



Australian Government



Office for  
**Learning & Teaching**

# Developing a toolkit and framework to support new postgraduate research supervisors in emerging research areas

Final Report 2013

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Support for the production of this report has been provided by the Australian Government Office for Learning and Teaching. The views expressed in this report do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



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2013

ISBN	978-1-74361-366-5	PRINT
ISBN	978-1-74361-367-2	ONLINE PDF
ISBN	978-1-74361-368-9	ONLINE DOCX

# Acknowledgements

Swinburne University of Technology and the project partners would like to thank the Australian Government Office for Learning and Teaching for providing the opportunity to undertake this project.

We would also like to acknowledge the support and contributions made by all of the following in assisting the project team to develop a Toolkit and Framework to support new postgraduate research supervisors in new and emerging research areas

- Independent evaluator - Professor Barbara Evans; and
- The project advisory group - Professor Max King Monash University and Dr Margaret Kiley Australian National University and for the first year of the project Professor Ian Lang, University of Melbourne, who then took on a role in Hong Kong.

## List of acronyms used

ALTC	Australian Learning and Teaching Council Ltd
CoP	Community of Practice
CQU	Central Queensland University
DDoGS	Deans and Directors of Graduate Studies
ECU	Edith Cowan University
fIRST	for Improving Research Supervision and Training
GRS	Graduate Research School
HDR	Higher Degree by Research
OLT	Australian Government Office for Learning and Teaching
QPR	Quality in Postgraduate Research
RHD	Research Higher Degree
RS	Research Supervision
SUT	Swinburne University of Technology
USQ	University of Southern Queensland
VU	Victoria University

## Executive summary

Australia has seen the 'massification' of the research degree sector, with higher degree research (HDR) students increasing from 15,000 to 40,000 between 1987 and 2000 (Evans & Macaulay, 2010). Newer disciplines based on practising professions such as business, performance and creative arts, nursing, allied health and education are rapidly seeking to transform themselves into research-based domains of knowledge. This necessitates the transformation of academic communities from practitioners to a more traditional focus on research. Training of research students acquires a complex dimension in this context as supervisors struggle to develop their own research identities (LaRocco & Bruns, 2006).

This project set out to develop a toolkit of on-line resources that sits within a developmental framework. The toolkit can be used nationally to help develop academic staff who are new to postgraduate supervision, particularly in emerging research areas. The project set out to expand on previous Office of Learning and Teaching (OLT) outcomes and include an evaluation of these previous outcomes as part of the toolkit development. In developing the supervisory capability of staff, it is expected that the quality of supervision will be enhanced and a greater number of higher degree by research students should complete their research degrees in a timely manner. This, in turn, will go so way to develop a sustainable academic workforce for the future of Australian Higher Education.

The project was based on collaboration between senior academics at five institutions (University of Southern Queensland, Edith Cowen University, Central Queensland University and Victoria University) led by Swinburne University of Technology. It included an international literature review, a survey of supervisors (287), 30 interviews, and four focus groups (10 participants). These survey and interview/focus group data were collected in 2012. A national trial of the toolkit arising from this project was conducted in 2013. It found strong demand for on-line, real-time resources of this type. However, it took time and effort to encourage supervisors to trial the toolkit. Due to institutional restructuring occurring at the time across the five partner institutions, many supervisors seemed to be time poor and distracted, however once the trial commenced there was strong participation and feedback provided by supervisors.

### Characteristics and findings of the survey

Most supervisors who were surveyed were experienced (62%), having supervised for four years or more. However, more than a third were less experienced, with 0-3 years of supervisory experience. The majority (60%) of these supervisors had been employed by their university for six years or more. Nearly half the supervisors were currently supervising four or more HDR students.

It was interesting when reflecting on their own experience as doctoral students in the past, 43% did not rate their supervisory team highly. This lack of good practice experience from their own PhD may have coloured their perceived need for training and support. A significant minority (29%), did not rate the mandatory training provided by their institutions for supervisors as being effective although most did find it effective to some degree.

### Outcomes of interviews and focus groups

Although the detail of what supervisors said varied in emphasis and focus across the five institutions (see sections below), there were common threads across them.

The majority of supervisors who were interviewed felt there was a need for further resources to support them in their supervisory practice, and felt that current offerings (workshops, books, and in some cases, communities of practice and mentoring), were not meeting all their needs in this regard. Supervisors were particularly looking for real time, readily available resources and advice that could be accessed as and when needed, from their offices or home computers. The busy schedules of supervisors, with varying commitments to classroom teaching, administration, research and research supervision meant that they could not always attend face to face training and in any case, there were limitations in the timeliness and relevance of training provided by institutions relative to these needs.

Some were also interested in accessing an on-line community of Higher Degree by Research (HDR) supervisors to engage in discussions and seek advice about particular supervisory issues or needs.

These resources so accessed would need to be sophisticated but concise, easy to read and provide guidance to other resources if the supervisors chose to follow them up. Supervisors emphasised that HDR supervision could not be reduced to formulaic, recipe-like prescriptions and that all supervisory situations (and HDR students) varied. No two supervisory cases were ever the same, given the very individual and customised nature of the PhD thesis and journey. As such, some interviewees initially resisted the notion of a toolkit as being too simplistic and competency-based. However, if the tools could be designed to be informative, thought provoking and thorough in their overview of the issues and potential strategies, supervisors agreed they would be valuable and they were likely to use them. Some typical areas where supervisors felt there could be more guidance provided through an on-line toolkit included: dealing with emotional or difficult students; guiding the student through various methodological choices; managing the supervisory relationship; assisting the student to publish, and many more.

Overall, supervisors were looking for more support in relation to the complex, interactive aspects of the PhD journey – management of the relationship and the PhD thesis itself – than the compliance issues, such as administrative rules and policies, which were generally covered in mandatory training provided by institutions.

Following the audit of practice and the completion of the literature review, researchers from the five partner institutions met at a two day workshop in regional Victoria on 18<sup>th</sup> and 19<sup>th</sup> June 2012 to discuss the outcomes and plan the framework for the toolkit. The toolkit was subsequently developed in late 2012 and piloted for four months in 2013.

## Outcomes of the trial

Once the website was created and piloted internally, we went live with the website for six months in each of the partner institutions. A range of activities were undertaken to introduce the site and evaluate the site in each institution and as feedback came back, the toolkit was modified and supplemented. Ethics clearance was gained for this process and each institution undertook activities which met their specific requirements and circumstances.

Overall, the website registered over 130 users (external to the project partners).

- 196 people visited the site
- The site had a total of 496 visits
- 2,769 pages were viewed
- An average of over 5 pages per visit
- Average visit time was over 8 minutes
- 41.4% were returning visitors

Numerous Supervision Toolkit Piloting Workshops were also conducted to introduce

supervisors to the toolkit and ask them for feedback. A total of 168 participants attended these workshops in Victoria, Western Australia and Queensland.

## The toolkit

Following this trial a second partner workshop was held for two days in Melbourne on 12<sup>th</sup> and 13<sup>th</sup> August 2013. This workshop was an opportunity to reflect on the feedback received, engage with the advisory group, hear from the independent evaluator and determine the final shape of the toolkit and the website, in consultation with the website designers.

It was clear that the concept of the toolkit had been a success and that once supervisors engaged with it, they found the tools valuable. Most feedback centred on problems with the navigability of the website and the presentation of tools, particularly the front section of the tool proforma, which many found too wordy. However, these issues could and were addressed in the design of the final toolkit and website.

## Recommendations

Given the success of the national trial and the expressed desire of HDR supervisors to be provided with an on-line resource of this kind, it is recommended that:

1. The OLT fund an extension grant for two years to disseminate the toolkit more widely among Australian institutions and embed it into professional development practice for supervisors
2. That the toolkit continue to grow and evolve through this two year phase, adding more tools as identified and enhancing the tools which are contained there
3. That a supervisor discussion forum be included and supported as part of the OLT toolkit website, to be moderated by a project officer during the two year phase
4. Partner institutions be asked to contribute financially and in-kind to the ongoing development and e-moderation of the toolkit website
5. The partners work with the Deans and Directors of Graduate Studies to encourage that organisation to launch and ultimately host the toolkit website
6. That the toolkit continue to be open access and available to any HDR supervisor who wishes to access it
7. That a follow-up study be undertaken in two years to ascertain the effectiveness and take-up rate of the toolkit, including a study of how it has impacted on HDR supervisors' practice and institutional outcomes in the HDR area.

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## Introduction

In response to priority programme 'research and development focussing on issues of emerging and continuing importance' this project's objective is to develop a toolkit of resources that sits within a developmental framework that can be used nationally to help develop academic staff who are new to postgraduate supervision, particularly in emerging research areas. The project expands on previous ALTC outcomes and includes an evaluation of these previous outcomes as part of the toolkit development. By developing the supervisory capability of staff, a greater number of higher research degree students can be enrolled in research degrees, the quality of the supervision experience should be enhanced, and a greater number should complete their research degrees in a timely manner. This, in turn, will help develop a sustainable academic workforce for the future of Australian Higher Education. In so doing, this project meets ALTC objectives (b) by raising the profile of supervision in the learning and teaching provision of universities; (d) by disseminating the identification, development and implementation of good practice in supervisor development in higher education institutions; and (e) by developing reciprocal benchmarking arrangements on a national scale through the partner institutions activities. The recent government reviews and subsequent policy documents on Higher Education highlight both the need for an increase in the number of research students and the need for further development of the future academic workforce. The Vision for 2020 promulgated in the Bradley Review specifically calls for 'the education, training and development of world-class researchers across a wide range of intellectual disciplines' (p6), while noting that the number of people completing higher degrees by research has grown only 'modestly' in the last five years and the 'stock of people with higher degrees by research needs to increase to replace the large group of ageing academics and to expand Australia's research and innovation workforce' (p11). To help support this workforce expansion, the government has budgeted a fourfold increase in the 2009-10 funding level for 2010-11 to develop sustainable research excellence in addition to introducing funding for collaborative research networks (TAHES, 2009: 25).

We set out on this project in the belief that new and emerging research areas have specific needs as they lack a critical mass within a community of practice by the nature of their comparative newness and emergence as disciplines offered at research degree level within universities. The research areas we were including in this category tended to have evolved from practice-based professions and associated professionally oriented higher education degrees, such as in Business and Management, Performing and Creative Arts, Nursing and Allied Health Professions, and the practice rather than more theoretically focussed areas of Education (e.g. teaching). Within these emerging research areas, the academic communities have developed from a practitioner and professional base, rather than through a more traditional academic career route, and the potential supervisors are themselves developing their own academic and research identities alongside their professional identities. The nature of the research students tends to be somewhat different to those in the more traditional academic disciplines as well, for example, a higher proportion tend to be part-time, and returning to research studies after establishing their professional careers. As a consequence the student population that the supervisors are working with can be more diverse in their academic preparation, pathways into research degree studies and expectations of the research degree experience and outcomes than those in the most commonly full-time PhD student cohort who have proceeded directly from an honours degree into a research degree. Furthermore, academics in these emerging research areas need to negotiate a number of challenges that are more pronounced than in other more traditional disciplines, such as workloads that include responsibilities for large undergraduate programs and comparatively high class teaching loads, a less intensive immediate research environment because a lesser proportion of colleagues are likely to be highly research active, and, for those who are comparatively new to the university environment there is often a lack of confidence in academic ability in comparison to professional competence. As such, the difficulties that all supervisors face in developing

their supervisory skills are exaggerated within this community, and hence they form the ideal sample for developing a toolkit that meets their specific needs, whilst also being applicable to and valuable for everyone. The project, however, found that the toolkit was found to be equally valuable to new supervisors in established disciplines as the difficulties found in the process of learning to supervise were a common experience. As such, the final toolkit is presented as a website for all new research supervisors rather than having a specific focus on emerging areas.

Research degree supervision has been an area of growing interest and development in Australia over the last five years in particular, even though investment in developing Higher Education in Australia has dropped behind international competitors considerably in the same time period. The latest ALTC addition to the FIRST project offered web-based resources for supervisor support in addition to a research report that recommends the need for further conversations to include: ways of theorising what it means to be a supervisor; the nature of good supervision practices, including insights from cross disciplinary, cross institutional discussions; and specific strategies that support supervisors in their work with students. The report also makes a number of further recommendations with regard to supervisory development and support from various sources at various points in their development along the supervisory trajectory. This project report addressed many of those previously unmet recommendations, as well as incorporating an evaluation of the use of available FIRST materials.

Prior to the most recent FIRST project, Christine Bruce led a fellowship team in 2008/9 to look at developing pedagogy of supervision in the technology disciplines, and while this was a discipline-focussed study, many of the findings are likely to be generic. For example, the need to create opportunities for supervisory conversations around pedagogy to promote communication about supervision as a teaching and learning practice, and the need to create development opportunities for less experienced supervisors. The Research Graduate Skills Project acknowledges the role of the supervisor in the development of research graduate capability. The cross-cultural context project found that the cross-cultural context for international students magnified the intensity and complexity of the supervisory arrangement and developed a range of resources, including a 'readiness' measure, for universities to draw on prior to engaging in supervising international students.

While all these projects recognised a need for supervisory training and offered some suggestions and support materials for individual supervisors and professional developers of supervisors, there remains a gap at an institutional level for the development of new supervisors, particularly in new and emerging areas of research. In particular, the applied disciplines that have previously been research poor, and are now dominating the development of the professional doctoral market and the expansion of opportunities for applied research within PhDs, are experiencing particular challenges in providing appropriate doctoral supervision teams due to a comparative lack of highly experienced supervisors, and larger numbers of comparatively newly doctoral qualified registered supervisors generally within these emerging areas. By setting up a process and connections between HEPs developing in these areas, we will establish a critical mass of expertise that can be drawn on more widely in building the quality of both the research student supervisory experience and resulting research outcomes. This project aims to address this gap by offering a number of institutional frameworks and solutions to help universities develop supervisory capacity in these fields, including cross-institutional mechanisms that will sustain networking and collaborative research opportunities within the sector.

## Project Aims

This project set out to develop a toolkit of resources that sit within a developmental framework that can be used nationally to help develop academic staff who are new to postgraduate supervision, particularly in emerging research areas. The project set out to expand on previous OLT outcomes and include an evaluation of these previous outcomes as part of the toolkit development. In developing the supervisory capability of staff, the quality of supervision should be enhanced and a greater number of higher degree by research students should complete their research degrees in a timely manner. This, in turn, will go some way to developing a sustainable academic workforce for the future of Australian Higher Education.

Essentially, the purpose of the research degree supervisor is to support the research degree candidate in the completion of their research degree. Recent research at University of Southern Queensland (USQ) found that doctoral students' and supervisors' views differed on the students' needs for connectedness, their needs for learning support, and their preferred use of communication media during their studies. One way of addressing this discrepancy trialled at USQ was the development of online Communities of Practice – a development that is continuing beyond the scope of the study as it appears to be presenting a benefit. However, as the evaluation of the online communities was not the focus of the study, the extent to which they are actually supporting supervisory development rather than providing a social forum, and the extent to which the initiative is transferable to other communities of practice, has not yet been ascertained.

The fIRST resources have now been available for supervisor development for over a year, and in the case of many of the resources for far longer, so an evaluation of their effectiveness in supporting supervisors can now be conducted. This was not possible at the time at which they were launched. Similarly the cross-cultural supervision resources generated by the ALTC project have yet to be formally evaluated. Mentoring schemes and short courses/workshops provided in-house by the partner organisations have all been operating and developing from an ad hoc to a more systematic approach but again there has been no formal evaluation or comparison for benchmarking and best practice. Each university is working in isolation, with some discussion at forums such as BARDSNET and DDOGS, but no substantive evaluative data has been provided on the fitness for purpose of the various offerings at the various institutions. A critical success factor of this project is to fill that gap by evaluating the efforts of the five partner institutions to draw out best practice and develop a model of good practice that is transferable to all institutions, being particularly relevant to emerging disciplines, but also of relevance and use to new supervisors in more established research discipline areas.

The assumption underpinning this project is that new supervisors of research degree candidates need support in their journey through the supervision process. Amundsen and McAlpine (2009) found that there is minimal systematic development preparation for supervision, which is reflected in the students' experience also. If this early supervisory experience occurs pre-tenure, or while on some form of probationary contract, the supervisor has the additional pressures of being isolated, experiencing high stress and a lack of role definition, with a compounding impact on their supervisory action.

Emilsson and Johnsson (2007) note that the role of the supervisor has changed over time as doctoral studies have developed and expanded, to the point that supervision can be considered a pedagogic method, and the Swedish government now requires some postgraduate supervision training be completed before a doctoral supervision team is constituted. They explored the process of supervision on supervision, that is, supervisors being supervised in their supervision practice, and conclude that the shift from theory to practice in supervision does not happen quickly from reading a book but is developed over

time. This suggests that a quick-fix, pre-supervision course is not sufficient for new supervisors, but rather they need some on-going support mechanisms that they can return to over time. Such mandatory intervention is not currently enforced by the Australian government, although some Universities do have some form of compulsory training for new supervisors.

While the Swedish study concentrated on the nature of the development of the supervisor, Halse and Malfroy (2010) focussed their attention on the facets of professional work that doctoral supervision entails. They suggest in preparing for the work of doctoral supervision, academics need to consider the learning alliance, habits of mind, scholarly expertise, epistemology and contextual expertise. Such professionalisation opens the door to the competence of the supervision being distributed amongst different members of the supervisory team rather than each member being competent in each field. This somewhat lessens the burden for the new supervisor, but increases the tensions that may arise for them when working with more experienced colleagues whose competence lies in a different area. This, in itself, is an area in which new supervisors need support and guidance, particularly in managing the various feedback and relationship processes. An added difficulty is that there is no measure or template of supervisory excellence, and hence it is unclear what the new supervisor is aiming to achieve with regard to supervisory competence.

Essentially new supervisors are influenced by two factors when approaching supervision: their conceptualisation of research supervision, and their own experience as a doctoral student. While reflecting on their own experiences may be a source of development, we cannot change the experience that they themselves had. Their conceptualisation of supervision, on the other hand, is something that can be developed. Smith warns of the danger of representing such a conceptualisation within an administrative frame of resolvable rational problems, when the reality is more one of developing a complex and chaotic pedagogy. The use of stories and critical self-reflection over a period of time can therefore help supervisors develop a more theorised and considered rationale to supervision than a short course intervention might offer, as can communities of practice and peer learning experiences.

## Project Approach and Methodology

A strategic approach was employed in the data gathering, consultation and resource development with the goal of supporting long-term, sustainable development of supervisory capacity in new emerging areas in universities. The methodology adopted aimed to raise awareness of the project, to develop and sustain collaboration across the five institutions involved with the aim of producing a national resource (and potentially an international resource) that will assist in the development of new supervisors.

Each of the five university partners is already undertaking complementary versions of the types of activities mentioned in the literature above, including short course support, mentoring schemes, and an online community of practice, in addition to the use of the FIRST and other ALTC-funded professional development support materials in the development of their new and emerging areas. Each partner has incorporated these activities slightly differently and for different purposes and, probably, to different effect. The starting point for phase 1 of this project was to “evaluate current new supervisor support practice” within the five partner institutions to ascertain what is working where, in what way, and why. Equally important was finding out what is not working as effectively and why not. This evaluation of current practices fed into the development of a model of supervisory development practice, and the toolkit of activities to support the model’s implementation.

# Phase 1 Evaluation of Current Practice

## Audit of Current Practice

*Institution 1:* While there is a register of supervisors maintained, in that supervisors have to register before they are allowed to supervise, there is very little regulation as to the development activities supervisors need to undertake. A supervisor induction course is being designed and introduced currently and there is talk of this becoming mandatory. In order to register as an Associate Supervisor a member of faculty needs to have completed their PhD. To upgrade to a Co-ordinating Supervisor, the member of faculty needs to have completed one year as an associate supervisor. This is not deemed by many to be sufficient but the lack of supervision capacity across the university makes it difficult for a more rigorous criterion to be applied. There is no requirement, for example, for students to have an 'experienced supervisor' on their team or as a mentor to the team (i.e. one who has supervised at least 2 students to completion).

Centrally, the research degrees department provides a range of short workshops each year and these are generally well received by those who attend them. At the faculty level, there are a range of short lunchtime workshops for both supervisors and students on elements of the PhD process. The Graduate Studies office convened a conference last year on supervisory practice and this was felt by many to be a good source of professional development.

The university does also have access to a range of online resources including the FIRST resources stemming from a previous ALTC project in Australia, but uptake of these resources is particularly low at this institution compared to other institutions.

*Institution 2:* The university has in place a Supervisor Register, with conditions (completions, research active, training and qualifications), coupled with Supervisor Compliance Training which is mandatory. In addition there is the offer of a full semester unit (HED4141), "Research Training and Supervision", as part of the Graduate Certificate in Higher Education, which is free for all academics to attend. Less formally, there are regular Supervisor Conversational Sessions, which run every 6-8 weeks to help nurture a community of practice, and a range of Faculty-based and School-based training events for supervisors to help promote a community of practice. There is also a means by which Faculty-based and School-based supervisor mentoring in team-based supervision is recognised. The mandatory supervisory training can be undertaken before or shortly after a person becomes a co-supervisor. Although no-one is permitted to act as a principal supervisor until they have supervised a PhD to completion, a co-supervisor's need for mentoring may change quite dramatically during the 3-4 years of co-supervising a student to completion of a PhD.

*Institution 3:* Registration is required by the DVC (Research training), monitored by the ADR in Faculties, and individuals are assisted by the Research Directors in Schools to register. The registration period is for 3 years. The Pro-Vice Chancellor (Research) and the Graduate Research Committee decided that research supervision training workshops should form part of the development and registration of supervisors, and there should be three mandatory workshops and three recommended workshops. Supervisors complete the workshops as a professional development activity through the Human Resources system so that attendance is recognised for supervision accreditation. During workshops supervisors are made aware of resources on the University research website such as the staff training section that again includes access to FIRST, the supervisory workshop dates, publication information, ethics

guidelines, and statistical support for dissertation students.

A university learning and teaching fellow developed a project that established a Community of Practice - Research Supervisors (CoP-RS), conducted a training needs analysis to determine the training requirements of supervisors and took steps to design a professional development program with pilot workshops. Attendance is recorded as Professional Development, and is noted in the supervisor's performance management report. However, attendance does yet not 'count' as part of the mandatory workshops for registration. The University Research website was redesigned in 2011 and hosts resources for supervisors, researchers, doctoral and other research students. Support for supervisory training refers to the three supervisory workshops, the FIRST site with online education and training for supervisors, publication data collection, statistical consulting support, information about ethics applications and the supervisor accreditation and registration information. There is also a range of faculty and department initiatives, and online groups amongst professional doctoral programs, however in general these could benefit from being updated and consolidated into a clearer university offering.

*Institution 4:* All registered supervisors who are staff members are expected to attend a minimum of two hours professional development in supervision per annum in order to maintain their registration. A range of professional development options are available through the central program managed by the Office for Postgraduate Research, and through Faculty, School and external activities.

Key offerings include an induction program for new supervisors taking the form of a one-day program mainly focused towards the University's expectations of supervisors, role and responsibilities, training opportunities for both supervisors and HDR students and negotiating relationships in supervision. There is a two-day intensive program called 'Demystifying Thesis Supervision' which is also offered in an 8 x 2 hr workshop mode with themed workshops.

The revised Graduate Certificate in Tertiary Teaching includes an elective unit on research supervision. This is expected to be taught for the first time in 2013 or 2014 and covers some similar areas to Demystifying Thesis Supervision (in fact, it is expected that there may be some shared workshops), but includes practice-oriented assessment tasks leading to official credit. An important feature of the unit is that it is designed to be relevant to pedagogy for all levels of supervision (from undergraduate research projects to PhD).

A number of stand-alone professional development sessions have also been developed geared to supervisor development needs and are offered regularly, such as Supervising a 'Thesis by Publication', Processes and Procedures for Supervisors, Thesis Examination, Working with a Professional Editor, Supporting Students' Writing Development. A coursework component has been introduced into the PhD program in 2012 and supervisors have had the opportunity both to input into this through workshops geared to curriculum development and to apply to be appointed to the teaching teams for unit delivery.

*Institution 5:* There is a process for registering supervisors as principal and associate according to experience and a level of compliance training that appears to be adhered to throughout the university. Beyond this, there are workshops and online resources available to supervisors but take up is sporadic and ad hoc and there is no compulsion to undertake supervisor training beyond the compliance requirement.

There is the operation of a community of practice of supervisors however it is not well known amongst supervisors and hence operates more as a closed shop than a wider community of practice.

The University therefore performs well around compliance, but lacks in professional development of supervisors. Most supervisors seem unaware of the professional

development activities available and hence rely on their own experiences to inform their supervisory practice. There is a desire to participate more in PD activities, but these need to be relevant to needs and available in a format that appeals to 'time poor' academics. Also greater interaction with and use of, experienced supervisors is desired.

## Summary of Current Activity

Overall a range of current activity already exists across the partner institutions. This is summarised in diagram 1 below, showing the breadth of activity across individuals and groups and in the physical space of the university or the virtual space online.

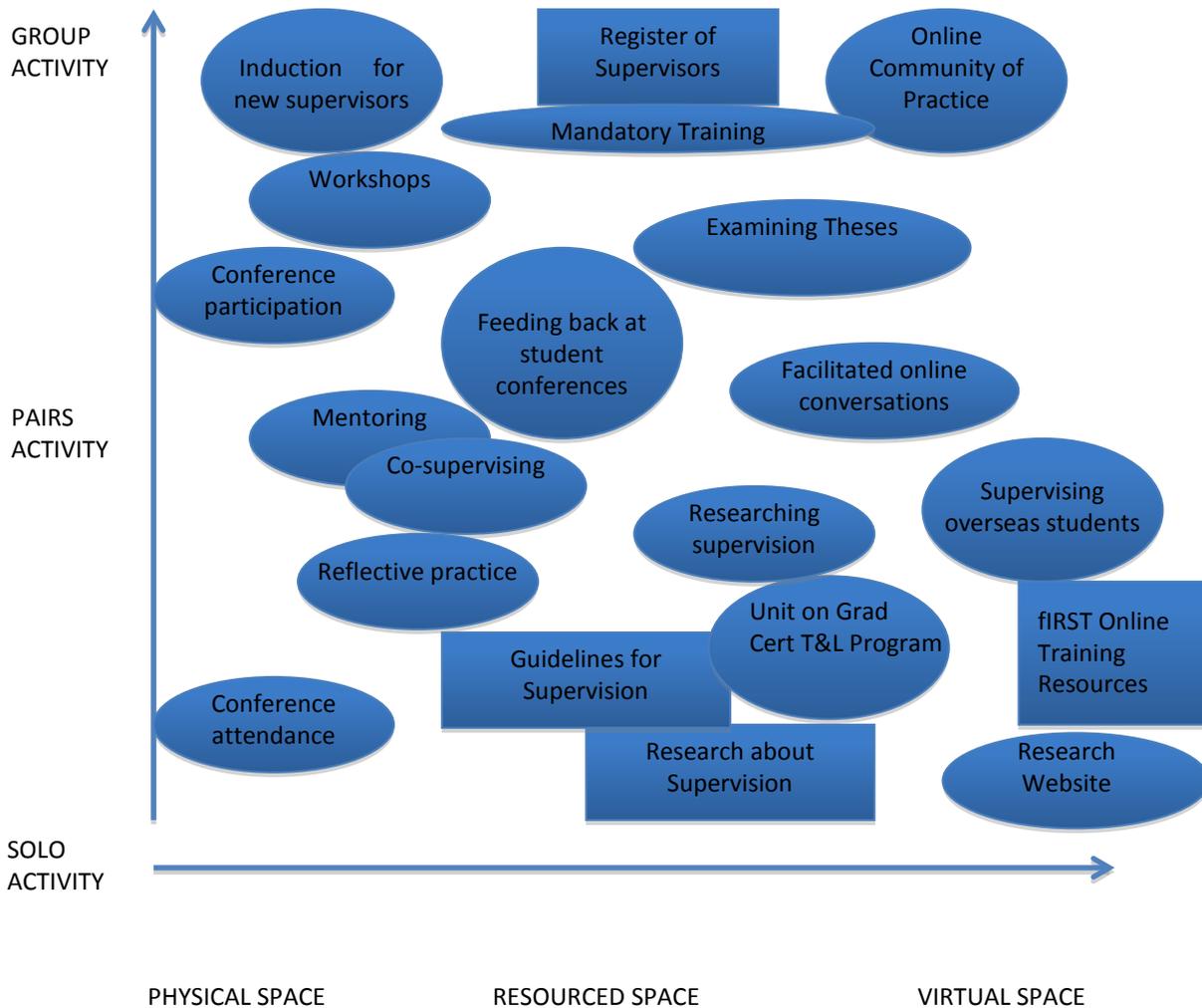
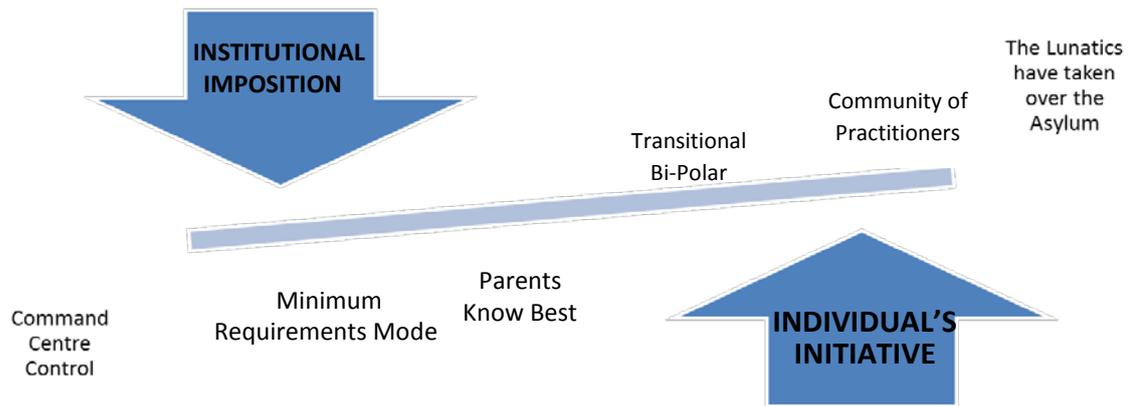


Diagram 1: Map of current activities summarised

# TYOLOGY OF INSTITUTIONAL APPROACHES TO SUPERVISOR DEVELOPMENT IN AUSTRALIAN UNIVERSITIES



Each of the five partner institutions already had in place a variety of interventions to support new supervisors and general supervisor development, and there already existed a bank of online resources, including those from the FIRST project. The starting point was to evaluate the effectiveness of these current initiatives to ascertain what interventions (including the informal development of communities of practice within groups or departments) are impacting on supervisors and how, and which ones are missing the target at the moment. By carrying out this evaluation in the five institutions we were also able to ascertain the ways in which context is a contributing factor to the effectiveness of interventions, and explore the impact across faculties (business, education and health) to see if a discipline area affects impact. New and emerging areas were also compared with more established areas to ascertain the particular challenges and practices that arise in these contexts. PREQ data was also considered.

A common framework for carrying out the evaluation was agreed by all the project partners at the start of the project which was then implemented over a four month period before the evaluation was collated in months 5-6. The evaluation process included an online survey, followed by interviews and focus groups, to audit the usage of available interventions across the whole supervisory population within the institutions. Interviews were also held with key stakeholders including the job role holders responsible for developing supervisors within the institutions to ascertain their plans, their feedback on current practice, and any new ideas they have for further developments. The evaluation process was as inclusive as possible. We also talked to people who may be about to embark on supervision to ascertain any concerns they may have and areas in which they feel confident. Finally we evaluated the online resources currently available in terms of their usage and impact and how well they are promoted within the institutions. Unfortunately take up of these resources was very low so no clear evaluation could be undertaken. The reasons for this lack of take up have been investigated and used to inform the design of the toolkit emanating from this project.

The sample frame for the evaluation included current new supervisors, current experienced supervisors, and staff that are not currently supervising but were considering doing so in the near future, job holders responsible for supervisor training, and the people who currently deliver supervisor training within the institutions.

Ethics approval was sought within each institution prior to any data collection taking place. All data has been anonymised and held confidentially, and informed consent was obtained from all participants. Personal data has not been held that would allow any participant to be singularly identified.

Each institution has provided evaluation reports which have been collated to give a fuller picture. The institutions have been anonymised within the collated report as we are not seeking to position one institution against another but rather to offer an illustrative picture across the five institutions.

The section below outlines the findings of the evaluation of current practice across the five institutions. They include a summary of findings of the questionnaire; key findings from the interviews and focus groups.

In total, the project surveyed 287 supervisors across the five institutions, conducted 30 interviews with supervisors, and four focus groups. Data collection for this phased occurred in 2012. A common survey questionnaire and interview schedules were used at each institution. All institutions sought and obtained human research ethics approval to collect data collection at each phase.

For a more detailed breakdown of the results at each institution, see the individual institution reports below. Following the data collection, the results and insights from the literature review were discussed at the first partner workshop in the middle of 2012.

Characteristics of the survey sample are given below:

#### Gender

Female	44.9%
Male	55.1%

Males were somewhat over-represented in the sample compared to females.

#### Age Group

Below 30 years	1.0%
30 to 39 years	13.93%
40 to 49 years	25.78%
50 to 59 years	41.11%
Above 60 years	17.77%

The sample was skewed towards older supervisors, with 85% being 40 years of age or older. However, given the ageing profile of the academic workforce and the requirement for doctoral supervisors to have a PhD, this is not surprising. In new and emerging areas, it is not uncommon for academics to begin their career as a professional, then work as an academic in their 30s and 40s, and qualify with a PhD later in their careers.

#### Number of Years Supervising Higher Degree Research (HDR) Students

0 years	5.9%
1 to 3 years	31.7%
4 to 6 years	22.6%
7 years plus	39.7%

The survey sample was also skewed towards more experienced supervisors, with 62% having supervised for 4 years or more. However, with more than a third being newer supervisors (3 years or less), it was possible to obtain insights into their training and professional support needs too.

#### Number of Higher Degree Research (HDR) Students currently supervising

0 Students	7.0%
1 to 3 students	44.6%
4 to 6 students	30.3%
7 plus students	18.1%

Nearly half the supervisors surveyed supervised 4 or more research students, with most of the remaining supervisors supervising 1-3 students.

#### Number of years employed at current university.

0 to 1 year	7.7%
2 to 5 years	32%
6 to 10 years	23.4%
10 plus years	36.9%

The survey sample consisted mainly of supervisors who had been employed for 6 years or more at their current university (60%), while nearly a third had been employed at their university for 2-5 years.

### Some views on supervision

Supervisors were asked about their own experience as doctoral students, and the training they had received as HDR supervisors from their institutions.

#### Reflecting on your own doctoral supervision experience, how would you rate your own supervisory team when you did your doctorate? (1=excellent - 5=poor supervision)

Poor	21.7%
2	21.4%
3	21.4%
4	21.0%
Excellent	14.5%

These results were interesting, indicating that two fifths of supervisors (43%) rated their own supervision team when they were doing their doctorate as poor or just adequate. Only 35% rated the quality of their supervisory team as being high.

#### If you have undertaken mandatory supervisory training, please rate its effectiveness for your supervision practice and provide a brief description of the training.

Poor	15.6%
2	17.0%
3	28.6%
4	30.4%
Excellent	8.5%

Of particular interest to our study is whether the training supervisors had received from their institutions (in this case, mandatory training) was rated as being effective. Two thirds answered in the affirmative, although a large proportion (29%) did not rate it especially highly. Of concern is that a third of the supervisor respondents rated it as 'poor' or barely adequate.

## Individual Institutional Survey Outcomes

*Institution 1:* The survey was sent to 495 people and 98 responses were received, of which 86 answered every question. Of these 65% were male and 35% female, and approximately half had been educated in Australia with the remainder having been educated in 21 different countries. Approximately 20% were under 40, 30% aged 40-50 and 35% over 50; the remainder declined their age. Just over a quarter of the sample were Senior Lecturers, with 22% being Lecturer B grade, 5% Lecturer A grade, 18% were Associate Professors and 17% at the Professorial grade. Everyone who completed the survey had a doctoral degree; 97% PhD and 3% Professional Doctorates. The full range of research areas undertaken were represented within the survey results, with no single group dominating. The majority of respondents (76%) were registered as principal (co-ordinating) supervisors, with 18% Associate supervisor and around 5% being new to supervising.

For 8% of respondents this was their first year of supervising, while 36% were in years 1-3, 21% in years 4-6 and 34% had been supervising for more than 7 years. Not surprisingly, therefore, 31% had not yet supervised a student to completion and only 33% had supervised 4 students or more to completion. Again, not surprisingly, 32% had only completed their own doctorate within the 5 years preceding this survey, while 45% had completed their own doctoral studies more than 10 years ago. Many of the respondents were also relatively new employees, with around 40% being employed at their current university for more than 5 years.

The majority of respondents supervised between 1 and 3 students (52%) with 29% supervising 4-6 and only 8% supervising 7 or more students. Given the arguments presented against increasing the criteria for supervisors to be registered as coordinating, it is surprising that the majority of supervisors are not supervising more than four (4) students each. This raises the question of whether supervisor lack of availability is a reality or a myth.

When asked about the experience of their own PhD and how they would rate their supervisory team, 63% rated them positively, 20% neutrally and only 12% poorly. When asked to list the factors that underpinned this rating, 24 people mentioned issues around access and availability of supervisors; 18 mentioned the quality of the guidance that was given; 20 cited the knowledge base and expertise of the supervisor; 25 noted the behaviour or style adopted by the supervisor(s); 10 mentioned specific support with writing; and 6 referred to a mentoring relationship.

The majority of respondents are members of more than one supervisory team (only 23% are on one team only). When reflecting on what makes the teams work or not work, 15 people mentioned the ability of the individuals to work together as team, and 15 mentioned having complementary skills to offer; 12 noted the importance of regular joint meetings and 10 mentioned having clearly defined roles; 5 cited a common view of a good piece of research; 7 mentioned a shared interest in the area; 6 cited having a student focus and 6 referred to values and integrity. Two people mentioned giving conflicting views and advice as reasons for teams not working specifically.

Many of the other results were not particularly notable. Not many had attended training sessions, as none of them are mandatory, but of those who did attend (44%), they valued them highly and wanted more of them. In addition, suggestions were made for a formalised mentoring process for new supervisors as a number of respondents noted that they asked more experienced colleagues when they felt they needed advice. 75% of respondents were prepared to be mentors with the remaining 25% declining because they felt they either weren't experienced enough yet or they didn't have the time.

It does not appear to be common practice for supervisory teams to meet to review their performance as only 20% of respondents claimed to engage in this activity. By far the most frequently used method of development was the reading of books on supervisory practice (just over 50%, while only 5% had used online resources available to them). While 45% of respondents were aware of a community of practice that they could engage with, only 24% chose to do so.

Of the professional development opportunities that people had undertaken, the majority felt that they were not really adequate to meet their needs. This said, their responses to the free text as to why they felt this were equally poorly worded and don't really give much insight. Some people cite specific needs not being met while others simply note that they are poor. This reflects the difficulty in the field of actually knowing what good supervisor development looks like; what works and for whom.

Supervisors generally do seem to spend about twice the amount of time per month with full-time students to part-time students, but 55% find they are spending a greater amount of time supervising than their workload allows for with only 16% feeling the workload allocation is about right. 80% of supervision meetings occur face to face amongst the respondent population with 36% occasionally using ICT and 7% mainly using ICT. In terms of common problems, 84% encounter poor writing skills in their students; 64% low English proficiency and 70% inadequate research skills, while only a third experience issues with their other supervisors, their own level of expertise or with their institution. When these issues arise, the respondents offer a wide variety of answers on how they deal with them, suggesting there is no common practice or guidelines shared within the university. This may be an area for further development in the university's guidelines.

*Institution 2:* The 2011 online survey highlighted some distinctive features of the supervisor population at the university.

The main countries in which supervisors were educated are Australia, countries of the British Commonwealth and the USA. Only three supervisors were educated in Asia or the Middle East and only a handful in a European country other than the UK. This may not represent a close mapping with the students they supervise. This data also suggests that while at least some supervisors appear to have experienced migration or overseas study and have completed some of their education in an unfamiliar culture and in some cases in what was probably an unfamiliar or less familiar language, most have not. Fluency in languages other than English cannot, however, be reliably inferred from this data.

About 70% of the respondents were at the Academic, C, D or E levels and a little over 93% listed a PhD as their highest qualification. Over half of the respondents had completed their own doctorate more than 11 years ago and had been employed at the university for more than 10 years. Less than a third of respondents to the online survey listed their age as less than 50 and almost a quarter of the respondents were over 60. Over two thirds of the respondents were principal supervisors. More than half of the respondents had supervised HDR students for more than seven years and a further 30% of the respondents had supervised HDR students for 4-6 years. Nearly 40% of the respondents had supervised seven or more HDR students to completion. Almost half of the respondents currently supervised 1-3 HDR students, around a quarter supervised 4-6 students, but a quarter supervised more than seven students and were on more than four supervisory teams.

Less than 10% of the respondents were under 40 and less than 10% of the respondents were new to supervising. Less than a quarter of the respondents had not yet supervised an HDR student to completion. Some 29% of the respondents reported that a more experienced supervisor was mentoring them, but what this mentoring involved remained unclear. Some 64% of the respondents were interested in mentoring new supervisors as part of their supervisory skills development. Differences of opinion regarding the experience of being on supervisory teams emerged more clearly in the interview phase.

While around 12% of the respondents reported that their own doctoral experience had been excellent, over 14% reported that it had been a poor experience. Reasons for this emerged more clearly in the interview phase. Close to three quarters of the respondents felt they drew upon their experience of being supervised in their own supervisory practices. The interviews and focus groups affirmed that they drew on it both for models of what to do and models of what not to do.

While nearly 60% of the respondents supervised students with low English proficiency, nearly three quarters of the respondents reported supervising students with poor writing skills and inadequate research skills. Some students also lacked computer skills, mathematical/statistical skills, time management skills or a willingness to act on feedback from their supervisor. Cultural issues added to complexity of the supervisor-student relationships.

Only 16% of the respondents felt the time they spent with HDR students was approximately equal to the time allowance in their workload. For more than three quarters of the respondents, the time spent with HDR students was greater or much greater than the time allowance in their workload.

Around 13% of the respondents had no full-time HDR students. Only 8% of the supervisors spent 2 hours or less per month with a full-time HDR student they supervised. Nearly half allocated 3-5 hours a month and nearly a third allocated 6 or more hours a month. A little under a quarter of the respondents had no part-time HDR students. Less than 2% of the supervisors spent less than one hour per month with a part-time HDR student they

supervised. Half allocated 1-5 hours a month and nearly 12% allocated 6 or more hours a month.

For more than three quarters of the respondents, meetings with their HDR students were mostly face-to-face, while for about 13% the meetings with their HDR students were mostly via ICT. Around 40% of respondents made some use of ICT to facilitate supervision. Only some 15% of the respondents considered the professional development programs/tools that they drew on were completely adequate to their needs as supervisors. Some 5% considered those programs and tools were not at all adequate. Timely, practical workshops, peer discussions and mentoring/coaching appeared to be the preferred forms of professional development.

Most supervisors did not report any issues with other supervisors, their own skills or expertise, their institution or any other issues in supervision. Some 40% did have issues with other supervisors (e.g. co-supervisor not reading work submitted by the HDR student or investing enough time/effort to address student needs, other workload issues, and methodological conflicts). 29% reported issues with their own skills or expertise (or mentoring), nearly 44% had issues with their institution (e.g. workload, difficulty building a research culture) and nearly 27% had other issues regarding supervision. Coping mechanisms included 'get on with core business and hope it will work out in the end', 'trying not to panic', 'passive resistance and stubborn refusal to do any admin work', conversations with mentors and peers, renegotiating supervision, referrals to relevant authorities or specialist support services, or the avoidance of co-supervision or deciding not to take on any new HDR students.

Over 94% of the respondents had completed the mandatory supervisor training at the university. Over a quarter had also completed mandatory supervisory training at another university. Differences of opinion regarding mandatory supervisory training emerged more clearly in the interview phase.

Over half of the respondents had also undertaken optional workshops on supervision practice at our or another university. Fewer than 10% had attended any conferences on supervision practice. Only 16% of the respondents had conducted any research into supervisory practice. Although around 44% reported they had not read any books on supervision, around 94% had read the university policies on supervision. Over 85% of respondents reported undertaking self-reflection after supervisor meetings (presumably this question referred to meetings with HDR students rather than only with other members of their supervisory teams). Only 29% reported undertaking reviews of supervisory team performance with other members of the supervisory team. Only some 16% of the respondents had used any of the existing ALTC resources for supervisors.

Some 63% of respondents were 'aware of an active community of practice around HDR supervision', but what they understood by this term is not clear. A little under a third of the respondents 'participated in a local community of practice regarding supervision practice'. *Institution 3*: There are 54% male and 45% females in the 42 respondents. Thirty per cent of the cohorts are supervisors who were born or lived in other countries such as Bangladesh, Canada, South Africa, Malaysia, Hong Kong, Japan and Sri Lanka. The majority (40%) are in the 50-59 age group, or 40 – 49 years of age (29%) and the third significant group is over 60 years of age (24%). The level of appointment is evenly divided between Level E's (31%), Level D's (26%) and Level C's (26%). As can be expected due to university policies in this regard, the overwhelming majority (90%) has a PhD qualification or a professional doctorate (7%). These respondents were mainly from the Business (29%), Education (36%) or Engineering (24%) faculties with small cohorts from IS/IT, Nursing or Humanities. The majority of respondents were registered as Principal supervisors (86%) with 12% only indicating they are Associate supervisors and one was new to supervising.

Forty-three per cent indicated that they have been supervising for over seven years.

However, a third indicated that they have only been active supervisors for less than three years and 22 % noted that they had been supervising for four to six years. Forty-two per cent of the supervisors had achieved one to three HDR completions. Relatively smaller numbers indicate that they have had more than seven HDR completions (24%) or between four to six completions (21%) or had no completions (22%).

For most of these supervisors it has been more than eleven years since they completed their own doctoral studies (45%), whereas six to 10 years had elapsed for one cohort (26%) and only two to five years had passed since their doctoral studies (ECR phase).

Most of the cohort (48%) had been an employee of the university for more than a decade whereas one cohort (24%) had only been with the university for two to five years and a third cohort (21%) has been at the university for six to ten years.

The majority of the supervisors (43%) supervise between four to six students or have between one to three doctoral students (31%) and a third group has more than seven students. Twelve per cent of the respondents have no doctoral student allocated. The majority indicated that their supervisory teams were “excellent” (43%) or very good (10%). However there were two groups who noted that their supervisory teams were “poor” (7%) or adequate (29%).

The type of comments that indicated a high level of satisfaction were “expertise, complimentary to each other's strengths, supportive”, “Time and availability of supervisors to discuss ideas and advise on the development of the project”, “Flexibility and supportiveness of supervisor in addition to strong research background”, “Supportive of both the academic and personal implications of a doctoral journey. Both supervisors complemented each other and thus gave a balanced approach to the supervision”, “Contact availability, experience, interest in my topic area, timely feedback”.

Supervisors who were very dissatisfied stated that, “ Infrequent contact, lack of specific expertise in the research area”, “ Principal supervisor had many external interests; rest of the panel was only available during the examination period”, “ever changing advice; lack of availability; failure to read material” , Associate supervisor was disinterested and did not participate nor contribute”, “No support at university level but received good supervision from associate supervisors from external research organisation”, “I had several supervisors who left (the university) so had inconsistent supervision and a final supervisor who had little understanding of my topic” .

There was variability in the number of supervisory teams that the respondents belonged to and this seemed to reflect the procedures in specific faculties. In this question 49% state that they belong to one to three supervisory teams, yet in a previous question 31% indicated that they had one to three doctoral students. Only 21% in this question said they belonged to more than four supervisory teams, yet in a previous question 43% said they supervise between four to six students.

The positive experiences in their current supervisory teams are ascribed to “Different strengths and areas of expertise, trust and respect in relationship, pre-meeting to assess what might be needed - shared values regarding the student's purposes being a key driver in success. Clear agreements negotiated with student as to a course of action agreed between all parties”, “complementary skills e.g., content knowledge & methodological knowledge or big picture/small detail team only working with someone you trust and respect - chosen by you not someone else”, “The ability to have joint conversations regarding student progress can allow teams to suggest and debate a series of alternative approaches to issues as they arise. Given the breadth of many research projects, pooling of expertise can be very beneficial”, “Discussion between supervisors about standards for dissertations; supervisors with similar understanding of supervision or needs of doctoral students; cooperation about feedback provided to students” and “Need to have shared understandings about what

supervision involves and need to have shared responsibilities for work with the students”.

The practices that are not satisfactory or the less positive experiences in current supervisory teams are “Where one of the team is too busy to engage at a significant level with the student, offering less engagement in reading and feedback on work in progress. The role is seen as reactive not proactive in setting up agenda for successful completion of research degree”, “When one of the supervisors is simply 'making up the numbers for the supervisory team' and does not have relevant skills or expertise to contribute”, “students do not have enough communication with external experts in conferences due to the budget”, “When problems arise, it seems to be when a student is receiving conflicting individual rather than group feedback. Manipulative students also need to be guided into not playing supervisors off one against the other” and “Members who do not share the same diligence in providing feedback or giving priority to doctoral students”. The overwhelming majority (89%) had participated in the three mandatory workshops for supervisors, whereas a further 28% had also completed training at a previous university. Unfortunately forty-five percent of the respondents were not satisfied with the training that they received; a third remained neutral and only 22% were satisfied or very satisfied. The majority (55%) however also did not undertake any optional workshops.

Reasons for the dissatisfaction included “This training, whilst providing some background to technical aspects of supervision (such as OHDR requirements) simply didn’t connect to the reality of my supervisory experience. Similarly, it tended to operate in a patronizing way- I have supervised students to completion, yet I was treated as a novice with little knowledge” and “sessions on rules and regulations (they change so frequently I'd be better with decent accessible documentation than 2 hours of lecture that is rapidly obsolete) and on getting students to completion and/or writing a dissertation (in my experience there are no 'pat' solutions because students and their projects are so different. Again access to documentation and support as needed would be a better use of my time than mandatory training)”.

Positive experiences were described as “Provided insights into student perceptions of the supervision process also gave some scenarios for discussion of areas that can lead to student difficulties for exploration of possible ways to solve the problems e.g. English as a second language, failure to progress, formulation of research questions”, and “Different approaches to mentoring students or managing the dissertation process; practical recommendations in managing communication with students; clarifying expectations about academic standards; understanding university requirements for examination and other administrative details”.

Seventy-nine percent of the cohort indicates that although they are aware of the university Community of Practice for Supervisors, only 57% participate in the CoP. In the question about whether they had undertaken additional workshops, a few noted the CoP as a positive experience.

On question 33, only 15 supervisors confirmed that they completed some form of professional development about supervision, whereas eleven answered in the negative. On question 36 about the adequacy of professional development programs or tools, 29% indicated that these tools and programs were adequate, 38% remained neutral and 21% said that the tools and programs were inadequate. The reasons that the tools or professional development were not seen as adequate were “a one off training program/session does not replace the richness of an ongoing mentoring / collegial meeting”, “often not relevant and not available at the time they are needed”, “Some inadequacy in trying to use evidence for practice improvement - existing research does not really explore the development of 'supervision' - I would like a more theoretical and collaborative approach to practice improvement and development”.

Almost all had read the university policies and procedures on supervision. Three quarters of the cohort had not conducted any research into supervisory practice, 80% have not attended a conference on supervision and 76% had not used any ALTC resources such as FIRST. However, sixty percent said they read books on supervision. One positive finding was

that 76% had undertaken self-reflection after supervisory meetings, but 55% noted that it is not common practice to undertake a review of supervisory team performance with other members of their team. The majority of the cohort (69%) was not being mentored by a more experienced supervisor – probably because there were many experienced supervisors. The majority were interested in mentoring new supervisors and most (80%) could draw on how they were supervised.

Many supervisors (45%) say they spent more than 6 hours per month with their full-time PhD students. If the average 'academic contact' time in months is 10 months at 6 hrs per month it would be 60 hours, and the university workload policy only provides for 100 hours per year between two supervisors. Twenty nine percent spend 3 to 5 hours per month, whereas 21% of the cohort indicated that they do not have full-time PhDs. Less time is spent with part-time doctorates as only 12% spend more than 6 hours per month, whereas 39% spend between 3 to 5 hours and a further 27% only spend one to two hours per month.

However, sixty two percent allege that the time that they spend with their HDR students is much greater than the time allowance in their workload.

Although many (46%) of the respondents note that they generally meet their HDR students face-to face, there is an increasing reliance on some ICT assistance (39%) and some rely mainly on ICT (27% - could be part-time students) .

The majority of supervisors (75-85%) have encountered low English proficiency, inadequate research skills and poor writing skills among their HRD students. In addition some students experienced health issues, not having sufficient resources to complete the study or giving too little time to their studies. About forty percent of this cohort of supervisors experienced problems with other supervisors, or issues with their own skills and expertise or issues with the university.

*Institution 4:* Eighty-six supervisors responded to the questionnaire, although approximately one-third of these (33) did not respond to every question. Informal feedback suggests that incomplete responses were because of a combination of desire to preserve anonymity when identity could have been inferred by responses to a number of the demographic questions, and inability or unwillingness to respond to one or more questions.

A greater proportion of respondents were male (60%). The age profile of supervisor respondents is skewed towards the older end with 83% of respondents being over 40 and more than 60% over 50, primarily in the 50-59 age bracket. This profile largely reflects the current university academic graphic.

There is considerable variation in the time that the respondent cohort has been employed at the University. Most noticeable are two fairly large groups at each end of the spectrum. These can broadly be described as the 'long termers' (at the University for 10 or more years), a third of the respondents fall into this category, and the 'new blood', recruited within the last five years from other universities or industry; 46% of respondents fall into this category. The University has been active in recruitment in recent years with a particular focus on its areas of research strength and growth in student demand.

Two thirds of the respondents are employed as Lecturers at Level B and Senior Lecturers with most of the others (25%) being Associate Professors or Professors. Only one Level A Academic responded, but whilst this level of response would constitute an under-representation of Level A academics in the university academic workforce, comparatively few Level As are registered HDR supervisors currently. Ninety-four per cent of the respondents are doctorally qualified, with 95% of these holding PhDs.

The largest proportion of respondents had been solely educated in Australia, but many had all or part of their education in another country, predominantly the UK, USA, Canada and Europe. Some also had spent time during their education in China, the Sub-Continent, South Africa and Africa.

The supervisor respondents are researching across a broad range of disciplines including a number of those identified in this project as comparatively new 'emerging' disciplines or ones where there are 'emerging' new paradigms of research, such as practice-led enquiry. Across the sample the largest number fell within the 'other' category with some of the university's specialist research strength areas, such as sport and exercise science, biological and biomedical sciences, engineering, environmental sciences and social sciences and psychology featuring most prominently. Within the named categories, the largest groups of supervisors were in Education (22%), Business and Management (19%) and Humanities (16%).

Sixty-six per cent of those who responded were fully registered Principal supervisors (46/70), with the remaining third currently only registered at Associate level or completely new to supervision and awaiting registration. Thirty-five per cent of those with doctoral qualifications are ECRs (less than five years post-doctoral), but conversely there are a large proportion (43%) who are more than ten years post-doctoral.

A majority of supervisor respondents (54%) rate their own doctoral experience as being positive (4 or 5 on 5 point scale) with a further fifth (21%) being neutral about their experience (3 on 5 point scale). Only 17% rate their experience as being either poor or not very good (1 or 2 on a 5 point scale).

Positive qualities of the supervisory relationship most often mentioned were good communication; availability and time; supportiveness and a positive attitude; supervisor knowledge of the discipline, theory and methodology; timely and high quality feedback; mentoring; not being afraid to provide constructive criticism; training by example in academic research, along with co-publishing; personal support and pastoral care; empathy, respect and integrity. More 'hands-off' approaches that were positive were described in terms of providing 'creative space'.

Process issues were less commonly mentioned; when they were, setting and keeping deadlines, pushing at the right times and in the right directions and regular meetings were specifically commented upon.

The broader research environment was mentioned by some respondents, with particular reference to coursework programs; a vibrant research culture; collegiality; networking opportunities; and peer support – 'a supportive group of fellow graduate students'. Negative experiences of supervision were characterised by lack of the qualities outlined above, particularly availability and time. Typical negative comments were: 'Intermittent irregular and inconsistent contact', 'poor knowledge of project and lack of ability to provide constructive criticism during thesis write up'.

Most (79%) said that they draw on how they were supervised in their own supervisory methods.

The spread of supervisory experience was quite wide with a third of respondents having been involved in HDR supervision for three years or less, whilst at the opposite end 29% had had more than seven years' experience as HDR supervisors. Just over a quarter of the respondent cohort (26%) has yet to supervise to completion, and amongst those who have supervised to completion 42% have supervised three or less students to completion. Only just over a third (38%) of the supervisors who have had completions have supervised a large number (>7) completions, presumably most of these being the more senior academics in the cohort.

Half of the supervisors (49%) are currently supervising three or less students with just under a further third having between four and six current students. Given that supervision is joint at the university, this means that the range of average supervision load of this cohort of supervisors is between zero and approximately 4 EFT, depending on the balance of part-

time versus full-time student supervisions and proportion of supervision load per student supervised (the default is 2/3 load allocated to the Principal supervisor and 1/3 to the Associate supervisor when two supervisors are involved in working with a student). Only 21% of supervisors indicate that they currently are involved in supervising seven or more students. Eight-six per cent of those respondents who are supervising currently are members of at least two supervisory teams with 35% involved in four or more different supervisory teams.

Virtually all who responded indicated that they spend on average either 3-5 hours per month or 6+ hours per month with a full-time student and 1-2 hours per month or 3-5 hours per month with a part-time student. More than a half (58%) indicated that the average time spent was greater than the time allowance in their workload, although the current university workload model assumes 153 work hours per annum per full-time student (shared across the supervisory team), a quantum that seems to be consistent with the amount of time being expended. Interaction with students tends to be mainly face to face, although just over a third (38%) indicated that they use some or mainly ICT.

Key areas identified as working well in supervisory teams included effective (open) communication among supervisors and with the student, mutual collegial respect, enthusiasm for the student's project and placing the needs of students first, regular meetings (including of the whole team with the student) and discussions with colleagues, agreement on the direction the study is taking, appropriate spread of research topic knowledge across the team and willingness to share ideas and resources, complementary knowledge and skills for the project and student, and clear designation of roles.

Key areas identified as not working well within supervisory teams (these include some contradictory perspectives to the previous positive points) include workload not fairly shared/someone not pulling weight, difficulties organizing meetings because either too busy (time) or cross-campus (place), lack of role definition/token inclusion of a co-supervisor, differing perspectives and inability to compromise, status/ego and power plays between supervisors (e.g. shared supervision as a competition), difference in supervisory philosophy, lack of understanding or respect for each other's expertise, and expectations not clearly spelt out to student and other supervisor/s.

Almost three-quarters (74%) of respondents had undertaken mandatory training at the university, whilst of those who responded in relation to their previous university only about a third had undertaken mandatory training there.

The supervisor respondents are well informed about University policy and procedures related to supervision with all but four (6%) indicating that they had read the relevant University policies. They are also fairly active in engaging in optional workshops on supervisory practice with two-thirds (64%) indicating that they have participated in such optional workshops.

It is evident from responses across a number of questions that there is quite a lot of engagement in pedagogy and practice of supervision at the level of individuals and groups – with self-reflection after supervisory meetings being high (87%) and 70% of respondents indicating awareness of an active community of practice around HDR supervision. In some cases this reflection and engagement with practice was formalised with a quarter of respondents indicating that they participated in a local community of practice around supervision and/or that it was common practice to review supervisory team performance with other members of the supervisory team. Just over one-third (37%) indicated that they were being mentored by a more experienced supervisor. There was also considerable interest in contributing to mentoring with 60% indicating that they are interested in mentoring new supervisors as part of their supervisory skills development. The main barriers mentioned to getting involved in mentoring are the time commitment that would be involved and lack of sufficient experience and knowledge as a supervisor, although one respondent raised the issue of whether a mentoring approach is necessarily the most

effective for supervisor development given very different supervisory styles.

More than half (56%) indicated that they had read books on supervisory practice. However, the level of engagement in research on the pedagogy of supervision and its dissemination through conferences is not particularly highly developed. For example, comparatively few (14, i.e. 19%) had attended any conferences on supervisory practice and only 11 (16%) had conducted research on supervisory practice. To support their professional development the level of access to ALTC supervision resources was low with only 12% of respondents having used any of these resources.

Whilst only just under one-quarter (23%) of respondents indicated that the available professional development programs/tools were not adequate, the largest proportion (47%) of others were neutral, and less than one-third (29%) said the programs/tools were adequate or completely adequate.

*Institution 5:* There were 25 respondents in all to this survey. The group was evenly spread on gender, academic ranges B to E, disciplines, and mainly Australian educated. All had doctoral level qualifications with most in the age group 40 to 59 years. The survey group consisted mainly of principal, and thus experienced, supervisors. While the majority supervised less than 6 students a few supervised significantly more.

While most feel they have improved upon their own experiences as an HDR student and the associated supervision, a few, worryingly, report the current experience is poor compared to their own. What works well is communication. This includes communication within the supervisory team and with the student. What doesn't work well is the lack of communication and when one supervisor dominates the student and the HDR supervision. All supervisors reported undertaking some supervisor training. However there was a mixed response as to its effectiveness. Most felt that there was too much emphasis on administrative and compliance issues. This was reflected in that all reported having read the university policies and procedures on HDR supervision.

The level of supervisor development above the compliance level is lacking. Just over half had attended optional supervisor workshops and most hadn't attended any conferences on supervision practice. While there is a community of practice at the university, most supervisors were unaware of its existence and do not participate. Most are unaware of and do not use the ALTC resources and very few have conducted research into supervision practice.

As the majority were experienced supervisors, being mentored was not so important. However most were available to be a mentor, although time constraints were raised as a limitation.

Nearly all draw upon their own experiences to shape their supervision style, and hence there is not a great uptake of professional development. The commitment to professional development and whether what was available was adequate produced ambivalent responses. Most don't know what is available. The reasons cited for why the PD was inadequate were that it was poorly timed, not relevant to their needs and not interactive. The favoured professional development activities should be online (available to be accessed at a time suitable for the supervisor), short workshops, group discussions, and more 'war stories' from experienced supervisors about dealing with supervision issues.

To supervise a full-time student, 80% of supervisors spend more than 3 hours a month supervising, with 50% spending more than 6 hours a month. For a part-time student, 67% of supervisors spend more than 3 hours per month, with 13% spending more than 6 hours per month. Most supervisors report that the time allocation given by the University is less than the actual time taken for supervision. Most meet face to face with students, but there is use of Skype and electronic communication for distance students. The highlighted

deficiencies of HDR students were inadequate research skills and poor writing skills. The main issues that arise during supervision are institutional. Personal reflection on supervision takes place, but rarely is there a review of supervisory team performance.

## Interview and Focus Group Insights

*Institution 1:* Three small focus groups were held, 2 with inexperienced supervisors and 1 with experienced supervisors, along with 3 individual interviews. While the numbers contributing to these were small, the quality of the conversations was good and brought out issues for reflection on current practice as well as ideas for new interventions to support supervisors' development.

In terms of reflecting on their experiences the following points arose as ideas of what would be good supervisory practice:

- Need for specific feedback to be given rather than general comments made to reassure.
- Need for supervisors to explain why they are asking students to do certain things rather than leaving them to work it out for themselves.
- Holding collective meetings of students being supervised all together adds to the learning of the students as they can see how advice given to others can apply to themselves, and they can support each other.
- Encourage students to read each other's work and give feedback prior to supervisor reading it so they can see how well they are developing their critical eye and measure of standards to be attained.
- Create a research environment and culture whereby it is acceptable to ponder on research questions and feel ok.
- Role of master and apprentice switches towards the end of the PhD journey as the student takes on the master role.
- Be specific to students about what you want to read or you get sent the whole thing every time.
- Supervising is a privilege and a responsibility. Need to explore your values in supervising and understand that there is more responsibility on you than the student.
- Try to meet students before you agree to take them on. Some relationships are difficult and avoidable.
- Articulate your approach to supervision to the students. Do you, for example, want them to publish as they go, apply for grants, etc. or do you just focus on the production of the thesis?
- Find supervisors to work with who have complementary skills and views so that you bring something different without major conflict. You each want to bring something different but have some common agreed points of reference. Select co-supervisors carefully.
- Supervising is a form of lifelong learning – nobody ever perfects it, we're always developing further.
- Don't be in a rush to take on students – better to take the right students than any students.
- Funding is better for the university if you get students through quickly although the workload model doesn't reward for this.

- Don't expect to know everything. Ask advice.
- There is no one size fits all solution to supervising. Need to learn to adapt style to students' needs and progress.

In terms of areas they would like further development on in their supervisory development journey, the following points arose:

- Dealing with difficult situations such as students getting emotional, underperforming students, etc.
- Dealing with the administrative processes and procedures from start to finish.
- A dummy's guide to supervision to refer to in problem situations.
- A resource bank of annotated methodology papers/text/etc. that supervisors could draw on with the annotations of other supervisors as to why they think they are valuable and how they can be used.
- Peer reviewing conference paper and journal articles helps get an eye in for the standards required, structure of argument, etc. Examining other thesis helps even more – including UG Honours and PG thesis.
- A guide on teaching ethics and completing ethics applications would be useful.
- A framework for giving feedback could be useful.
- A bank of thought starters to use when addressing difficult issues to move the students forward could be helpful for them to develop a strategy with their students.
- Use of formal mentors could be introduced so that new supervisors have someone they can go to outside of the team and even outside of the faculty for advice and guidance and support.
- Guidance on how to choose examiners.
- Pool of external advisors available for teams to refer to would be a good support.
- Need guidance in how to teach students how to write.
- Need guidance on how to get started with supervising and how to work through the process.

*Institution 2:* A total of 19 supervisors were interviewed and a total of 6 supervisors participated in the two focus groups held. More female than male supervisors participated in interviews and focus groups. Participating supervisors occupied roles ranging from lecturer to professor and were drawn from the Faculty of Education and Arts, the Faculty of Business and Law and the Faculty of Computing, Health and Science.

Interview and focus groups affirmed that the supervision people encountered during their own PhDs remains a powerful influence on their approaches to supervision. Mandatory supervisor training and the experience of co-supervision appear to be less influential than reflections on engagement with the supervised students in contributing to the development of supervisors.

At present PhD supervisors are part of a little celebrated community of practice unsure of just how diverse, demanding or effective its set of practices is. Despite the move to supervisory teams, many supervisors still have little chance to observe and learn from their colleagues' supervisory practices. Some found mentoring arrangements in their schools satisfactory. Others were unclear about what mentoring was supposed to involve or achieve.

Interviewees had strong opinions about the values, pleasures and pains of co-supervision, but when asked about their own supervisory practice, only one of the interviewees alluded to co-supervision. No-one mentioned co-supervision when asked for the top three tips they

would give novice supervisors about supervision.

Supervisors stated they did not adopt a 'one size fits all' approach to supervision but found themselves increasingly dealing with 'needier' and less independent students, who did nevertheless have the potential to complete a PhD and undertake independent research. In many cases, supervisors felt that the main challenges they faced in supervision related to resourcing issues and selection of students to undertake PhDs rather than to unmet needs for further development as a supervisor.

Supervisors did not expect ideal situations and realised that they could not do everything they want to as a supervisor. Several supervisors considered that supervision was tacked onto a workload that prioritised undergraduate teaching over postgraduate teaching and supervision. Unless supervision was valued more appropriately compared to teaching, research and publications and given more realistic workload allocations, development alone could not address the problems confronted by supervisory teams.

Interviewees nevertheless had strong opinions on what novice supervisors needed to know and action they wanted to see taken to address the further development of supervisors. A revised framework for the development of supervisors and a continuing education program for supervisors that provides for seminars, briefings, discussion and supportive peer groups of supervisors could effectively address many of the points raised by interviewees.

*Institution 3:* Two interviews were conducted, a male and female with extensive experience working with higher education contexts in Australia and overseas. They both recognised that they needed greater support during the initial stages of the PhD.

The approach to supervision was very similar for both interviewees where they focussed on the needs of the student, starting from the 'issues they were facing'. The male tended to promote the importance of timely completion through 'keeping up the pace' and creating a tight timeline. However, in recent years he noted the following barriers to successful supervision included increasing numbers of doctoral students per supervisor reduced the time for and depth of supervision and increasing difficulty in the alignment of research topics between student and supervisor. The female approached supervision as a transformation learning journey where she emphasised and supported the 'processes of research rather than the research topic', although she recognised that both were very closely aligned when students were successful in their PhD completion.

Particular issues of concern included increased challenge posed by the perceived decline in the literacy skills of English as second (or third or fourth) language doctoral students. Key elements for successful completion included, time management, familiarity with the research topic, enabling the doctoral student to take the lead in the research, and address ethically any intellectual property issues regarding student publications. In addition, the supervisors were concerned that admissions protocols should include a view from the prospective supervisors and not just focus on eligibility for entry so as to increase student numbers.

*Institution 4:* None of the first six interviewees is an inexperienced supervisor. All have been supervising for at least five years. However, there is a marked difference between interviewees 1-4 and 5-6. The first four are level B or C academics, who are mid-range in terms of seniority within their schools. For the purposes of this report they are classed as 'moderately experienced' supervisors. The last two are members of the professoriate, who have been supervising for upwards of 30 years and occupy senior positions within their respective organisational units. For the purposes of this report they are classed as 'very experienced' supervisors.

Among the four 'moderately experienced' supervisors, one is supervising sports science students, two education students, and one law students.

Of the two 'very experienced' supervisors, one is supervising in tourism and the other in

management and information systems.

There is a contextual issue that needs to be acknowledged, not just for the following interviews but for all the interviews and focus groups, and to a lesser extent the survey responses. The responses are not 'neutral' in the sense that all respondents are self-selected, and in the case of the interviews mediated by interviewees' awareness of sharing information about their values and practices as supervisors with a colleague (in the interviews that follow a senior colleague with a reputation for some expertise in the area). In the case of focus groups they are discussing their professional life with colleagues in a profession that often thrives on putting colleagues down. It is also important to recognise that reported motivation and practice does not always accord with what others may perceive.

Nonetheless, as a group, the supervisors who have agreed to be interviewed represent the most reflective and supportive staff within the university; and more open to change than many of their colleagues.

In the interviews, participants were asked to reflect on their own PhD supervision. Most of those interviewed had experienced poor supervision from at least one of their supervisors during their own doctoral candidacy. The two very experienced supervisors had completed their PhDs in the decades of the 20<sup>th</sup> Century when the 'god professor' reigned supreme, when expectations about supervision were minimal or non-existent, and the prevailing assumption was that having achieved doctoral candidature status students could be safely left to get on with the task. Note, however, the reflection of Interviewee 6, whose second supervisor provided a 'perfect role model' that he, went on to emulate as a supervisor himself.

Though undertaking his PhD twenty years later, Interviewee 3 shared much in common with the two very experienced supervisors. He had completed his PhD in the 1990s in a traditional discipline (English literature) and was left to himself to get on with the job, which he didn't question. In terms of what he produced, he modelled himself on the written output of his (eminent and widely published) supervisor.

Most of the interviewees accepted (and, in a couple of cases, regretted) that their supervisors could have offered much more to the process, out of which they gained a clear sense of what not to do as supervisors themselves. What they valued when they received it, or missed when they did not receive it, was a focus for their project, a sense of what the overall PhD entailed.

Some of their responses when asked what they had felt was missing in their supervision reflect what interviewees wanted at the time. But most were talking with the advantage of hindsight, and most of their responses reflect what they would now want from a supervisor. Most framed their responses in terms of the contrast between what was lacking with their initial supervisor(s) and what was provided by later, successful, supervisors.

All interviewees were expansive in their responses to questions about the impact of their own experience of being supervised on their development as a supervisor. All had clearly derived lessons from their own experience of being supervised (positive and negative) and considered that their own students were the beneficiaries of the lessons they had learnt.

Organization and structure were important, and all interviewees had a clear sense of the pedagogical and professional dimensions of supervision. There was an emphasis on providing students early in the candidacy with a clear set of expectations as to how their project would unfold and proceed: a clear research question, an informed appreciation of the importance of having an appropriate and feasible research design and methods, and agreed milestones and deadlines.

Compared with their own experience of being supervised, most took a firmer and more structured approach with their students.

Participants' reflections on supervisory teams focussed on the issues involved in making

teams work, rather than on the team as a site of learning. As such, they varied considerably according to the roles the interviewee had played in such teams. There was a clear consensus among the moderately experienced supervisors around the need for team members to negotiate and agree on their respective roles and input beforehand. There were different views on what the respective roles might be, and on the time breakdown, but all saw the need for anticipating differences to avoid making the student the 'meat in the sandwich'. Their emphasis on issues of process rather than content expertise may reflect their own unsatisfactory experiences in this respect.

The two very experienced supervisors, both longstanding members of the professoriate with well-established disciplinary and academic reputations, had less interest in process issues. They were accustomed to 'calling the shots' in their supervisory teams, and rather than negotiate respective roles would as a matter of course simply assign roles to the co-supervisor. Both assumed the leadership role in such arrangements. In Interviewee 1's response, we can get a sense of what it's like to be a co-supervisor in such an arrangement.

Similarity or difference in the skills and experience of team members emerged as less important than having a clear sense of what each would provide. At the same time, most interviewees valued complementarity between what each supervisor would provide, whether expressed in terms of skill sets, subject expertise, providing different readings of a student's work, or responsibility for arranging meetings with students and monitoring their progress (the expectation the very experienced supervisors had of their co-supervisors).

Interviewees tended to comment on supervision styles in terms of how they perceived their own style. The contrast with other colleagues' style is usually implicit, as are the additional benefits that students could gain from being exposed to different styles. All moderately experienced supervisors see themselves as providing support to their students, the implication being that they see supervisors around them providing less support. Clearly, all respondents have reflected on their supervisory role and practice and are making conscious decisions on how they supervise.

There were wide variations in their characterization of their own style, from Interviewee 2's representation of herself as physically and emotionally omnipresent for her students through to Interviewee 3's Lacanian sense of himself as someone who incorporates silence and gaps into his supervisory interaction as a way of forcing them to occupy a creative space.

The very experienced supervisors emphasized quite different things. Interviewee 5 spoke of the formality of his interaction with students as a means of compensating for his superior positional power vis-à-vis both the student and the co-supervisor. Interviewee 6 considers himself 'softer' and 'more supportive' than his co-supervisors, which is interesting given his sense of being the one who directs the project.

Many of the responses on participants' own style were covered in the previous theme. What is reported here relates mainly to the processes of supervision. All who responded to this question interpreted 'processes' to mean 'stages'. In this respect, there was clear agreement on dividing candidature into two distinct stages. The initial phase was more interventionist, as the supervisor guides the student in formulating a precise research question, deciding on appropriate research design and methods, and charting milestones and deadlines. The second stage was less interventionist: more monitoring that the student is on track.

All interviewees expressed commitment to enabling the student to develop as an independent researcher, though Interviewee 2 was aware that her actual practice contradicted this aim.

It is interesting that three of the six interviewees considered that they were a 'light touch', too 'soft' when it came to enforcing deadlines, and would welcome help on this aspect.

Asked about what had led them to make changes in their own supervisory practice, five of the six expressed the belief that change is inevitable, and that they had (of course) changed their supervisory practice over time. For some this involved learning new research and

communication techniques. For another it was a matter of finding the right emotional distance between herself and her students. For Interviewee 3 taking up distance mode supervision has entailed making changes, such as better use of communication technology, which he has relished. For the two very experienced supervisors, their experience of what doesn't work has taught them to modify their practice, rather than the counsel or findings of others. This may reflect their male professorial generation and the conviction that they are in control. Only one of the six indicated that his practice has not changed.

Participants nominated a number of areas where they would like more development in terms of their supervisory skills and practice, and ways in which this could be facilitated. Two of the moderately experienced supervisors nominated discrete technical development, in statistics and advanced teleconferencing. The other two referred to what might be termed enhanced opportunities for pedagogical debriefing and comparisons as a means of development. The two very experienced supervisors both expressed the need to be more aware of what's in the literature on supervision: both have placed great store by learning from direct experience and are aware that they have not taken sufficient opportunity of learning from the experience of others as reflected in the literature.

Interviewees who were familiar with the university's mandatory two hours per year of professional development were dismissive of it. They remarked on how it is easily achievable, tokenistic, 'rubbish', non-meaningful, and irrelevant to what needs to be done, for instance, at the school level. All accepted the need for some training, and the institution's responsibility to provide training, but firmly believe that it should be needs-based rather than meeting an arbitrary two-hour requirement. Suggestions for better arrangements ranged from time release, to reflective action writing, to encouraging communities of practice, to rewards rather than compliance, to practically-orientated workshops to provision of mentors.

Interviewees typically reported learning to supervise 'through experience', both positive and negative. Interviewees referred to the importance of the positive moments they had experienced with individual supervisors and other staff during their own candidacy. The influence of supportive colleagues since then was important, which is reflected in responses throughout the interview schedule. Interviewee 4 expressed 'wistful regret' at missing out on a positive supervisory experience as a PhD candidate, but (like other interviewees) also considers that it has equipped him to be more receptive to his students' needs. For Interviewee 6, supervision is something he simply doesn't think about, and it isn't discussed within his school. (I'm not sure whether he realised that there might be a connection.)

Interviewees were asked to nominate the top three tips they would give to a new supervisor. Little commentary is required here as the tips are brief and to the point. Empathy and establishing good open relationships while maintaining boundaries feature in a number of the suggestions. Confidence-building in the students is seen as another important dimension to be addressed. Other tips focus on helping students map out their candidature, encouraging writing and publication during candidacy, being aware of university guidelines and requirements, and supervisors acknowledging their own limitations.

*"Our students are not our friends – that can develop after the project."*

*"Listen, look and feel, and count to ten before you dive in. That is, give time for a question to be answered: don't jump in to fill a space in the conversation."*

*"Make the student feel that they are driving the process, though in fact the supervisor will be."*

*"Don't put it off: see what they can start writing about now – and remember they're already savvy with blogs etc. and more open to communicating."*

*"Be prepared to give the time, in its broadest sense, i.e. take it really seriously."*

*Really listen to what students are saying/writing.*

*"It's hard for students to discern the bigger picture of what they're trying to achieve."*

Some interviewees expressed reservations about the concept of a 'toolkit' and accompanying 'tips', which run the risk of underestimating and downplaying the complexity and the uniqueness of each candidate's project and needs. Having made the point, they went on to make valuable suggestions as to what might be included. Measures to encourage and facilitate self-awareness and a sense of doing something valuable were nominated for inclusion. Acknowledging diversity and difference was considered important. Other suggestions were made regarding the need for more effective screening of enrolling students and ensuring that there was an institutional awareness to ensure that there was supervisory capacity to meet demand, particularly of students coming from cultural-academic settings with quite different intellectual traditions and epistemological assumptions.

*Institution 5:* Six supervisors were interviewed for a more detailed analysis over a range of RHD supervision issues. There were three experience supervisors and three relatively new supervisors.

All reported that they were heavily influenced by their own experiences both positively and negatively. All felt that their supervisors had been helpful in some of the areas of navigating the administration, developing the literature survey and editing the thesis. Communication (and sometimes lack of it) was discussed by all participants as a key feature of their degree, including the use of online tools such as Skype.

Participants who had experienced changes in supervisors said it can be very disruptive, with organizational restructures sometimes impacting on the students. One participant spoke glowingly of being incorporated into School research seminars and training programs. There were differences between responses of the experienced and new supervisors when reflecting on supervising others. New supervisors placed more emphasis on getting to know the student and project management issues. The model described by new supervisors was quite student focused, 'walking alongside' the student. The experienced supervisors placed more emphasis on getting the topic set and having methodological expertise on the supervisory team. It might be termed a more degree focused approach. There was less emphasis on the student as a person, but more on identifying the student's ability and intentions at the start of candidature and ensuring the right supervisory team was in place. There was quite a deal of variation in style of the supervisors as well as local practice. Supervisors want to be involved from the pre-candidature stage as they feel this does make a big difference in choosing the right methodology or just understanding student motivation. The experienced supervisors put quite an effort into the early stages trying to find out about career ambitions, research methodology understanding, refining the research question and even starting on the ethical clearances. They also get the potential student to do some writing on the topic before acceptance.

At the University there is an HDR supervisor conference once per year with mandatory attendance every second year. There is a strong emphasis on administrative and compliance issues. The new supervisors found this useful, but the experienced supervisors found it repetitive. The general feeling was that supervisors are not encouraged to meet new people thus inhibiting developing new relationships and there should be more should be made of 'war stories' and interaction with experienced supervisors.

Supervision is seen as classic on the job learning, or action learning. Trans-disciplinary committees are needed, as well as courses in methodology and trans-disciplinary theories. While some disciplines have well defined methodologies, trans-disciplinary approaches are challenging the current doctoral model.

A supervisor who is without professional communities around them is a problem. They need

to be connected to other universities, especially in identifying examiners, although the methods in selecting examiners varied. Some involved the student and some did not. With regards the development of the toolkit, suggestions around the 'system' issues of providing appropriate and timely feedback, project management and understanding compliance were commonly cited tips to supervisors. The feedback should be respectful and culturally sensitive. The project management should be about setting realistic goals and expectations and keeping on task. It is important to understand how the system works as compliance and ethics can be major frustrations to the student experience. The other major tip to supervisors is to be up to date on the literature and what is the potential value of the research.

## Outcomes of interviews and focus groups

Although the detail of what supervisors said varied in emphasis and focus across the five institutions (see sections below), there were common threads across them.

The majority of supervisors who were interviewed felt there was a need for further resources to support them in their supervisory practice, and felt that current offerings (workshops, books, and in some cases, communities of practice and mentoring), were not meeting all their needs in this regard. Supervisors were particularly looking for real time, readily available resources and advice that could be accessed as and when needed, from their offices or home computers. The busy schedules of supervisors, with varying commitments to classroom teaching, administration, research and research supervision meant that they could not always attend face to face training and in any case, there were limitations in the timeliness and relevance of training provided by institutions relative to these needs.

Some were also interested in accessing an on-line community of HDR supervisors to engage in discussions and seek advice about particular supervisory issues or needs.

These resources so accessed would need to be sophisticated but concise, easy to read and provide guidance to other resources if the supervisors chose to follow them up. Supervisors emphasised that HDR supervision could not be reduced to formulaic, recipe-like prescriptions and that all supervisory situations (and HDR students) varied. No two supervisory cases were ever the same, given the very individual and customised nature of the PhD thesis and journey. As such, some interviewees initially resisted the notion of a toolkit as being too simplistic and competency-based. However, if the tools could be designed to be informative, thought provoking and thorough in their overview of the issues and potential strategies, supervisors agreed they would be valuable and they were likely to use them. Some typical areas where supervisors felt there could be more guidance provided through an on-line toolkit included: dealing with emotional or difficult students; guiding the student through various methodological choices; managing the supervisory relationship;; assisting the student to publish, and many more.

Overall, supervisors were looking for more support in relation to the complex, interactive aspects of the PhD journey – management of the relationship and the PhD thesis itself – than the compliance issues, such as administrative rules and policies, which were generally covered in mandatory training provided by institutions.

## Phase 2 Development and Piloting of the Tools

The objective of this phase was for each partner to develop the tools they committed to at the project workshop to populate the framework developed. A proforma for tool development was created to guide the design and layout of the tools. An evaluation form was also developed for test-users of the tools to complete when trialling the tools and ethics clearance was gained for this to be included in the research process.

The toolkit was developed over a four month period, with a pilot run of each tool within the developing institution, before the complete offering was made live to the five partners to trial and test and evaluate over a further 3 month period. The project independent evaluator provided feedback on the tools developed as part of her role in the project.

Each newly developed tool was forwarded to the project's independent evaluator, Barbara Evans, for review. Once the tools were reviewed, they were then sent back to their creator to adopt the recommendations made as they chose.

Tools were then uploaded onto an online Ning platform for piloting. Access to the site was by invitation only and tools were updated as feedback was received.

### A Retreat to develop the Toolkit

A two day retreat was held to review the results of the research above and take forward the agenda into the development of the toolkit. Feedback as to the lack of use of the FIRST resources led the team to decide to map the toolkit against the DDOGS development of a framework for research degrees. This will allow anyone accessing this framework to immediately see how the development tools support the model of best practice in graduate studies for Australia.

The framework for development therefore is represented in Table 1 below and has been reviewed by the Project Advisory Committee. Each element of the toolkit was allocated a team member to lead its development, and a common proforma was developed to sit in front of each element developed to ensure that users are given clear directions as to how the tool can be used, what it is trying to achieve, and any support materials that they will need.

Dimensions	Components
a. Research degree program	What is research in different disciplines
b. Research Environment	Supervisor interaction/review Interdisciplinary teams Website/portal Use of experienced supervisors
c. Research Training Governance	Career integration  Economic impact
d. Academic Integrity	Ethics

1. Admission Processes	Selecting Students Selection of Supervisor Team
2. Candidature Management	Poorly performing students Giving Feedback Feedback on at Risk Supervisory Agreement Project Management Proposal Writing
3. Supervision	Peer Coaching Action Learning/Community of Practice Themed Workshops Performance Management of Supervisors Supervisor Values and Team Composition Accreditation Levels Model of Good supervision Methodology Resource Bank Supervisor Models Discipline Issues Self Esteem and Inadequacies Team Management Giving Feedback Mentoring Role Plays
4. Candidate Support	Emotional Management of Students Difficult Students Giving Feedback (Cultural Sensitivity) Giving Feedback at a Distance

5. Tailored Professional Development	Methodology Resource Bank
6. Examination of Research Outputs	Choosing Examiners Examiners Report and Criteria Pre-submission Review

Table 1: Outline agenda for toolkit development

As part of the workshop retreat, the group looked at ‘ideals’ in terms of what we were trying to achieve as the ‘ideal outcome’ or the perfectly competent supervisor. This led to discussions around attributes of the good supervisor; what good supervision is; the ideal process of supervision; the role of the ideal student; and finally what the ideal supervision team would encompass. This brainstorm helped us identify some of the gaps that need to be developed in order to enable individual supervisors to aspire to these ideals. The ‘ideals’ are listed below.

*The Good Supervisor (Attributes)*

- Knowledgeable
- Patient
- Courteous/respectful
- Empathetic
- Honest
- Committed
- Encouraging
- Aware of their own limitations
- Ethical
- Constructively critical/appreciative
- Judiciously tough
- Active researcher
- Well organised
- Responsive
- Cultural competence
- Good communicator

This could be checklist to help supervisors reflect on their own practice and their own competence development with regards to the supervision process.

*Good Supervision*

- Helps refine the Question
- Understands/meets the students’ needs
- Helps the student see the Overall Project
- Familiarity with the Rules and System
- Knows when to talk and when to listen (Active Listening)
- Inclusive and Collaborative

- Emotional Support Referral
- Knowledge of Support Systems and Academic Advice
- Meeting Examiner Expectations
- Supporting Writing Development
- Assisting with Research Methods
- Knowing when to Cut and Move On
- Sets Appropriate Standards
- Allows the student to become an Independent Researcher
- Entails Working with the Student
- As a Principal Supervisor – can lead the team
- Understanding of Publishing Requirements – as a Generic Skills

This could be a useful diagnostic to help supervisors discuss their development needs with their line manager or with the Director of Graduate Studies.

### *Good Supervising*

- Working Within Clearly Established Boundaries/Expectations
- Makes Expectations very Clear right at the Outset
- Being Consistent in the Language Used
- Meets specific Targets and Milestones
- Scaffolding the Research Journey
- Matching supervision Style to student Needs/Abilities/Stage of development - context
- Managing Timeframe issues/deadlines
- Mindful of Stage of Research
- Supports the Development of Researcher Identity
- Prepares for the Meeting
- Asking Searching Questions as the Right Time
- Inspiring through Debate/Feedback
- Does Not play on Power
- Deals with the Interpersonal dynamics
- Opens Up Ways of learning for the student – a Research Culture
- Helps the student See Things through Different Lenses
- Seeks Help when Necessary
- Assists with Problem Solving within the System
- Being Aware of the student's Life Context
- Aware of Team Dynamics
- Professional Networking
- Structures Agenda for Meetings.

These are some of the dynamics and skills that we are seeking to address by developing resources for supervisors to draw on to help them achieve these processes.

### *The Ideal Team*

- Complementary Expertise – disciplinary, institutional, method, process
- Professional Respect, Trust, Confidence
- Clear Expectations and Roles
- Alternative Reader
- Argues/Contests positions Constructively i.e. modeling the intellectual discourse/process
- Provide Different Perspectives
- Being committed to Develop Independent Researchers – they need to be Student Focused
- Be Committed to Successful Interaction;
- Be Committed to Supporting each other/Professional Development/Mentoring and enjoying the process
- Have Enthusiasm for the Project
- Fairly Shares the Workload
- Availability
- Has Fun!

This is a good starting point for a discussion between supervisors when they are considering joining a supervisory team.

### *The Ideal Student*

- Recognises their responsibilities and rights
- Is prepared to work
- Makes time available
- Committed, determined and persistent
- Open to challenge and ideas
- Is prepared to change
- Enthusiastic, passionate
- Responds to feedback
- Has own ideas but not arrogant
- Strives to be independent
- Regularly produces written work
- Aware of what the final product will look like right from the start
- Honesty and humility – openness to learning
- Will bring new ideas to the table

- Knows why they are doing the PhD – motivation
- Writes from the beginning and read to the end (in the case of the Viva)
- Follows up on supervisors' advice
- Appreciates the supervisors' context
- Proactively set up/creates their own networks – seeks support services
- Sends summary of tutorial afterwards
- Sends work in advance of meeting
- Adds value to the process – self initiating/self-starter
- Good writer

One of the key areas of feedback from the project independent evaluator was the importance of selecting the right students for the supervisor. This list here helps supervisors think about potential PhD candidates and whether they are both ready for the PhD process itself and ready for them as their supervisor.

## Piloting of the Tools

An application was made by each institution for Ethics approval to evaluate and pilot the use of Tools developed within the project. During this phase each project partner took the toolkit to their institution in order to pilot the toolkit. Invitees were sent an invitation link and were asked to pilot the tools that they felt were relevant to their supervision practice.

Each tool was piloted through circulation to the project partners and the external evaluator who provided feedback. Tools were then amended and uploaded to the Ning site for the implementation pilot process (phase 3).

## Phase 3 – Implementation of Toolkit and Evaluation

In order to get buy-in and users to pilot the toolkit, each partner sent an invitation with a link to the toolkit to their Associate Deans of Research, Deans, Heads of Research and other parties responsible for HDR supervision within their own institution.

Each institution piloted the implementation of the toolkit across their institution. Particular focus was paid to emerging disciplines for a period of 6 months during which detailed follow-up evaluation feedback was sought. This evaluation included a combination of paper-based feedback, focus groups and some follow-up interviews. Interviews were also held again with the people responsible for supervisor training within the institutions. The evaluations were written up within each institution and then collated. The toolkit interventions were looked at holistically as well as individually as the linking of interventions may prove to be as important if not more so than their use as mutually exclusive events. Consideration was also given to mandatory and voluntary engagement in interventions.

### Toolkit Trial Implementation and Evaluation

Once the website was created and piloted internally, we went live with the website for 6 months in each of the partner institutions. A range of activities were undertaken to introduce the site and evaluate the site in each institution and as feedback came back, the toolkit was modified and supplemented. Ethics clearance was gained for this process and each institution undertook activities which met their specific requirements and circumstances.

Overall, the website has 130 registered users external to the project partners.

- 196 people visited the site
- The site had a total of 496 visits
- 2,769 pages were viewed
- An average of over 5 pages per visit
- Average visit time was over 8 minutes
- 41.4% were returning visitors

A report of each institutions' individual activities and evaluation are below.

***Institution 1:*** The tools developed at this institution were in response to the outcome of Phase 1 and the proposed framework developed at the first project workshop. Once the tools were initially trialled for general feedback and comment, each tool was forwarded to the Independent Evaluator for feedback. Feedback from the Independent Evaluator and the initial pilot was adopted and the tools were placed onto a Ning Platform.

Invitations to pilot the tools were sent out to all ADRs and Deans across all campuses including overseas. An invitation was also sent out to all HDR Supervisors in the Faculty of Business and Enterprise as well as Research Administrators. The toolkit was also 'advertised' in the institution's Research Bulletin.

The online toolkit had an anonymous feedback link available for users to provide anonymous feedback. Additionally each tool listed the tool creator's contact details and the contact details for the project research assistant for comment on the tool, the instructions provided and the tool's relevance and ease of use. A total of 15 feedback forms were sent through the anonymous link and no direct feedback was related to the tool creators.

Although the toolkit pilot site had approximately 130 registered users, outside of the immediate project partners and their staff, the feedback on the tools and the toolkit remained low. The project team decided to introduce the toolkit at workshops and engage in activities focussed on receiving feedback.

This decision led to the toolkit being introduced at a central Research – Supervisor Induction Workshop. At this workshop, each participant was given some brief information on the project and toolkit as well as an invitation to visit the site. The toolkit was introduced at an Early Career Researcher Group function, where one of the project partners presented on ‘How I became a Professor’ and ‘how I learned to supervise’. Again each participant was given some brief information on the toolkit as well as an invitation to visit the site. The response at all the workshops was positive and led to the decision to hold further workshops and personally introduce cohorts of both established and less established supervisors to the resource.

Personal invitations were sent out to established and less established supervisor in the Faculty of Business and Enterprise which resulted in two further workshops with a total of 11 attendees. Computers, laptops, project information and a light lunch provided to all attendees. At the start of each workshop one of the project partners introduced the project including some background information. Thereafter, the project research assistant stayed with workshop attendees to answer any questions and collate all comments and feedback.

The toolkit was also introduced at a Higher Degree Research Workshop – Demystify Supervision which was conducted by Professor Ron Adams from Victoria University. Each participant was given a link to the site as well as a print-out of suite of tools for Supervisors to support doctoral students through candidature and ‘doing’ the research. All 16 attendees welcomed the resource.

All workshop attendees were also sent a follow-up email requesting further anonymous feedback via email or telephone. Also a random selection of supervisors who had registered as users on the toolkit piloting site were followed-up. This resulted in eight semi structured interviews with registered users either face to face or over the telephone. Feedback was sought using the following questions: Tell me of your experience using the site? Tell me about the tools that you looked at? What sort of supervision resources do you look for or are relevant for your practice? Would you use this resource, and how? Approximately how long have you been supervising?

Supervisors interviewed were from the faculties of Astrophysics, Applied Sciences, as well as Business and Enterprise and included six female and two male supervisors. Their supervision experience ranged from less than two years to nearly 30 years supervision experience.

Feedback on the toolkit and on the individual tools led to the development of further tools to effectively meet their needs. A suite of short case studies was developed to meet the request for tools to deal with contemporary issues faced by supervisors. Another tool developed in response to contemporary issues is ‘meeting frequency’ or how often to meet with students. Another interesting gap identified was that of Supervisor Team composition and supervisor values.

*Institution 2:* At institution 2 the project team adopted an action learning approach and generally found that there was no sharp separation between the development phase and piloting phase for this toolkit project. They received and addressed feedback regarding our tools from their supervisors and other staff during both the development and the piloting phase, which continued through this 6 month implementation.

The distinguishing features of the piloting phase were that the tools we piloted:

- conformed to the prescribed format,

- had been refined to take account of feedback from the external evaluator, and
- were presented on the toolkit site as part of a set of tools developed by all the project partners.

During the 6 month implementation, tools were also used as handouts in workshops. Once the website was ready, we sent links to the toolkit to:

- all participants in interview, focus group and workshops relating to the development of the tools contributed by that institution
- other survey participants who had indicated interest in participating in interviews or focus groups
- all the institution's HDR co-ordinators.

The toolkit was promoted in various workshops and forums in the institution. Around 20% of the 141 participants registered on the project's Ning site come from this institution. Those participants include 20 staff actively involved in supervision of research students, their 4-person project team and three Graduate Research School (GRS) staff, who will be involved in further development, dissemination and implementation of this toolkit in the institution.

One supervisor's report of difficulties using websites led them to produce a consolidated set of the tools as a Pdf document to facilitate review of the tools. While the size of this document was too large to make it an attractive item to distribute to workshop participants, we noted that tablet-using supervisors might find it helpful to have the toolkit as a hyperlinked iBook/eBook that they could access and easily search without having to have Internet access. This idea has been adopted in the final iteration of the project.

*Institution 3* In October 2012 a workshop was compiled for supervisors on "Developing positive supervisory relationships" by one of the project partners. The colleagues synthesised their different approaches and the session was repeated. Both sessions were also used to pilot some of the draft tools to gather some simple feedback at the end of the session. A feedback sheet was designed to capture experienced supervisors' perspectives on issues that could be incorporated into tools namely a) What support did you need and want from your supervisor - Getting to confirmation or your working proposal and developing the research, b) What support did you need and want from your supervisor - data collection, analysis and interpretation and writing up the thesis, c) What strengths do you bring to the supervision of your students - Begin a new supervisory relationship and Support the student in the early stages of the relationship; d) What strengths do you bring to the supervision of your students - Work with the student as they commence data collection, and through the writing up process.

In January 2013, the team incorporated references to tool development during a discussion at the Community of Practice – Research Supervisors (CoP RS) session on "Significant issues in supervision". Tools were further presented in April 2013 at the CoP RS. Two members of the CoP RS and an IS expert did provide feedback about the OLT site and tools.

A feedback session was held during a CoP RS session on The RHD Toolkit in May 2013 to demonstrate the toolkit site and to elicit comment about the site and tools. Feedback was received about making the tools more interactive and easily accessible. A further session was held in July 2013 focussing on specific tools and feedback was positive.

*Institution 4:* A multi-pronged strategy was adopted to encourage supervisors to engage with the tools and provide feedback. This led to three main means of collection of feedback on the tools:

In March 2013 c.50 supervisors were emailed with a link to the toolkit. The email distribution list covered experienced supervisors, Early Career Researchers and new associate supervisors, supervisors who had been previously interviewed in Phase 1 of

project, and participants in PhD coursework supervisor workshops. The aim was to elicit feedback from both new and experienced supervisors, and supervisors with students at different stages of the research process. Recipients were further requested to approach other supervisors from their area and invite them to access the resources and provide feedback. In addition, College Directors of Research and Research Training were requested to further distribute the invitation to participate to colleagues they thought might be interested in trialling tools relevant to their needs and interest.

Recipients received a Participant Information Form containing full details about the project, and those interested in piloting a tool were directed to the Ning website. They were given options to provide feedback on the tools through the feedback option on the toolkit website, or through sending feedback directly to the tool creator or to the research assistant for the project who would anonymise the data and send it to the tool creator on their behalf.

The two project team members also invited evaluative feedback via telephone or email on the tools' usability, accessibility and content, with the understanding that individuals would remain anonymous in all data collection and recording.

At the end of May 2013 another email was sent inviting registered supervisors and associate supervisors to one of two focus group sessions, during which participants were shown how to access the resources and spent time trialling tools and providing feedback. (Lunch and afternoon tea were provided.) Thirteen supervisors attended these two sessions.

Finally in July 2013 the two project researchers inaugurated a Graduate Certificate of Tertiary Education elective unit, 'Supervising Research Students', with a day-long workshop. A list of all tools, link to the Ning website and hard copies of twelve tools covering different stages of pre-Candidature and Candidature were distributed to the six participants. The project was explained and different tools discussed, with the expectation that participants would trial relevant tools with an HDR student in the following months and assess the tools' usefulness for their purpose.

*Institution 5:* As part of Phase 2, the pilot website was made available to active researchers in the university and feedback sought. While all active researchers were emailed about the pilot website only 16 staff accessed the site. The feedback from the researchers was overwhelmingly positive, albeit with some difficulty navigating the site. This problem was raised as a common issue amongst most institutions evaluations.

One specific suggestion was to include reference to new material on supervising research degrees in creative and performing arts. This is being followed up with the researcher concerned to see if an additional material can be designed for the toolkit. The project progress and future directions were presented by one of the team members to the Research Higher Degree Committee. This was well received with suggestions on incorporating material into their community of practice as well as supervisory workshops. The committee noted that for a small institution such as theirs, this represented an opportunity for supervisors to expand their network and interact across institutions. They are looking at how the site can be incorporated into their own website.

Due to the recent restructure at this institution, there has been a change in responsibility lines for the management of Research Higher Degree students. There is some movement to adopt the developed tools in the project into training workshops. Furthermore, supervisors will be requested to compare the outcome by using the developed tools in the project with their "transitional" tools currently in place as they embed the tools within the institution. Based on the outcomes of this, the tools may be refined to meet immediate local needs of the institution in the future.

## Summary of Piloting Activities

### Institution 1:

Invitations to pilot the toolkit and a link to the site were sent out to:

- all ADRs and Deans across all campuses
- all HDR Supervisors in the Faculty of Business and Enterprise
- Research Administrators

The toolkit was also 'advertised' in the institution's Research Bulletin. Other Piloting efforts included running workshops to introduce the toolkit and seek feedback. Workshops included:

- Supervisor Induction Workshop where each participant was given some brief information on the toolkit as well as an invitation to visit the site.
- Early Career Researcher Workshops
- Two (2) further toolkit workshops were held at which computers and laptops were supplied as well as a light lunch. At each workshop the participants were introduced to the project (background, etc.) and the research assistant stayed with the attendees to answer any questions, and take feedback, etc.
  - the first workshop on the 8th May had 6 attendees and consisted of predominantly 'newer' supervisors
  - the second workshop on the 22nd May had 5 attendees predominately 'established' supervisors.

The toolkit was also introduced at a Higher Degree Research Workshop – Demystify Supervision. Each participant was given a link to the site as well as a suite of tools.

### Other activities included:

- Interviews - all workshop attendees were followed up well as a random selection of registered site members.
  - Brief semi structured interviews were held with 8 supervisors (either face to face or over the telephone)
  - Supervisors interviewed were from the faculties of Astrophysics, Applied Sciences, as well as Business and Enterprise
  - 6 females & 2 males
  - Supervision experience range less than 2 years nearly 30 years supervision experience

Overwhelmingly feedback on the tools and the nature of the tools developed has been positive. The following is a summary of feedback received:

### General Tool Feedback

Some of the tools are too long and take too long to read. It may be preferable to break them up and have internal links to other tools and university policies, etc.

### Specific Tool Feedback

- Sent to each tool creator.

### Requests for Tools

- Short Case Studies – short, good and bad
- Meeting Frequency - timing of meetings, frequency and protocol (some case studies around this might be good)

- Specific Australian based material that considers current issues in and around HE and HDR Supervisors face i.e. Student diversity and needs (e.g. international students), part-time students who work full time, etc. and the challenges thereof
- Resources and information about applying for funding, promotion, career progression, etc.
- Discipline specific tools such as finding resources and money for research; scholarships and money to do work in the labs
- Checklist for taking on a new student – such as the space, resources and funding needed.
- Checklist for contingency plans for when a supervisor leaves the institution – risk mitigation
- How NOT to . . . (supervise, apply for funding, etc.)
- More tools to support students such as dissertation examples and a pool of resources to show students and support students. Systematic approaches to support the students and ways of outlining and clarifying the expectations.
- Career development for students, fostering collegial environments with the students, managing social relations with students.
- Supervision of non-traditional thesis – e.g. creative, practice-led, by publication
- At ‘What Point’ do you stop being nice? How to be very honest and confront the student, deal with ‘marginal progress’ and ‘abnormal student behaviour’. Issue of arbitration for difficult students and other actual interventions
- Tools to support the Supervisor's emotions and supervisor's anxiety
- Profiling (required) Supervisor Capabilities - understanding yourself as a supervisor
- Information on the type of professional development and training required to be an effective supervisor and management skills on how to run a large research project with multiple collaborators
- Some mapping assistance. How do I know I'm on track? Have I overlooked some aspect of the task? A Checklist and timeline example.
- Co-supervision issues including disagreements, etc. equitable team roles, manageability of workloads, equitable arrangements

Site Specific feedback included:

#### Site Registration & Social Media

- Site registration and linking with social media was identified as a good feature. However some participants suggested that they felt there were privacy issues and did not want to be identified or have new information pushed on them.

#### Visual Mapping of Resources

- This was identified as the single highest requirement of all the feedback. Many participants were uncertain where to go and find the tools they were looking for. This could be done with colour, pictures and/or icons; as well as grouping and linking of tools.
- An icon indicating what is the best use for the tool – for individual reading/reflection, group discussion, workshops, etc.
- Target audience coding i.e. for new supervisors or established supervisors, etc.
- Internal links to other tools that are relevant.
- Abstract summary of tools

- Tools require a brief summary or description (max 50) words – that gives the user an idea of what the tool is about.
- Separating the tool and its proforma and giving the user the option to enter the tool directly.

#### Consistency in Layout and Language used

- Some of the tools are tied into specific organisations. Generic and applicable to different organisational structures – generic terms used consistently throughout.

#### Clean and Uncluttered

- Visually more appealing, less text, more space, etc.
- For blogs reveal some keywords and only a small amount of text to get interest in discussion.
- Links to other resources

#### Tool Format & Download Capacity

- The option of downloading the tool as a Word/PDF or reading the tool online (HTML)
- The option of selecting only a part of the tool to print off
- Speed

#### At Institution 1: Actions taken in response to the feedback

##### New tools developed

In response to the feedback, the following tools have been developed:

- A range of Case Studies
- Frequency of Meetings
- Supervisor Values

Also each tool creator has prepared a brief abstract that summarises each tool to make it easier for tools to be identified.

##### The toolkit will be disseminated

- Hosting a link to the site on institutional website
- Hosting a link to the site on the Faculty of Business and Enterprise site
- Hosting a link to the site on the Research website
- Attendance at workshops and seminars including DDOGS
- Papers on research findings

##### Institutions 2:

At all the workshops and presentations relating to this project, there were few evident differences between novice and experienced supervisors, except that experienced supervisors were more aware of the dark side (e.g. abnormal or unethical student behaviour) while younger supervisors were more committed to/accepting of team supervision).

Postgraduate co-ordinators and supervisors were invited to our late-April workshop about the project site, the tools and the pilot process. This again demonstrated the difficulties of assembling a large gathering of time poor-supervisors for an optional professional development activity. It suggested that a better way to give supervisors access to the tools and encourage the use of these tools would be to embed them in supervision training and supervisor development programs and in the institutional policies and support regarding supervision.

The project team saw advantages in using scheduled meetings at institution, faculty and school level as well as the supervisor training and the supervisor area of the GRS website to promote the toolkit site and explain how it complements existing resources/programs for supervisors and HDR students (such as the GRIP program and SOAR Centre). The project team believes that 17 Disciplinary Schools that are the core structure of operational management provide the most logical targets for local dissemination of the toolkit. These Disciplinary Schools not only make decisions about the acceptance and allocation of higher degree students within programs, but are also the most cohesive communities of practice, where regular colloquia and debate shapes the unique form and practice of teaching and researching in each disciplinary area.

As two of the project team members operated within the School of Management, that School was selected for a pilot session on the toolkit. A two-hour session at on 31 May 2013 was then planned as a developmental activity for all current and prospective supervisors. Eight of the toolkit's more visual tools were included in the session work pack. Following the introduction of the research project and an overview of the associated website, each of the tools was explained and discussed.

It was difficult to restrain the participants, as each tool triggered personal experiences and the conversation flowed. While each tool was discussed and explored by the staff, more importantly they evoked dilemmas and issues that had often remained personal and were now shared. The link to the toolkit site was distributed to all staff along with the hard copies of the specific tools. This interactive session built on the existing community relations and achieved two goals:

- strengthening awareness of the tools and commitment to use them, and
- developing a conversation about supervision that allowed staff to share their experiences.

The table below summarises the feedback our project team received at these forums.

Category of comment	Comments
Tool specific	Most tools were seen as multifunctional, so suitable for use by a single supervisor, a supervisor in collaboration with a student or a group of supervisors
General toolkit/ toolkit site	Needs to be easy to scan and search Should highlight issues each tool addresses Should highlight links between tools Could number and cross-reference tools Needs to be more user friendly, better branded, with more easily discovered tools, more linked to the supervisor journey Need to address tool packaging issues (e.g. separate tools from proformas) Keep proformas minimal or eliminate them Should be able to preview tools online without downloading them Needs stronger focus on the user experience and a co-design approach Needed more intensively managed and moderated site with smaller chunks of information and more discoverable, better packaged tools Could offer 'tool of the week' promotions, weekly/monthly tool webinar accessible in recorded form, an opt-in emailed newsletter Not pro-actively managing the site as an online community meant this project missed a chance to develop and foster an online community of

Category of comment	Comments
	<p>practice</p> <p>Some concerns about privacy and confidentiality of the site and requests for clear guidelines on material that should and should not be posted to the site</p> <p>Suggestions that the toolkit site was itself a tool and should have been documented and evaluated as a tool</p>

#### Actions taken in response to the feedback

Having reviewed the feedback on the tools, the project team took action to:

- shorten the titles of its tools
- develop an abstract and a set of key words for each tool
- revise some of its existing tools (as detailed below under the heading ‘ Changes made to existing tools’.

Discussion within the project team based on consideration of information gathered at the April 2013 workshop prompted the creation of some additional tools. Having completed those tools, limited resources prevented our team from developing requested new tools on:

- handling disagreements within supervisory team
- profiling supervisor skills.

By mid-2013, our project team believed we needed to develop some new tools. Though none of the tools then present on the toolkit sites addressed the ‘dark side’ of supervision, issues relating to awarding marginal progress, dealing with unacceptable student behaviour and acting to terminate candidature had been raised in several interviews, focus groups and workshops. It had also been evident that many experienced supervisors had not previously found any supportive forum in which to discuss these matters, which were of considerable interest to both novice and experienced supervisors.

External feedback prompted changes to some of the tools.

This project has been a profound learning experience leaving team members in no doubt about the value of the tools and keenly aware of the need to make these tools part of both local and wider communities of practice relating to HDR supervision. To this end, the project team is planning (see details below under ‘Papers (in progress/planned)’)

- publish several articles related to this project, and
- encourage the holding of workshops and seminars related to the supervisor toolkit (see details below under ‘Planned workshops/seminars’).

In addition, tools developed for this project are already being embedded in supervision infrastructure and supervisory practice:

- some tools are being built into supervisor training, such as the compliance training mandatory for all supervisors, the Supervision unit of the Graduate Certificate in Higher Education, and An Improving Supervision Practice program now under development by GRS as a mandatory training activity for new supervisors and an optional professional development activity for current supervisors
- some tools have already been built into supervision support and policies
- some tools such as the student-supervisor contract have already been built into policy on supervision
- GRS is already acting to make the tools available from an appropriate area of the website.

What are their plans for hosting tools on their institutional website?

Even before the completion of this project, GRS has action underway to:

- make stripped-down versions of the ECU-developed tools available via a supervisor area of the GRS website, both online and in the form of a downloadable iBook/eBook
- link the tools to the supervision model
- provide hypertext links between related tools
- expand this site and its associated iBook/eBook over time to include tools developed by other project partners
- develop new tools for this site to address topics such as self-assessment of supervisory skills.

Planned workshops/seminars in their institution

Action is underway to embed these tools in both mandatory and optional institution-wide training for supervisors. In addition, the success of the pilot run in May means the GRS and members of the project team will be encouraging Faculties and Schools to hold workshops on the supervisor toolkit or specific tools for supervisors. GRS will continue to promote the toolkit to postgraduate co-ordinators and as a basis for supervisor development activities at each Disciplinary School.

Proposed attendance at workshops and seminars

Workshops regarding the supervisor tools will be relevant to novice and experienced supervisors, postgraduate co-ordinators and Associate Deans Research.

Take part in discussions of these supervisor tools at other relevant workshops, seminars and meetings including meetings of DDoGS (Deans and Directors of Graduate Studies) and at the QPR (Quality in Postgraduate Research) conference.

Papers

Currently working to finalise a paper on team supervision and has plans for a paper on off-campus supervision.

Institution 3:

Evaluation of tools included comments by the independent evaluator that the "Selecting doctoral students" tool was "a nice tool and a very important one", 'I like the balance in this tool...' and added one sentence. The independent evaluator noted that this tool made a number of valuable points that should be recognised. She asked for clarification of five statements and these were adjusted and the updated tools were sent back to Swinburne. After lengthy delays in gaining ethics approval, the researchers approached the Associate Deans (Research) in the five faculties to gain approval to approach supervisors to participate. We selected specific supervisors at the beginning of March 2013 and in April 2013 to comment on the ALTC site and tools.

Supervisors were asked to select one or two tools to comment on.

In total we invited 14 supervisors from the Faculty of Business; 16 supervisors from mostly Faculty of Education; 10 from the Faculty of Sciences and about 15 supervisors in the first CoP to view the site and provide feedback on tools. The following feedback was sent to the developers:

General comments:

- My first comment is about the presentation on the website. The tools are grouped but there are no individual descriptions or even any indication that clicking on the title of a tool will download a Word file (at least that's what happened for all that I tried). It would be helpful if there were a sentence or two that described the 'tool' so that potential users would not be downloading them 'blind' and then assessing their

likely relevance and usefulness.

- A PhD student funded through an APAI scholarship may have a different experience than the self-funded doctoral student or more conventional scholarship holder.
- Site has been difficult to access by the institutions invitees; site is very slow

#### General comments about the tools

- The tools I looked at seemed to have a couple of pages of description and background before I got to the actual tool. It may be useful to have that material but as a user I'd prefer to have the shortest path to the actual tool. A short introduction about purpose and use ahead of the tool would probably be sufficient with the additional explanatory material following the actual tool. Users might, or might not, care to read that background but that would not limit their use of the tool and might actually increase it.
- Neither of the tools that I looked at actually did anything. They allowed me to fill in tables in a Word document with words or numbers or marks but did not do anything with the data. In some cases it would be possible to imagine that a tool could do more, perhaps checking that there were boxes ticked in all relevant rows and columns or even performing simple calculations about share of supervision load or potential students reaching some threshold of acceptability. That sort of simple calculation is possible in Word but might, in some cases, be better in Excel. Even better would be for the toolbox to be genuinely online so that I'd simply fill in blanks or check boxes in a webpage and it would generate a result that I could have emailed to me or print out.

#### Tool specific – from the Ning site:

- Building Supervisory Teams: - this module is helpful with regards to possible supervision structures. Additional contextual support would be useful.
- Selecting Doctoral Students: a) provides a succinct checklist of key components that need to be considered. It would be helpful if the style of module presentation is refined to make it easier to absorb, b) need to better articulate in selection process the students' capacity to engage and respond to critical feedback

#### Plans for dissemination

- CoP RS and the facilitators offered to place a link to the site and tools on the CoP RS website.
- Any further workshops related to the tools will again be hosted by the CoP RS. Normally between 20 to 30 supervisors attend the CoP RS meetings which are hosted three times a semester.

#### Institution 4: A summary of feedback received at this institution as follows:

##### Analysis of feedback from the workshops highlighted the following key points:

- Supervisors were extremely enthusiastic about the concept of the toolkit and generally found the tools that they accessed to be helpful. All said they would use such a toolkit provided it was easy to locate and navigate.
- Experienced supervisors seemed to find the toolkit as helpful as the less experienced ones and found it valuable as a touch point or to get new ideas.
- Some tools were considered to be more developed than others, and scope was identified to enhance some with case studies, vignettes or some more in-depth discussion and strategies.
- Concerns were expressed that some of the material was either too general to be helpful, or was not necessarily offering appropriate guidance and/or seemed to be positioning the student too much as 'the problem' – definitely scope to have a tool that is more focussed on 'Understanding yourself as a supervisor' also.

- The interface and design of the final site was considered critical, with a need for better ease of location of sought-for material, good quality hyperlinks, attractive presentation and communication/text design in fully web-based format, but with a 'print' option that produces an attractive printed output.
- It was felt that there needed to be clearer differentiation between tools that provide support and guidance geared to the individual supervisor versus those intended for group or facilitator-led initiatives. In many topics it was felt that there would be value in two options, so a supervisor could access useful material at the individual level on that topic (e.g. understanding of the issue/strategies etc.), even if there is also material designed for a facilitator to use with a group.
- A number of areas that are missing and clearly should be included were identified, such as:
  - career development of students
  - fostering collegial environments with our students
  - championing resources for students
  - managing social relations with students with concrete strategies e.g. coffee, meals
  - supervision of non-traditional theses – e.g. creative; practice-led; by publication
  - part-timers (especially if student is in full-time paid work)
  - understanding yourself as a supervisor
  - negotiating equitable team roles and workload arrangements between co-supervisors
  - how to structure and conduct effective group supervision.

#### Actions taken in response to the feedback

- In response to feedback provided by external evaluator, new tools were developed and both researchers made changes to tools they had developed.

#### Dissemination plans

- The toolkit link will be included on the institution website and the Supervisor intranet, and will be promoted in all supervisor development activities.
- There has been one full day workshop in the Graduate Certificate of Tertiary Education elective unit, 'Supervising Research Students', where a list of tools and the toolkit link were distributed, and hard copies of individual tools were distributed for trialling. Four more half-day workshops are planned for the remainder of 2013, where tools being trialled will be compared and discussed by participating supervisors. This will constitute a platform for reaching additional supervisors associated with the participants.
- A workshop is planned in the second half of 2013 for College Research and Research Training Directors to brainstorm how best to disseminate the toolkit and tools among colleagues, and ways of drawing on the toolkit as a resource for College-based professional development.
- The toolkit will be featured in the two-day Demystifying Thesis Supervision workshop, which is offered twice a year and as requested at other universities
- Disseminate information on the toolkit at National Council of Deans and Directors of Graduate Research (DDoGS) meeting at the University in Tasmania in November, 2013 and through a presentation at the 2014 Quality in Postgraduate Research (QPR) Conference in Adelaide.
- It is envisaged that both project researchers will jointly and/or individually author papers dealing with their experience of the toolkit; but currently there are no

specific papers in progress as the focus has been on completing the tools and initial dissemination of the toolkit.

- Also still exploring international conferences over the next 12 months (eg. European Access Network) and scope to showcase and promote through those.

Supervisors were extremely enthusiastic about the concept of the toolkit and generally found the tools that they accessed to be helpful. All said they would use such a toolkit provided it was easy to locate and navigate.

Overall, it was found that:

- Experienced supervisors seemed to find the toolkit as helpful as the less experienced ones and found it valuable as a touch point or to get new ideas.
- Some tools were considered to be more developed than others, and scope was identified to enhance some with case studies, vignettes or some more in-depth discussion and strategies.
- Concerns were expressed that some of the material was either too general to be helpful, or was not necessarily offering appropriate guidance and/or seemed to be positioning the student too much as 'the problem' – definitely scope to have a tool that is more focussed on 'Understanding yourself as a supervisor' also.

The interface and design of the final site was considered critical, with a need for better ease of location of sought-for material, good quality hyperlinks, attractive presentation and communication/text design in fully web-based format, but with a 'print' option that produces an attractive printed output.

- there needed to be clearer differentiation between tools that provide support and guidance geared to the individual supervisor versus those intended for group or facilitator-led initiatives.
- In many topics it was felt that there would be value in two options, so a supervisor could access useful material at the individual level on that topic (e.g. understanding of the issue/strategies etc.), even if there is also material designed for a facilitator to use with a group.

A number of areas that are missing and clearly should be included were identified, such as:

- career development of students
- fostering collegial environments with our students
- championing resources for students
- managing social relations with students with concrete strategies e.g. coffee, meals
- supervision of non-traditional theses – e.g. creative; practice-led; by publication
- part-timers (especially if student is in full-time paid work)
- understanding yourself as a supervisor
- negotiating equitable team roles and workload arrangements between co-supervisors
- how to structure and conduct effective group supervision.

## Summarised Feedback

Overwhelmingly feedback on the tools and the nature of the tools developed has been positive. Some of the tools were felt to be too long and take too long to read. It may be preferable to break them up and have internal links to other tools and university policies, etc. Specific tool feedback was sent to the tool creators to consider and amend their tools accordingly.

A number of requests for additional, new tools were requested, some of which we felt were outside the scope of the project, i.e. discipline specific tools, and others were taken on board. In short, the total list of requests included:

- Short Case Studies – short, good and bad
- Meeting Frequency - timing of meetings, frequency and protocol (some case studies around this might be good)
- Specific Australian based material that considers current issues in and around HE and HDR Supervisors face i.e. Student diversity and needs (e.g. international students), part-time students who work full time, etc. and the challenges thereof
- A PhD student funded through an APAI scholarship may have a different experience than the self-funded doctoral student or more conventional scholarship holder.
- Resources and information about applying for funding, promotion, career progression, etc.
- Discipline specific tools such as finding resources and money for research; scholarships and money to do work in the labs
- Checklist for taking on a new student – such as the space, resources and funding needed.
- Checklist for contingency plans for when a supervisor leaves the institution – risk mitigation
- How NOT to . . . (supervise, apply for funding, etc.)
- More tools to support students such as dissertation examples and a pool of resources to show students and support students. Systematic approaches to support the students and ways of outlining and clarifying the expectations.
- Career development for students, fostering collegial environments with the students, managing social relations with students.
- Supervision of non-traditional thesis – e.g. creative, practice-led, by publication
- At 'What Point' do you stop being nice? How to be very honest and confront the student, deal with 'marginal progress' and 'abnormal student behaviour'. Issue of arbitration for difficult students and other actual interventions
- Tools to support the Supervisor's emotions and supervisor's anxiety?
- Profiling (required) Supervisor Capabilities? Understanding yourself as a supervisor.
- Information on the type of professional development and training required to be an effective supervisor and management skills on how to run a large research project with multiple collaborators;
- Some mapping assistance. How do I know I'm on track? Have I overlooked some aspect of the task? A Checklist and timeline example.
- Co-supervision issues including disagreements, etc. equitable team roles, manageability of workloads, equitable arrangements

A number of site specific recommendations stemmed from the feedback including the notion that site registration and linking with social media was identified as a good feature. However some participants suggested that they felt there were privacy issues and did not want to be identified or have new information pushed on them.

With regards to visual mapping of resources, this was identified as the single highest requirement of all the feedback. Many participants were uncertain where to go and find the tools they were looking for. This could be done with colour, pictures and/or icons; as well as

grouping and linking of tools. An icon indicating what is the best use for the tool – for individual reading/reflection, group discussion, workshops, etc. was suggested and this was put to the web designers. It was also suggested that some form of target audience coding be included i.e. for new supervisors or established supervisors, etc. and internal links to other tools that are relevant would ease navigation.

Rather than having the proforma attached to every tool to outline its use, the recommendation was made that tools have a brief summary or description (max 50) words – that gives the user an idea of what the tool is about. Separating the tool and its proforma would then give the user the option to enter the tool directly if they prefer.

Consistency in layout and language was another issue raised. Some of the tools are tied into specific organisations and need to be made generic and applicable to different organisational structures – generic terms used consistently throughout. Pages were also requested to be clean and uncluttered as they would be visually more appealing, less text and more space. With the option of downloading the tool as a Word, PDF or reading the tool online (HTML) was requested, along with the option of selecting only a part of the tool to print off for speed.

## Response to feedback

As a result of the feedback a number of actions were taken forwards:

1. Revision of some of the tool content
2. Development of new and additional tools
3. Engagement of digital media web designers to address the design elements
4. Separation of the proforma, or guide to using the tool, from the actual tool
5. Development of an eBook

Overall, the level of engagement and amount of feedback received was somewhat disappointing to the project team given the effort involved in engaging people. Some of the issues that the team felt contributed to this were:

- Time taken for partners to create and amend their tools
- Staggered approach by each institution to gain ethics approval to then commence piloting
- Feedback from independent evaluator incorporated by the tools' creators and sent back for uploading onto the Ning Site caused further delay
- Having sufficient tools and coverage on the site ready to commence piloting at the end of January 2013 and hence became delayed until March 2013
- Summer Holidays – and the absence of project partners
- Balancing the need for 'uniqueness' or individuality between tools and the need for some uniformity – in language and structure
- Linking and connecting tools – in other words creating a framework for supervisors to easily navigate and 'find' what they are looking for
- Best approach to ensure that we get 'buy in' from the host institutions
- Ensuring that all tools were piloted

## Phase 4 – Consolidation and Dissemination

A final two day workshop was held to design and develop the toolkit support materials for implementation at other universities. The pilot website was developed on Ning and options for scaling this up as an Open Education Resource (OER) were explored. The project team committed to keeping this website live and updated for a period of 2 years past the end point of the project, which may include the online cross-institution community of practice if this proves to be a successful and useful development tool.

A number of dissemination workshops will be arranged at the partner institutions to disseminate the project more widely within the academic community and to involve other HEPs in the outcomes on the project. In addition a number of academic papers are being developed for peer-reviewed journal publications and conference dissemination, particularly conferences within Australia to promote the findings and outcomes of the project. Some of this activity may take place after the project has 'officially' ended in month 24 as there is a time delay between having papers written, having appropriate conferences and publications to submit to, and then the conference actually occurring or the publication date.

The project team will present the outcomes of the project at conferences such as HERDSA, QPR and AIEC/IDP, whose proceedings reach an international audience in higher education research and development. In addition, the national leadership networks, such as the Deans and Directors of Graduate Studies and discipline specific networks, such as BARDSNET, will be regularly briefed on the project outcomes. Appropriate articles will be prepared by the team and offered to the *Australian Higher Education Supplement* and *Campus Review*, as well as the peer-reviewed journals, such as *Studies in Higher Education* and subject specific journals. All HEPs in Australia will also be notified of the launch of the website and availability of the pack through their research degrees offices.

## Finalising the Toolkit - Second Workshop

The final two day workshop was held in Melbourne on the 12<sup>th</sup> and 13<sup>th</sup> August 2013. The purpose of the workshop was to finalise the design and development of the toolkit and the support materials to be used at the partner universities and disseminated to other universities.

All project partners attended this final workshop and presented their reports on the tool development piloting phase. A common finding was that all had to go to considerable lengths beg to encourage supervisors to register onto the site and pilot the tools.

In the current higher education context in Australia, all partners were fundamentally affected by institutional restructuring. The amount of structural change within the partner organisations has resulted in institutional cultural upheaval with staff being busy and thus distracted from the focus on engaging in supervision development. However within this restructure there are also a lot of new supervisors entering – i.e. just completed their doctorate and with a low level of experience.

Partners reported ways they went about achieving engagement with the toolkit including:

- a personalised approach/invitation
- focus on key persons- project/concept champions
- introducing the tools at workshops and CoPs (this was the most effective measure).

Site development was an issue that had to be addressed. The Ning piloting platform involved a cumbersome process of downloading the tools, etc. Some partners created Pdf's of the tools and printed them out because of issues with the pilot site and also the format of the tools – i.e. proforma information and lead in format. Most partners also reported that while workshops were not highly attended, those that did very engaged with the resource.

In a discussion on the lessons learnt so far, the challenging nature of structural change and the internal politics associated with change became evident. However this instability also reinforces the need for a toolkit to support supervisors in their practice. The benefit of these disturbances is that all partners looked for a way to turn the impediment into an opportunity.

The question now is how does the toolkit become known and the value of the resources known? It was agreed that academics are time poor – the issues addressed by the tools need to be contemporary and succinct.

University departments and schools in the post-restructuring phase tend to be larger and staff have less opportunity to see each other frequently. How do we get people to get together? The institution's website or the intranet is some of the ways people remain in touch with each other. There are still times when people come together on a regular basis – it requires understanding of those cultures and linking in with them. Do we need a top down approach or bottom up approach? Use our networks and individuals to make things happen – work on the barriers and how to get around those barriers.

The project has shown that we can talk across institutional boundaries. The resources need to be clear, succinct and contemporary – a bit of marketing involved in that – getting it to the right people. It also requires repetition – not talking about it or inviting them to the toolkit/workshop/CoP (etc.) once only. It needs to be embedded within the institution.

## How will we define success?

From a quality assurance perspective this will include the level of adoption, use and level of awareness quality and breadth of resources in the toolkit.

- The adoption and use on an individual basis.
- The university adoption in various forms such as supervision policy, seminars and workshops.
- The wider community – such as other universities and beyond.
- The CoP's are another level – this is different because it involves teaching one another and raises the question whether it is part of the project's mandate to set up CoP's or to see whether the toolkit can be a catalyst?

There is also the point of improved outcomes over time:

- student satisfaction
- staff satisfaction
- completion rates
- COPs and culture take a long time to develop and change.

### How Do We Define the Success of the Toolkit?

#### Evaluation Metrics

#### 1) Quality and Breadth of Toolkit

We have received positive and constructive feedback on each tool from seminars, workshops and individuals. We have also received feedback from the Advisory Group and the Independent Evaluator.

#### 2) Level of awareness in each institution

Through advertising the seminars and workshops, most partners have managed to achieve a high level of awareness for the toolkit at.

#### 3) Level of adoption and use

The adoption and use is multi-levelled:

- a) Individual use – there are academics making use of various tools
  - b) Group level or communities of practice are making use of the toolkit (e.g. School of Management)
  - c) University level – at some of the partners the material will form the basis of a unit of study such as part of a Graduate Cert. in Tertiary Teaching for example.
  - d) Inter-university – in the future we aim to present our findings at conferences and at other universities.
- #### 4) Sustainability

How the materials and web site evolve over time and its management over time.

#### 5) Improved outcomes over time (although this may be difficult to test)

- a. Staff satisfaction with supervision
- b. Student satisfaction with supervision

- c. Completions on time
- 6) Dissemination of findings in journals and conferences

It was decided that the partners will pursue an OLT extension grant for a further two years to continue dissemination of the toolkit and to evaluate the level to which the toolkit is used. This is a learning issue in relation to the sustainability of the toolkit.

Generally, it was felt that with a contractual obligation (i.e. a grant) people are more like to take action. However rather than relying on organisation commitment alone incorporating the responsibility within naturally occurring groups who are both committed and have access to resources should be pursued.

The level of ease of maintaining the resources will also support commitment. It was agreed that all partners will host a link to the site and the site is open to all. Engagement with the site will continue if it continues to be dynamic and evolves by incorporating a form of 'social media' from a push/pull perspective and thereby creating a living site.

It was agreed that each partner also seeks additional institutional funding to contribute to supporting the website and its dissemination.

## What is our Framework?

A project management style framework was agreed, with the headings adapted to more accurately reflect the PhD from a chronological/journey perspective. The framework also includes ongoing repetitive process or iterative conditions that exist during that journey – such as managing progress/the relationship/mentoring, and evaluation.

Tools already developed were then placed under the conceptual headings and stage of the PhD journey to which they were most related. It was found however that some of the tools could potentially belong under multiple headings. This was particularly the case when the tools were part of an ongoing process of the PhD journey.

Where the tools fitted under more than one Framework Component (part of the journey or process), the tool was allocated an asterisk (\*) to indicate the secondary nature of its relationship. This process took some time and robust discussion. Importantly this allocation of tools and the process highlighted the Framework Components where more or fewer numbers of tools were developed. Under some components such as 'Exit Strategy' there were no tools developed.

Discussion revolved around why these gaps existed. Some possible explanations included that these areas were not identified in the initial phase of the project through the survey, interviews, focus groups conducted. On reflection and further discussion however, this led to a number of tools being identified for development, as follows:

- Appointment of Supervisors
- What do examiners look for?
- Attracting potential candidates to work with you
- Working with internet student
- Assessing success of supervision sessions
- Providing effective feedback (on drafts), Assessment for Learning
- Evidence-based supervision pre-candidature
- Re-Assessing feasibility & appropriateness of research design and methodology (leading to Confirmation of Candidature)

In contrast to the gaps identified, some of the framework components contained a high number of tools, such as:

- Setting expectations
- Managing the relationship
- Supervisor Development

## Evaluation of the tools and quality of outcomes

The independent evaluator attended a session of the final workshop in August 2013 for a final evaluation of the tools and quality of the outcomes. The independent evaluator's role during the project included evaluating all tools developed. On reviewing the proposed framework the important section of the framework was the first stage or component. It was decided that this component should be called 'Selecting for Success' rather than 'Risk Assessment'. Selecting for Success includes what we have to do, to make sure that things go right. This includes the right student, the right supervisor, adequate funding, and the research project, as being the most important decisions at the outset to avoid wasting both time and resources.

The other critical events include:

- Confirmation
- Exit Strategies.

Further areas for development may include:

- Supervisors may be confused about what their role is and require a definition of what they are supposed to do as well as what they are not supposed to do.
- Managing progress – set concrete – evidence based decision making.
- Legal responsibilities of the institution to the student. The responsibilities and minimum requirements for compliance being the necessary condition to be a supervisor. As well as what the legal responsibilities are.

While these were all identified as possible gaps, the partners needed to commit to which ones to develop and what is critically important. It was acknowledged that there are some tools that either cannot be developed or do not fit in with the project at this time.

## Design of the Online Platform

It was agreed that the toolkit's primary objective are to provide easy access to the tools and resources developed as an outcome from the research undertaken.

To facilitate this easy access, the online platform requires:

- search methods include keywords and icons/tags (whether the tool is for self-reflection/reading or to be used with a group)
- 'thread' or link to other existing sites and resources.
- tools and resources to be pre-sorted under the conceptual headings of the framework
- an option of registering as a user to leave comments and/or receive notification of updates on topics of interest
- posting updates on upcoming research supervision workshops and conferences.

All comments and feedback would need a central repository for monitoring. In terms of volume of comments, while it is not anticipated that there will be high volume of engagement based on the pilot study, should the volume increase from three to four comments per month, the discussion aspect of the website will be reviewed. Ensuring the appropriateness of the comments on the site as well as the opportunity to further engage in areas of need for further resources is an important aspect of managing the site. Management of the site will initially be rostered to a project partner on a monthly basis.

## How to incorporate the web based materials into wider programmes?

It was agreed that while an online platform is useful for 'dipping in' as and when a supervisor required any additional support, an eBook that could be distributed to a class would also be very useful. Essentially the tools were compiled into Pdf documents with hot links to take the user to the research supervision website if required.

The eBook provides a way of introducing the toolkit. It can be used for training purposes and emailed before the class to participants. Benefits identified include convenience, as a downloadable Pdf it does not require internet connection and therefore used anywhere. The eBook contains the same tools and resources as the Research Supervision Toolkit website. This is a resource book to assist supervisors of Higher Degree by Research (HDR) students to develop the quality of their supervisory practice. It is also a useful resource for anyone, who is associated with supporting HDR students and seeking to better understand the supervision role.

While the eBook is not a replacement for the online toolkit it serves to augment the resources developed in response to research into the needs of supervisors as well as feedback on how supervisors engage with support material.

## External Advisory Group

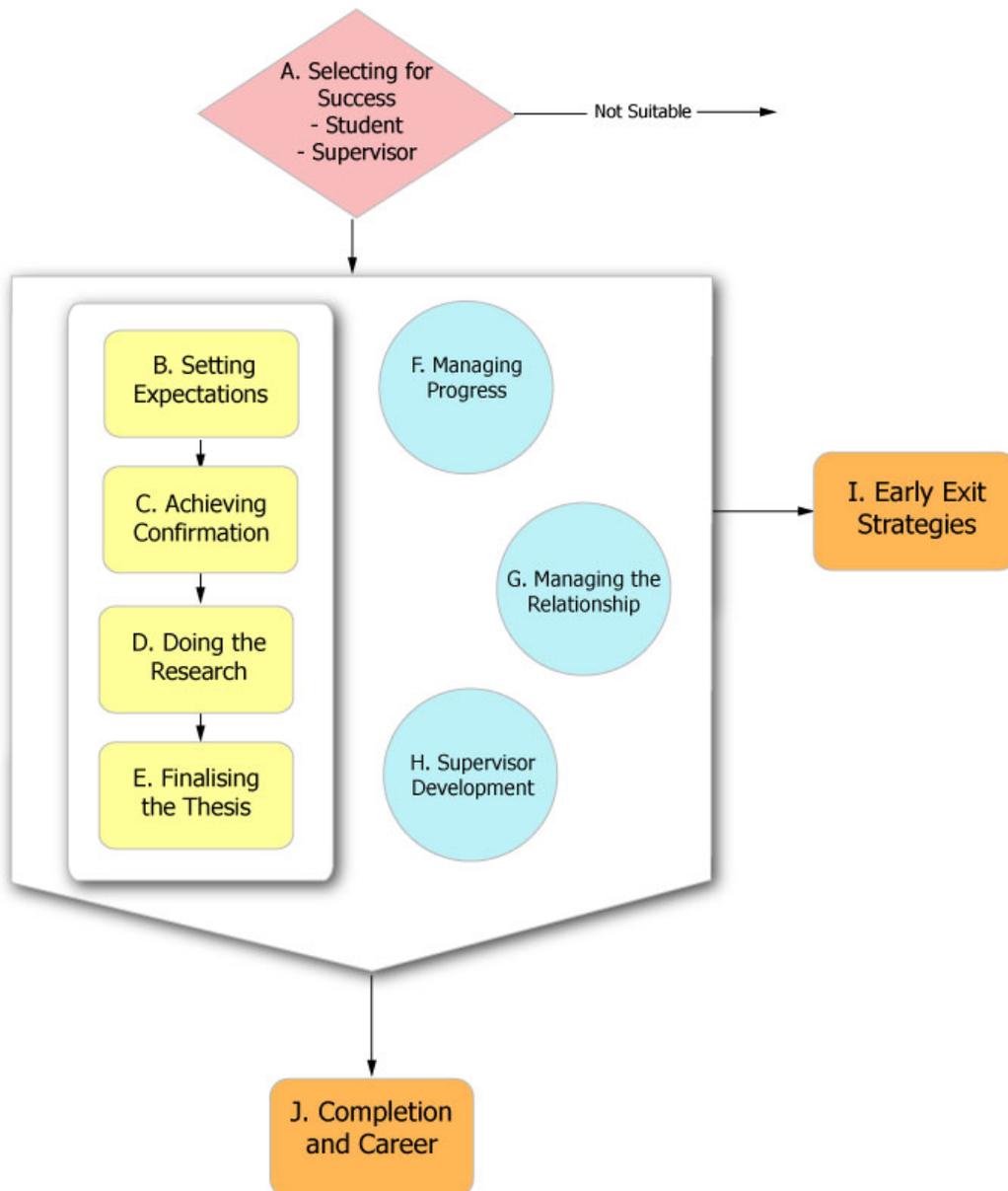
The external advisory group attended the second and final workshop in Melbourne in August 2013. The advisory group commented on the:

- Institutional 'churns' that most of the project partners had undergone. The disruptive nature of these events and subsequent loss of institutional knowledge and networks is likely to affect supervisors, especially supervisors new to supervision. This toolkit has the potential to be very supportive during this time;
- Each partner has undergone significant restructuring. At a fundamental level this has impacted on the project and the project partners' ability to gain institutional support for the project processes, and this has impacted on the project.
- Overwhelmingly this strengthened the resolve of the partners to pursue and complete the resources.

Recommendations for the final toolkit included:

- Reduce the preamble to the tools
- Think about ways to make it easy for users to use the tools including keywords
- So far the project has 'slavishly' followed the feedback received and now need to fill any gaps that exist
- The toolkit is not to be prescriptive – both the student and the supervisor are on the journey together

# The Framework



## The Tools Developed

Concept	Tool	Abstract	Keywords
A.Selecting for Success - Student	Attracting Prospective Students to Work with you	Understanding your institution's and your department's policies and approach to allocating supervision; Marketing yourself and identifying key supervision gatekeepers and champions	Marketing yourself; allocating supervisors; Supervision gatekeepers.
A.Selecting for Success – Student	Profiling Student Capabilities	A checklist to help in identifying where the student is at. Allows for comparisons and strategic planning.	Checklist; skills; attitude; knowledge; resources; support; strategic planning; student use; supervisor use; throughout candidature; discussion tool
A.Selecting for Success - Student	Selecting Doctoral Students	Guidance to inform the selection decision-making process arranged around six core areas of applicant assessment.	Selection decision-making; Selection criteria: Academic background; Research experience/capacity; English competence; Proposal feasibility and fit; Alignment with supervisory expertise/capacity; Scholarly disposition
A.Selecting for Success – Supervision	Selecting Supervisory Teams	Guidelines for institutional arrangements for supervisory team selection; including practices of and strategies recommended by experienced supervisors	Institutional practices; supervisory team selection; supervisory team effectiveness; team performance assessment
A.Selecting for Success - Supervision	Building Supervisory Teams	Resources for a workshop on the operation of supervisory teams, Highlights potential benefits and teamwork /mentoring issues to be negotiated.	Workshop; individual review/reflection; supervisory teams; key issues; frameworks; checklists; scenarios; reading list; teamwork; mentoring; negotiations; realizing potential benefits; standards; guidelines
A.Selecting for Success – Supervision	Agreeing Team Workloads and Roles	How to develop a formal written, but renegotiable, agreement to clarify work and roles within a	Individual review/reflection; discussion tool; supervisory teams; teamwork; key issues; workload sharing; formal

		supervisory team.	written agreement; negotiation
A.Selecting for Success – Supervision	Supervisory Team Roles	Canvasses key issues regarding the effectiveness of supervisory teams and the advantages and disadvantages of some options for workload sharing.	Individual review/reflection; discussion tool; supervisory teams; teamwork; key issues; workload sharing; expectations; negotiations; judgment criteria; questions; minimum acceptable; best practical
A.Selecting for Success – Supervision	Supervisor Values and Team Composition	To aid principal supervisors about building a supervision team and who to approach as co-supervisors.	Building Supervision Teams; Supervisor Values; Key selection criteria for selecting supervisors
B.Setting Expectations	Auditing & Developing Student Skills	A checklist for documenting initial and current skills, development opportunities and for planning further skills development.	Checklist; skills; development; planning; student use; supervisor use; throughout candidature; discussion tool
B.Setting Expectations	Clarifying Supervisor Student Expectations	Adaptation for Australian context of Phillips and Pugh's How to get a PhD list of UK supervisors' expectations of candidates	Supervisor expectations, independence, role of writing, meetings, feedback, following advice
B.Setting Expectations	Communication Options for Supervision	A table of potential communication modes between supervisor and students aids discussion about which options are suitable.	Email; Skype; Blackboard; webinars; videoconferencing; Facebook; SMS; phones; post; Second life; supervisor use; student use; throughout candidature; discussion tool; key issues; renegotiate
B.Setting Expectations	Frequency of Meetings	Meeting frequency finding balance to develop an independent researcher and providing adequate guidance.	Meeting Frequency; balance; independent researcher; guidance
B.Setting Expectations	Institutional Support of Communication	Providing tailored institutional support for use of Skype, Adobe Connect Pro, Blackboard, videoconferencing and PebblePad by HDR supervisors and students.	Communication tools; Skype; Adobe Connect Pro; Blackboard; videoconferencing; PebblePad; tailored in-house support; institutional support for HDR supervisors and students;
B.Setting Expectations	Remuneration Options for	Thinking points for discussions on supervision	Discussion tool; external supervisors; remuneration;

	External Supervisors	arrangements involving external supervisors.	linking payments to milestones; negotiations; forming supervisory teams; formal agreement; non-remunerative appointments
B. Setting Expectations	Student Supervisor Agreement	How to develop a formal written, but renegotiable, agreement on key issues between the student and the supervisory team.	Formal agreement; supervisor use; student use; throughout candidature; discussion tool; options; minimum acceptability; good practice; agreed practice; key issues; renegotiate
B. Setting Expectations	Student Support Networks	Visual map of the network of support available to each HDR student. Aids discussion of options. Assists big picture mapping.	Network; map; student's network of support student use; supervisor use; throughout candidature; discussion tool
C. Achieving Confirmation	Assist Students to Develop a Central Research Question	A strategy for moving from a broad thesis topic to a precise research question	Research question, thesis focus, central argument
C. Achieving Confirmation	Pre-Candidature Supervision	To assist discussion on objectives and milestones with the student and guiding the expectations during this period.	Pre-candidature; guidance; objectives, milestones
C. Achieving Confirmation	Strategy for Dealing with the Literature	Template for critically reviewing texts to identify issues and scope of investigation, methodology, theory and results in the literature	Literature review
C. Achieving Confirmation	'Yes and yes but' Strategy for Avoiding Plagiarism	Template strategy for candidates to avoid plagiarism without being derivative or repetitive of what's in the literature	Plagiarism, literature review
D. Doing the Research	3-Step Strategy for Brainstorming Chapters	Strategy for supervisors to brainstorm chapters with candidates and help them develop independence and writing control	Brainstorming, chapter construction
D. Doing the Research	Writing Effective Introduction and Concluding Paragraphs	Checklist candidates can use for writing effective introductory and concluding paragraphs for chapters	Introductory paragraphs, concluding paragraphs, links between chapters, signposting, thesis development
E. Finalising	Final Pre-	Pre-submission checklist	Checklist, thesis examination,

the Thesis	Submission Thesis Review	covering core areas that examiners focus on designed to support review of the thesis to verify readiness for submission	pre-submission review, literary presentation, introduction, literature review, methodology, data analysis, conclusion
E.Finalising the Thesis	Responding to Examiners' Feedback	Step-by-step process and template to assist candidate and supervisor/s in working through examiners' reports and agreeing on final revisions	Process, template, thesis examination, responding to examiners, thesis finalisation
F.Managing Progress	Emotional Management	A resource and strategies for supervisors to support student's emotional stages of the PhD journey.	Emotional Management; stages; challenges; strategies
F.Managing Progress	Managing Progress	Scenarios of possible management actions and motivation strategies to assist student progress. For use in workshop discussions.	Discussion tool; individual study; examples; checklist; managing progress during candidature; balancing management and motivation
F.Managing Progress	Marginal Progress	Guidelines and scenarios for discussions about taking prompt and constructive action regarding marginal progress.	Marginal progress; health; productivity; recovery; investigation; warnings; advice; action
G.Managing the Relationship	Case Studies	Case studies to help new supervisors see that not everything goes to plan, with sticky points requiring constructive approaches.	Case studies; supervisor's perception; difficulties encountered; relationships; mental issues; constructive approaches
G.Managing the Relationship	Dealing with Abnormal Student Behaviour	Guidelines and scenarios for discussions about dealing with abnormal/unacceptable student behaviour.	Abnormal/unacceptable student behaviour; health; safety; productivity; investigation; recovery; warnings; advice; action
G.Managing the Relationship	Dealing with Difficulties	Recognise situations that require remedial action against a student and develop strategies to remedy the situation to retain confidence and professional integrity.	Difficult situations; remedial action; support; professional integrity
G.Managing the Relationship	Managing Expectations	A checklist for supervisors and students to complete to establish boundaries for the supervisory relationship.	Supervisor student relationship; relationship boundaries; checklist when engaging a new student

H.Supervisor Development	Action Learning Sets	A guide to set up action learning set with other supervisors when encountering difficulties in the supervision arrangement.	Action Learning; difficult situations; support peers; explore new ways; build confidence
H.Supervisor Development	Community of Practice for Supervision	Resources to aid discussion regarding development of a 'community of practice' or network of collaborative reflection on the supervisor experience.	Discussion tool; collaborative reflection; formal and informal supervision conversations; facilitating local learning; cascading learning; inclusivity checklist; build research supervision capability
H.Supervisor Development	Five Frequent Dilemmas of Supervision	Workshop case study materials addressing the five main roadblocks and dilemmas of supervision for development conversations.	Workshop; discussion tool; responsibilities; expectations; skills; progress; completion; renegotiation
H.Supervisor Development	Off-Campus Supervision	Resources for a workshop on off-campus supervision. Includes several frameworks/checklists.	Workshop; off-campus supervision; key issues; frameworks; checklists; scenarios; reading list
H.Supervisor Development	Peer Coaching	Guidelines for peer coaching sessions to develop mentee's supervision skills.	Peer Coaching; mentoring; supervision skills; issues; challenges
H.Supervisor Development	Top Tips for Novice Supervisors	Introduction to key issues in supervision for novice supervisors.	Discussion tool; individual study; preparation; selecting student; topic; methodology; relationship management; project management; skills development
I.Early Exit Strategies	Taking Action about Termination of Candidature	Guidelines and scenarios for discussions about taking prompt and constructive action regarding termination of candidature.	Termination of candidature; health; productivity; recovery; warnings; advice; exit strategies; action
J.Completion and Career	Exit Interviews and Post Completion Relationship	Guidelines for proposed interview and the post completion relationship.	Exit interview, completion, relationship

# The Website

The project has employed two Digital Media Design PhD Students from Swinburne University to develop the online toolkit in response to the feedback received during the piloting phase.

Issues have included:

- Choosing a name for the toolkit – one that is easy to abbreviate and using terminology that works across disciplines. As well a name that adequately describes the toolkit's utility and not lead to confusion.
- Design and layout – given that the development of a 'framework' and 'tools' to support supervisors were the project's primary objectives. The task included developing a structure to present the framework and tools on the online platform in a way that enables the toolkit to be used as 'dip in' and 'out' resource to be used as need arises. While also enabling users to use the resource in a more leisurely way to look in and see what others are doing. This perspective was held by established and less established as well as supervisors in new and emerging research areas to those in well-established research areas.

Research indicated that supervisors are generally time poor and look toward a resource that will allow them to quickly and easily identify what they need, there and then, without wading through books or copious pages of information in an effort to find what is relevant to them in that given moment. The feedback also highlighted that supervisors are seeking a support resource in which they have the option to engage and also remain anonymous. To that end it was felt that the online platform should allow those users who wish to engage in discussion forums and opportunity to do so. While at the same time respecting that other users simply want to see what is being said about a topic rather than engaging in the discourse.

A link to the website

[www.researchsupervisiontoolkit.com](http://www.researchsupervisiontoolkit.com)

## Conclusions and recommendations

This project has not only provided useful insights into supervisors' needs for tools to address problematic aspects of supervision, but has delivered set of tools that:

- are useful and relevant to both novice and experienced supervisors
- supervisors feel are useful to explore and adopt
- can easily be embedded in supervisory policies and in training, support and professional development programs for supervisors of research students.

### Recommendations

Given the success of the national trial and the expressed desire of HDR supervisors to be provided with an on-line resource of this kind, it is recommended that:

1. The OLT fund an extension grant for two years to disseminate the toolkit more widely among Australian institutions and embed it into professional development practice for supervisors
2. That the toolkit continue to grow and evolve through this two year phase, adding more tools as identified and enhancing the tools which are contained there
3. That a supervisor discussion forum be included and supported as part of the OLT toolkit website, to be moderated by a project officer during the two year phase
4. Partner institutions be asked to contribute financially and in-kind to the ongoing development and e-moderation of the toolkit website
5. The partners work with the Deans and Directors of Graduate Studies to encourage that organisation to launch and ultimately host the toolkit website
6. That the toolkit continue to be open access and available to any HDR supervisor who wishes to access it.
7. That a follow-up study be undertaken in two years to ascertain the effectiveness and take-up rate of the toolkit, including a study of how it has impacted on HDR supervisors' practice and institutional outcomes in the HDR area.

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# Appendix A. Independent Evaluation Report

Office for Learning and Teaching  
ATLC Grant Project ID11-2091

## **Developing a toolkit to support supervisors in new and emerging research areas**

### **Independent Evaluation Report**

Professor Barbara Evans

- Dean Emeritus of the Faculty of Graduate Studies at the University of British Columbia (2007 – 2011)
- Pro Vice-Chancellor (Research Training) and Dean of Graduate Studies at the University of Melbourne (1997 – 2007)

I was invited to provide an Independent Evaluation of this Project in mid-2012 and was pleased to accept because of the importance of the Project goal to improve quality and outcomes in HDR supervision, particularly in new and emerging research areas. I have been involved with the Project since then with the task of evaluating if the Project was conducted according to the Project proposal as set out, in a timely manner and to a satisfactory quality. A particular focus was to evaluate the quality of the outcomes and impact of the Project.

The early work of surveys and focus groups effectively defined needs of stakeholders and informed the evolution of the Project. I participated in several workshops with the Project partners, and I reviewed and provided feedback on the Toolkit items as they were developed. I was encouraged to contribute ideas and provoke thought at the workshops and the Toolkit writers responded thoroughly and with insight and reflection to my input. I found the Project group to be open and responsive as the Project evolved and am confident that the project was undertaken systematically, rigorously and has produced excellent outcomes.

An initial focus of the Project was on supervision in ‘new & emerging’ research areas, such as design, performance studies, education and nursing, allied health professions, and IT, as well as business and management, where doctoral education a fairly recent phenomenon among both staff and students. Achievement of this focus was embedded to some degree in the selection of the partners for participation in this study – five universities with a high proportion of new and emerging areas in terms of doctoral education and/or new to the provision of doctoral education even in the more established disciplines.

Surveys and interviews/focus groups included staff from these ‘newer’ areas and more ‘traditional’ areas of research were excluded. It was concluded that similar supervision issues were apparent across most disciplines but that there was a deficit of previous practice/experience to guide HDR supervision in the newer areas. The Tools were developed largely with these newer groups in mind.

I believe that a particularly valuable outcome of this Project has been that those actually working within the emerging research areas have developed the Framework and Tools, which gives a much greater understanding and ownership than if they had simply adopted or adapted currently available ‘traditional’ resources.

The Advisory Group comprised a group of independent academic experts chosen to oversight the general design and implementation of the study. It was effectively used to

access the considerable experience of individual senior academics with many years' experience of developing doctoral education at their institutions, to evaluate the Project's early findings and the proposed toolkit before piloting began, and to introduce ideas from the current considerable experience of more established providers.

#### Project outcomes and impact

The Project aimed to produce outcomes, based on best practice in supervisor development in higher education, which would operate at both institutional and departmental levels to support the development of new supervisors. It has clearly succeeded in achieving this through completion of the Project proposal as outlined. Articulating the Framework and developing the Toolkit for its implementation were the main goals.

The summaries and evaluation of current supervision support practice within the five partner universities and previous ATLC outcomes prepared in the early stages of this Project formed an excellent basis for commencing work and will prove to be a highly valuable resource in the future.

The Toolkit developed in this Project forms a coherent suite of diverse activities, which are located within a Framework that demonstrates how and when the support materials could most effectively be used. The Framework encompasses a broad range of Tools covering every aspect of HDR delivery from selection of candidates and supervisors through candidature to career guidance on completion.

I had the opportunity to review each of the 38 Tools as they were developed, and provide comments and advice as to their usefulness. The result is a high quality set of Tools that are comprehensive, flexible and adaptable to the diverse needs of institutions and individuals. The Tools make a significant contribution to existing supervisor training programs in that their exemplars and context explicitly accommodate HDR programs in the new and emerging research areas. The Toolkit will inform and guide implementation of local HDR supervisor development and support programs. It provides resources for experienced supervisors when mentoring inexperienced supervisors, for new supervisors to help guide them through the process of supervision and for administrators in the provision of HDR supervision training programs at the institutional level.

The Framework and Toolkit have been incorporated into an eBook, which will be broadly accessible as national resources for individual HDR supervisors through the Project website. The website will also contain links to additional resources and support materials and provide a discussion forum.

I fully expect the impact of this Project to be considerable, particularly in the emerging research areas that were an early focus of the work. With these excellent new resources, there is every reason to expect supervision practices to be more effective, decision-making to be more constructive and monitoring and oversight of HDR candidature to be more effectively focused on improving outcomes in terms of quality, completion rates and timeliness.