationship than a partnership. The student might not think so, but there is still a relationship between the levels of knowledge and experience, particularly at the beginning'* (Research degree coordinator, ATN Univ). Another supervisor from an education faculty said *'The relationship is so complex. To use psychological terms, you are working in the student's zone of proximal development, so you do have to be challenging them, but you have to have good sense of where students is and pitch the challenge at right level. You don't want to pitch the level so high that students lose confidence in themselves. So judging that is important. Lot of interpersonal skills are needed; you are all things to the student at all times'* (Supervisor, Regional Univ). Others felt they were the disciplinary experts, at least at the beginning of the research, and they expected their students to respect this. They expected their students to become the expert in their chosen field of study, but they saw themselves as remaining the expert in the doctoral process.

## **Interpersonal relationships between supervisor and students**

An issue of major concern for many supervisors was that of interpersonal relationships between them and their students. As many interviewees pointed out, changes in doctoral education and in scholarly relationships between supervisor and students have had implications for interpersonal relationships between supervisors and students. Perception of the kind of relationship that supervisors should have with their students seem to vary considerably, although to some extent this seemed to reflect expectation in different disciplines. As one research degree coordinator in the social sciences said, *'what we do in social sciences is different to natural sciences. I think (in social sciences) it is a partnership between the practitioner and the supervisor, it is too and fro between them'* (Research degree coordinator, ATN Univ).

The issue of interpersonal relationships with students generated considerable discussion from supervisors, especially those in humanities and social science disciplines. A number of supervisors raised questions regarding the degree to which they had become, or should become, involved with the personal lives of their students. There were different views here; some had become intimately involved with their students while others kept a distance. As one supervisor put it, *'It is all about personal relationships,...of course you need to be a good researcher as well'* (Supervisor, ATN Univ). Supervisors generally placed great importance on interpersonal relationships with students but also saw these relationships as intersecting with overall purposes and outcomes of research education and as requiring a balancing act on the part of the supervisor. One supervisor described this as: *'There's stuff you need to do with caring in personal relationships. So with students' personal disasters etc where does supervisor sit here? How you manage this is hard. You need to balance between being supportive and caring, and recognising students' insecurity etc, and on the other hand you have a role in making sure the student passes, so you do need to be hard to ensure students are going to make it'* (Supervisor, ATN Univ).

Other aspects of interpersonal relationships raised by interviewees were more specific. A number of interviewees in Regional Universities cited tensions around supervising colleagues as students. Here supervisors needed to mentor their colleagues while also critiquing their work. A research degree coordinator commenting on this issue said, *'the head of school was a supervisor and there were some concerns about the duality of the relationships between the head and staff members (who were being supervised by the head of school)'* (Research degree coordinator, Regional Univ). Another research degree coordinator in the same university commented, *'If their (colleague) research performance is very lack lustre, it can cloud the friendship'* (Research degree coordinator, Regional Univ). Not all, however, agreed this was a problem. As one supervisor said, *'I find having colleagues as students work fairly well here. Even though they are colleagues there is a quite a big gap between me and them'* (Supervisor, Regional Univ).

Some female supervisors with male students raised the issue of gender relations between students and supervisors. A research coordinator who had had to intervene said, *'We had two male students from similar cultures one of whom was not a problem in terms of taking direction and criticism from a female supervisor where as the other student did have a problem'* (Research coordinator, ATN Univ). A supervisor at another institution said, *'My very first student I supervised was a disaster, he was a similar age to me and he had trouble taking advice from me, because, I think, of my gender'*. She went on to say later in the focus group, *'One of them (a student) would not take advice from me and I am convinced that it is because I am a woman and he comes from a background where taking direction from women is not normal'* (Supervisor, Go8).

## **Support for supervisors**

The fourth and final major theme evident in the interviews was that of support for supervisors. As survey and interviews outcomes from this project have indicated, today's supervisors need a wide set of tools. They must be experts in their fields of research, but increasingly they must also be able to take on roles as project managers, teachers of research, time managers, risk managers, and interpersonal negotiators. The nature of support for supervisors that is and/or should be provided by the universities is a central concern of this study, and, in the interviews, we asked research leaders, coordinators and supervisors their views on these matters. Their responses indicate that while interviewees were all positive about some aspects of available support, many believe that more/different support is needed. In what follows, interviewees' responses are elaborated under the following headings (although there are inevitably areas of overlap between these categories):

- Becoming a supervisor/ development of new supervisors
- Professional development for experienced supervisors
  - o the place of formal courses on supervision
  - o the value of mentoring
- Specific support/resources for supervisors
  - o for new supervisors
  - o for more experienced supervisors

### **Becoming a supervisor/development of new supervisors**

Systematic support for the development of new supervisors was seen as important, by research leaders and coordinators, by experienced supervisors and by the new supervisors themselves. While, the consistent message from survey and interviews has been that many supervisors have reservations about the value of centralised formal courses (see below), interviewees generally agreed that a systematic program with some kind of central and formal component is necessary for new supervisors, and indeed it appears the majority of universities already have such programs in place.

Some differences of opinion were evident amongst interviewees regarding the ideal way of supporting new supervisors. Some interviewees suggested that universities should provide structured courses with sequences of modules to induct new supervisors, while others proposed a combination of central and more local support structures. Wherever they were held, there was general agreement that universities needed at least to introduce new supervisors to the roles and responsibilities of supervision and to key QA structures and compliance issues. They also needed to alert new supervisors to possible pitfalls. As one supervisor commented, *'Early Career Researchers should be made to attend workshops particularly these days where there are legal implications. There are a whole range of traps you can fall into. When I started as an academic it was assumed that you would absorb all this stuff by osmosis and no one was taught how to teach'* (Supervisor, Go8).

The consensus however, was that while centralised formal courses were useful for covering initial requirement of new supervisors, they were not enough, and that other kinds of support needed to be provided at a more local level. Many interviewees saw mentoring as being particularly important for new supervisors. As one research degree coordinator said *'Mentoring can play an important part in development. When a new person arrives they sit at the elbow of someone. We try to make sure a new person is put with someone who is highly experienced.'* (Research degree coordinator, ATN Univ).

Interviewees' comments reveal some differences in university policy regarding support for new employees in academia. In some universities the doctorate appears to be seen only as the first phase of becoming an independent researcher, while in others there is an expectation that new doctoral graduates will very quickly become fully-fledged researchers and supervisors. Differences appear to occur between

those with established research degree programs and those with new programs and fewer available supervisors. A research leader from a Go8 university, for example, said, *'I think the notion of the PhD being a single boundary will become less significant but rather a much more fluid arrangement will occur around the ECR. ECRs could have a 10 year duration of which the PhD is a part. We are putting a lot of effort into ECRs. In previous comments we talked about the PhD student being able to do independent research, but what we want now is for a person to be an independent researcher, that is someone who can do the research, publish, get grants and be able to provide the income for their salary. That is why we are looking at a 10 year window'* (Research leader, Go8). In contrast, a research leader from a Regional university said, *'The moment that staff graduate from their PhD they are expected to be able to supervise. There needs to be support for them that does not overwhelm them. I know some want a bit of time off between completing and supervision'* (Research leader, Regional Univ). A supervisor from this university commented, *'there is pressure as a junior member of staff to take on supervision. You have a tendency to take on students who you probably should not'* (Supervisor, Regional Univ).

In sum, it appears that most universities already have in place some kind of structured programs for the induction of new supervisors. Outcomes from both survey and interviews indicate that these programs should include some centralised formal components where supervisors are familiarised with the roles and responsibilities of supervision and with QA structures and compliance issues. They should also include faculty-based programs that provide a range of formal and less formal ongoing support structures: these could include faculty-based courses that address discipline specific implications of QA and compliance; structured and less structured strategies to address relevant processes and procedures of supervision; and (most importantly) systematic mentoring programs. While most universities already provide a healthy range of centrally located course, outcomes from this project suggest that more local support is very hit and miss. It is this element in particular that needs to be strengthened.

### **Professional support for experienced supervisors**

While there was broad agreement amongst all interviewees on the need for some formal structure in the induction of new supervisors, there was considerable disagreement on the need for, and nature of, any ongoing professional development of experienced supervisors. Indeed a few interviewees were sceptical about the value of any ongoing professional development for experienced supervisors, and many rejected the need for compulsory participation.

Some differences in perspective were evident in interviews between the views of research leaders and coordinators on the one hand, and the views of supervisors on the other. Research leaders and coordinators who have responsibility for research education and for QA and tended to take a big picture view of support for experienced supervisors. They were aware of the scale of change in research education and implications for changing supervision practices. They were also aware of pressure from government policy and from universities for QA and compliance with specific regulations, and the need to be able to enhance quality of supervision. And they were the ones who were required to intervene when problems arose with students. Thus they were aware that not all experienced supervisors had exemplary practices. Not surprisingly, therefore, they tended to be more positive about the value of formal courses for experienced supervisors. However, they were also well aware of the resistance of many supervisors to such courses. As one research leader said. *'This is a quote from an academic from a recent training session feedback form. I don't know how you deal with someone like that. "No more training please I am an academic and not a performing monkey'* (Research leader, Regional Univ).

Comments from many supervisors, and particularly from those who are more experienced, confirmed that they do not find such courses engaging or useful. As one supervisor said, *'I am a bit weary of supervisory*

*courses because it strikes me that a lot of the abilities to supervise can only be learnt on the job. There are pushes to formalise them but this often makes them less effective. Formulaic workshops don't work, but something like this [the focus group discussion] with a large group would be good' (Supervisor, Go8). Another experienced supervisor said, 'My experience is that they [formal] courses are fairly useless for me. They are too generalised. For me the best way to learn is on the job. We have a younger member of staff who has just got his first PhD student and I am mentoring him. To me that is how you learn' (Supervisor, Go8). There was also a feeling amongst supervisors that centrally provided courses were in some way pushing the 'party line' on how students should be supervised and supervisors resented this. One supervisor said, 'It is the old 'let's put the chairs in a circle' scenario. I feel I have to put my intelligence on a shelf to 'buy in'. They are well intentioned... I am very weary of a top down approach to interacting with your students' (Supervisor, Go8).*

There were, however, a number of experienced supervisors who felt they did gain some insight into aspects of their supervision through formal courses. One supervisor remarked, *'I have done all the training workshops here. I think you always take something away from them but it more often than not confirms things that you already have. However, I believe they are not a waste of time as they serve a function, but in terms of improving supervision, the apprenticeship model is more effective' (Supervisor Regional Univ).* Interviewees' responses also varied in relation to the perceived relevance and quality of the course. One supervisor said, *'They (formal courses) are variable in terms of the quality. Sometimes they put on a person who is fantastic. Other times you think you could do a lot better with your time. I always find courses more useful if they are applied. For example, where you can break into groups and discuss the topic. Sometime having other disciplines present brings different views on a subject' (Supervisor, Regional Univ).*

Research leaders and coordinators reported that universities held different positions in regard to compulsory attendance at supervisor professional development courses. At one institution, attendance was compulsory if a member of staff wished to be on the supervisor register, but at others attendance was voluntary. As some research leaders and coordinators said, it was often the supervisors who most needed professional development who were least likely to attend supervision development courses. For this reason, some universities are considering a move to compulsory attendance, although interviewees reported reservations about such a move. One research leader said, *'The DVC wants to make a training programme compulsory for academics and I support that. But I have not got anything good enough for that yet' (Research leader, Regional Univ).* A research leader at another university took a slightly different view, saying that supervision training should not be treated differently to other types of academic development. He said, *'I don't think programs should be compulsory unless you know they are good, so you don't waste people's time. They also need to be embedded in a broader view of continuing professional education for academics and so supervision should not be singled out' (Research leader, ATN Univ).* In other institutions the decision regarding compulsory attendance is made at the faculty level.

While research leaders and coordinators could be described as being somewhat ambivalent about compulsory attendance at supervision courses, supervisors were much less ambivalent. The majority were not in favour of compulsory attendance, although a few felt that compulsory participation may expose supervisors to new ideas and encourage them to reflect on their supervisory practices. Overall, however, the view was that compulsory attendance would be counter-productive.

In sum, the ongoing professional development of experienced supervisors presents a major challenge to universities. On the one hand, with increasing formalisation and accountability of research education programs, universities are pressured to have in place formal procedures for provision and monitoring of supervisor development – and the obvious way to do this is through provision of centralised formal

courses. On the other hand experienced supervisors are ambivalent (at best), or highly critical (at worst) of such courses. They are also generally resistant to the move towards compulsory attendance at such courses. Outcomes from the project therefore indicate the need for universities to rethink strategies for ongoing development of experienced supervisors. Rather than putting resources and expertise into centralised courses, outcomes from this project indicate that universities should use at least some of their centralised resources to facilitate and support more systematic and structured programs locally. It also suggests the need for more creative solutions to supervisor development beyond the standard course or workshop. Where universities require supervisors to be formally registered, this requirement could be tied to faculty-based programs on professional development (so that the faculty rather than the central university would be responsible for supervisor registration). Such programs would usefully include a systematic mentoring program.

### **The value of mentoring**

Mentoring has consistently emerged as a major issue in outcomes from both survey and interviews. Survey responses highlighted the importance of experience in supervision and of opportunities to work collaboratively with colleagues in learning about supervision. Responses from interviewees confirmed this finding. Research leaders, coordinators and especially supervisors spoke very positively about the learning that occurred when new supervisors worked with more experienced supervisors. The benefits included the relevant and practical nature of learning; and learning at point of need. Interviewees pointed out that this learning is a two-way process and that more experienced supervisors also benefit from mentoring as they are pushed to explain and reflect on their own supervisory practices. In addition, interviewees said they enjoyed the mentoring process. As one supervisor said *'I often co-supervise and also mentor colleagues. I enjoy mentoring others.'* (Supervisor, ATN Univ).

Despite the overall positive response, a number of research leaders and coordinators pointed to possible problems with mentoring. Their primary concern was with what knowledge and what practices were being learned. As one research leader explained, *'Mentoring has a role but I worry about passing on bad habits. ... You can almost hear, if you put your ear to the ground, you can hear all this terrible practice going on. There is really a great danger of bad practice being passed on.'* (Research leader, Regional Univ). Some universities had addressed this concern. A research leader, commenting on this said, *'We do expect principal supervisors to mentor associate supervisors. We have grants to allow this to happen. We deal with the potential of bad practice by various means including questionnaires and one-to-one discussion'* (Research leader, Go8).

Another concern expressed by research leader and coordinators was the challenge of setting up good mentoring relationships. As a research degree coordinator said when reflecting on this issue, *'I think mentoring could work, but it is a bit tricky; matching mentors with mentees is the hardest part. If people can find their own, it can work, I have seen problems where they have been assigned. I think some cross disciplinary mentoring is beneficial. You can get a fresh view.'* (Research degree coordinator, Regional Univ). Another research degree coordinator said, *'I think mentoring could be useful but you would have to be very careful about the people chosen to be the mentors. You would need to ensure that they had the skills and knowledge that you wanted to be passed on.'* (Research degree coordinator, Regional Univ). Research leaders and coordinators were also concerned about implications of mentoring programs for workloads. As some pointed out, if mentoring is formalised, the issue of workload would have to be addressed. One research degree coordinator said, *'We tried to create formal mentoring structures here, but they have always fallen down because of workload issues. .... I would be concerned that if it becomes structured and formalised it would become a restrictive and bureaucratic nightmare.'* (Research degree coordinator, ATN Univ).

Supervisors were also aware of some of the challenges associated with mentoring. Like research leaders and coordinators, they were aware of the potential for mentoring of bad practices. Some supervisors suggested mentoring programs needed to be more systematic: *'No one has explicitly stated that principle supervisors are expected to mentor inexperienced supervisors. The whole notion of rewarding experienced supervisors is something that should be considered'* (Supervisor, ATN Univ). However, other supervisors were concerned that formalisation of mentoring could be counterproductive. One supervisor said, *'It (mentoring) has to be informal, we have looked at it and we were not happy with a formal mentoring system'* (Supervisor ATN Univ).

Survey and interview responses provide evidence of the value supervisors place on simply being able to talk about supervision. The most frequent comment from supervisors in interviews was that they felt the knowledge gained through this process was relevant and timely. Interviews also indicated the majority of supervisors favoured more localised sites of learning than those provided by centralised programs. For some supervisors their preferred methods of gathering advice or knowledge were simply through 'corridor conversations' and through learning on the job by doing supervision. One supervisor stated, *'I tend to be sceptical about education when it comes to supervisor development. I don't think you can learn the skills from others. I think it is a matter of experience and personality.'* (Supervisor, Go8). Another supervisor said, *'Some colleagues I have learnt a lot by watching them. Others I have felt that I needed to take a step back and just be supportive when I was required.'* (Supervisor, Regional Univ).

As with mentoring, many supervisors recognised there were some inherent dangers in these informal ways of learning. Their major concern again was the possibility of passing on bad practices. In relation to this, one supervisor said: *'Sometimes, senior members of staff are a problem. However, if I were left alone I would have been totally lost'* (Supervisor, Go8). Other supervisors emphasised the need for individual supervisors to take responsibility and initiative in their own learning. As one supervisor put it, *'The teacher in me says if there is anything you can learn, you can teach it. The other side says that experience is important. Good supervisors are self-regulated, they know when to learn more, I am still learning all the time. For me it is about having the time. I need time to do the development. Supervisors have to take the control of their own growth and development.'* (Supervisor, ATN Univ)

In sum, despite some reservations, responses from the survey and interviews in this project have consistently pointed to the value of mentoring as a way of supporting supervisor development. Outcomes from the project thus suggest universities should provide resources that facilitate and support mentoring programs within faculties. The emphasis here would be on engaging experienced supervisors in supervision development. Mentoring programs could also build in cross discipline discussions of approaches and research techniques. However, in developing mentoring programs, there needs to be acknowledgment of some of the potential challenges: the possibility of mentoring bad practice (and how to avoid this); the need to pair compatible mentors and mentees; the need to maintain flexibility within the program and to allow mentors and mentees some agency in their working relationships. Universities also need to acknowledge workload implications.

A related message from the project is the value of simply talking about supervision. To some extent this is consistent with the overall push toward making supervision more visible, but the message from supervisors is that there is great value in informal, situated, local, at point of need conversations between less and more experienced supervisors. Outcomes from the project suggest that universities should put resources into faculties to facilitate and support such informal learning opportunities.

### **Specific support and resources**

In interviews, supervisors were asked what kinds of support and resources were most needed to help them fulfil their role as supervisors more effectively. One of the most consistent responses from supervisors was the need for more support with academic writing. Predictably this was a major issue for supervisors working with international students studying in their second language. However, as many supervisors commented, it is also an issue for many local students. While supervisors recognised the difficulties their students were experiencing with academic reading and writing, they felt they did not have the resources or necessary knowledge to help them. A consistent plea from supervisors was for more help in this area. Although the majority of participating universities had support unit in place, some supervisors were reluctant to send their students to them, as they thought the support provided in the central unit was too generalised. One supervisor commented, *'I have a student who has problems with writing. There are centrally provided resources to help with such situations but my fear is that what comes out of it is so generalised that it is not going to have any bearing on my discipline.'* (Supervisor, Go8).

In addition to academic writing, supervisors identified the following areas where additional resources were needed:

- Getting students to publish – given the pressure to increase publication rates during candidature a number of supervisors expressed a wish to see resources put in place to support this.
- Supervising students outside of Australia – a number of supervisors were supervising students who were physically located outside of Australia. Supervisors requested more advice and guidance on how best to do supervision in this situation, for example, how do you ensure ethical guidelines are being met when the research is taking place in a language other than English.
- Supervising inter-disciplinary projects – with the growing emphasis on doctoral students undertaking inter-disciplinary projects, supervisors requested more guidance and support in how to supervise such projects.
- Dealing with demanding students and situations- some supervisors asked for more support to enable them to recognise and avoid problem situations; and more support in dealing with problems if and when they arose. Some examples include: where students resist advice of supervisors; conflicts that are related to gender issues; challenges of supervising colleagues.
- Dealing with demanding supervisors (for research coordinators) – how do faculty managers who have responsibility for supervision deal with difficult supervisors. Some coordinators requested support both to enable them to prevent problem situations and to deal with problems when they arose (for example, a breakdown of the relationship between the student and the supervisor, where the fault lay mainly with the supervisor)
- Generic skills for students – where universities were mandating the development of generic skills, supervisors requested more guidelines and resources to incorporate these generic skills into their supervision.

In sum, survey and interview outcomes suggest that universities should take more note of the challenge many research students (international and local) face with academic English, and the related challenge faced by their supervisors. Universities should address this challenge by providing resources at the local/faculty level, in addition to centralised resources.

In addition, universities should take account of supervisors' requests for further support in the areas of:

- Supporting students' publications
- Supervising students outside of Australia
- Supervising inter-disciplinary projects

- Dealing with demanding students and demanding situations
- Developing students' generic skills for students.

## Appendix 1

### Interviews questions for Research Leaders and Research Coordinators)

Interviews with research leaders and research coordinators addressed the following:

- The changing nature and purposes of doctoral research: to what extent is doctoral research changing; are purposes of doctoral education changing? What are likely future directions in doctoral education?
- what are the likely implications of any changes for doctoral supervision
- what are the likely implications of changes for research education training.

### Questions

#### 1. Changing nature of doctoral research

##### *Preamble:*

Earlier in the project, we held a Symposium of invited experts. Symposium, participants highlighted the changing nature of doctoral education:

- importance of new modes of knowledge production;
- competing pressures on doctoral education:
- increased diversity; and
- challenges to traditional ways of thinking about doctoral education.

They also pointed to considerable discussion (and disagreement) in universities about purposes of doctoral education, and they identified (amongst others) the following range of purposes:

- preparation of employment ready researchers;
- preparation for research leadership
- engaging in professional development

##### *Questions*

We are interested in your views here. Would you agree that the context and purposes of doctoral education are changing? If so, how?

##### *Possible probes:*

- How are changes evident in your university and/or faculty?
- What do you see as priorities and future directions for doctoral research?
- Where do you see doctoral education going in the future?
- Who is the project leader in the PhD (supervisor or student) and has this changed?

#### 2. Implications for doctoral supervision

##### *Preamble:*

In addition to the changes mentioned in the previous question, Symposium participants + survey respondents have commented on increasing demands being placed on supervisors.

Specifically, they commented on:

- the need for supervisors to balance *institutional demands* (of compliance, efficient completions, risk minimisation etc)
- with demands of *supporting their students*.

##### *Questions*

Do these comments reflect your own perceptions of pressures faced by supervisors in your university/faculty?

- What do you think makes a good supervisor? Ie What does a supervisor need to know and do to be a good supervisor?
- More generally, what implications do you see for the nature of doctoral supervision in the future?

*Possible probes:*

- Are you aware of increasing pressures on supervisors in your own university/faculty?
- What are your institutional expectations for supervisors (eg project leader, responsible for students' ethic compliance; responsible for national code of practice' expected to provide career advise; expected to advise on preparation of conference papers and publications; advise on commercialisation)
- What do you see as priorities in supervision: supervision as teaching/pedagogy; as being a good researcher (who knows about research design etc); as an expert in disciplinary knowledge?
- What implications do pressures/ future directions have for the roles and relationships of supervisors and students?

*3. Implications for doctoral supervision training*

*Preamble;*

Our major interest in the project is with doctoral supervision training and with ways that universities can best support doctoral research education. One issue that arose from survey responses was the possibility of better utilising different sites of learning: for example, combinations of central support; in-faculty support, and support via mentoring.

We are interested in your views on these issues.

*Questions*

What supervisor support currently exists in your faculty/university?

In the light of your responses to the previous questions, what you see as priorities for research supervision training?

Are there ways that you think research supervision training will need to be reconceived or improved in the future?

*Possible probes*

- What do you think are the strengths of research supervision training in your university/faculty?
- Whose responsibility is supervision support and training at this point in time?
- In what ways (if any) could research supervision training be strengthened in your university/faculty?

*4. Nature of supervisor support programs*

*Questions*

If you were designing a program to support supervisors during their first few years of being a supervisor, what would the program look like?

*Possible probes*

- what would you want included
- where would the program(s) be located
- what would be compulsory/optional
- would this be part of a supervisor registration process
- what follow up support would you like to see (for more experienced supervisors)

*5. Any other comments*

Is there anything else that you would like to add?

## Appendix 2

### Interview questions for supervisor focus groups

Focus group discussions with supervisors addressed the following:

- views on purposes and priorities of doctoral research supervision
- challenges of being a supervisor
- influences on own ongoing development as a supervisor, and
- priorities in research supervision training and supervisor support

### Questions

#### 1. Views on purposes and priorities of doctoral research supervision

##### *Preamble:*

Symposium participants indicated there is considerable discussion (and disagreement) in universities about purposes of doctoral education, and they identified (amongst others) the following range of purposes:

- preparation of employment ready researchers;
- preparation for research leadership
- engaging in professional development

##### *Questions*

What do you see as the major purposes of doctoral education, and what do you think are the most important outcomes for your students?

##### *Possible probes:*

- What do you most want your students to take with them from their doctoral degree?
- Is successful completion of a thesis the only important outcome, or are other outcomes also important?
- What did you take from your own doctoral studies?

#### 2. Challenges of being a supervisor,

##### *Preamble:*

In symposium discussions and in responses to survey, participants raised the issue of increasing pressure on supervisors. They noted that supervisors are caught between:

- institutional pressures (demands of compliance, efficient completions, risk minimisation etc) and
- pressures of supporting their students.

They also suggested that supervisors are caught between:

- demands of supervision and
- other work demands (of teaching, administration, research and publications).

We would like to explore this issue in more depth with you.

##### *Questions*

What are your experiences of being a supervisor? What pressures are you aware of, and have these pressures changed in recent years?

##### *Possible probes*

- How do you balance these pressures?
- How effectively are you able to do this?
- Is there any one aspect of your work-load that misses out as a result of competing pressures (eg your own publications, time with students)?
- Are you working with more diverse students (as some survey participants suggested)?
- If so, what are the implications for your work as supervisor? More/different pressures?

### *3. Influences on own ongoing development as a supervisor*

#### *Preamble:*

The major focus of project is on ways that universities can best support research degree education. To help us here, we are interested in what has been most influential in your own on-going development as a supervisor.

Our survey respondents nominated (in order of frequency)

- own experiences of being supervised (usually negatively experiences so participants try not to follow their own supervisors)
- working with colleagues and peers
- experiences since becoming a supervisor (ie experiences in actually being a supervisor)
- learning from supervision workshops (both good and bad)

#### *Questions*

Do these factors reflect what has influenced you in becoming a supervisor?

What has been most important for you in shaping the way you go about supervising your students?

#### *Possible probes*

- Have other factors or experiences influenced you?
- Have your views on priorities and outcomes in doctoral research shaped your practices as a supervisor?
- If so, how?

What are the qualities of a good supervisor? Ie what does a good supervisor need to know and what do they need to do?

### *4. Priorities in research supervision training and supervisor support*

#### *Preamble*

Another major focus in the project was effective research supervision training. An issue that arose from survey responses was the possibility of better utilising different sites of learning: for example, combinations of central support; in-faculty support and support via mentoring.

We are interested in your views on supervision training and supervisor support

#### *Questions*

In your experience, what has been the most useful training or support (either formal or informal) that has helped you as a supervisor?

What additional/different support (if any) would you like to see in your university?

Do you believe that all supervisors should attend courses to be accredited as a supervisor? Why, why not?

#### *Possible probes*

- What do you think is the value of formal courses in supervision development?
- Which courses, for whom and at what point in the supervisors' development?
- If (as survey respondents suggest) mentoring is an important influence of supervisor development, should we have more systematic mentoring programs?
- What courses, programs, activities realistically would you participate in, and at what stage of your development as a supervisor?
- Are additional/different kinds of support needed for new supervisors?

### *5. Any other comments*

Is there anything else that you would like to add?