

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

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**INTERIM ANALYSIS OF A SURVEY OF HIGHER DEGREE RESEARCH
SUPERVISORS IN AUSTRALIA AND NEW ZEALAND**

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PREAMBLE

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

Specific aims of the project are:

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

The project was designed in two stages. The first consisted of a symposium of key academics in the field of supervision pedagogy. This stage was completed in late 2007. The second stage consists of a scoping exercise where information is sought from individuals and groups, via survey and follow up interviews, about existing practices, resources used, and perceived future needs in research education and supervision.

The purpose of this interim report is to provide a summary of some of the outcomes from the first component of the scoping exercise: a national survey of supervisors in Australian and New Zealand universities. The report consists of a brief description of design, implementation and analysis of the survey, a summary overview of major outcomes, and then a more detailed account of outcomes from each question of the survey.

DESIGN, IMPLEMENTATION AND ANALYSIS OF THE SURVEY

The purpose of the survey was to seek information from practising supervisors in all Australian and New Zealand universities about their existing supervision practices, the resources they use in supervision, and their perceived future needs in research education and supervision.

The survey itself included the following Sections:

- Section 1: About the supervisor: background information about supervisors' academic disciplines and their levels of experience in supervision;
- Section 2: Research Supervision practices: supervisors' priorities in their work as a supervisor, and their own supervision practices;
- Section 3: Development and support of supervisors: supervisors' views on what shaped their development as a supervisor and their views on the nature of support that will facilitate effective supervision;
- Section 4: Views on nature of research and future directions: supervisors' views on research and on being a researcher, their views on future directions of doctoral research.

In developing the survey, the research team drew on outcomes from the symposium discussions (see summary of symposium outcomes on this FIRST website) and on

previous research in related areas. In addition, some questions were designed deliberately to build on specific research to enable comparisons between survey responses and outcomes from that research. The following authors gave permission for their work to inform these questions: Orrell & Condon (2004) Q6; Pearson & Kyrooz (2004) Q7; Pearson & Brew (2002) Q8; Åkerlind (2008). Qs12, 13 & 14.

Development of the survey itself involved processes of drafting, revising and piloting of questions. The final version of the survey was made available electronically, via a UTS based survey design and implementation tool, in July 2008. To encourage maximum participation, initial discussion of the project occurred at a meeting of the Deans/ Directors of Graduate Studies (DDoGS). An invitation to participate in the survey was then emailed to the DDoGS representative at each university, who was asked to pass on the invitation to all supervisors in their university. The DDOGS representatives were also asked to send out a reminder email to supervisors. Electronic access to the survey was available for 8 weeks through to the middle of September 2008.

Analysis of responses to the survey first involved downloading data from the UTS site. Responses to closed questions were analysed quantitatively using SPSS and Microsoft Excel. Survey items in Sections 2, 3 and 4 were given a score on a range of one to five (e.g. *not at all useful* – *very useful*, where *not at all useful* was given a score one, and *very useful* was given a score of 5). Means were then calculated for each item for the overall population. Items were also analysed against independent variables (of discipline, supervisor experience and category of university), and were tested using independent-sample t-tests. Results from this analysis are only used in this report (unless otherwise stated) where they had a significance level below 0.05 (e.g. $p < 0.05$) and therefore could be considered as statistically significant.

Responses to open ended questions were analysed qualitatively using content analysis to identify major recurring themes and issues. The number and length of responses to open ended questions (around 1600 responses to each question) led the researchers to decide first to undertake a detailed analysis of the first 200 responses in order to identify and code major themes and issues in relation to each question, and thereafter to analyse every 10th response to confirm the stability of codes. Numbers of responses were also recorded to provide insights into the priority accorded to each code.

In analysis of data, the survey population was classified in relation to supervisor experience and category of university as follows:

Supervisor experience

New Supervisors: those who have no doctoral completions as principal supervisor

Experienced Supervisors: those with 1 – 5 doctoral completions as principal supervisor

Very Experienced Supervisors: those with 6 or more doctoral completions as principal supervisor.

Category of university

Go8: Group of Eight Universities

IRU: Innovative Research Universities

ATN: Australian Technology Network of Universities
Other Australian Universities: Australian Universities not in the above categories
New Zealand Universities: Universities in New Zealand.

These terms are used in this report.

SURVEY RESPONSE

A total of 47 (from a possible 50) universities participated in the survey. A total of 1884 responses were received. We estimate this represents responses from approximately ten percent of the overall supervisor population in Australia and New Zealand. These 1884 responses form the basis of analysis and outcomes presented in this report.

To determine the extent to which the survey population was representative of the general population, an analysis of the Australian survey population by Australian Standard Classification of Education (ASCED) Broad Field of Study was undertaken, and results compared with the distribution of the Broad Field of Study of the Australian doctoral student population (DEEWR 2007a), (no data were available for New Zealand). Our expectation was that supervisors would have a similar disciplinary distribution to their students, and that therefore the two distributions should be similar. (No national data are available for categorisation of staff disciplines.) While the results showed a slight over-representation of survey participants in Health, and a slight under-representation in Engineering and Technology, the overall distribution was very similar, suggesting that the survey population can be considered as representative of the general population of supervisors across disciplines.

An analysis of the survey population in terms of participant's institutions and gender was also undertaken. The analysis based on the participants' institutions showed that 76.4% of participants were from Australia and 23.6% were from New Zealand (Table 3). This contrasts with the doctoral student population where Australian students represent 86.7% of the total Australian and New Zealand population (DEEWR, 2007a, Education Counts, 2007). While, proportionally, Australian supervisors were slightly under-represented in the survey and New Zealand supervisors were slightly over-represented, the differences were not so large as to distort the overall survey responses. The gender split for the survey populations was 44.2% women, 53.9% men (2% did not identify their gender) (Table 1). This compares with a split of 41.5% women and 58.5% men in the general Australian academic staff population (DEEWR, 2007b). Thus, despite small differences in discipline distribution, gender and representation from Australian and New Zealand supervisors, the survey population can be considered as broadly representative of the general population of research degree supervisors.

SUMMARY OF OUTCOMES FROM THE SURVEY

We begin the presentation of survey outcomes by presenting a brief summary of major findings. A more detailed account of findings from each question of the survey is provided in the following section.

A total of 1884 supervisors participated in the survey - approximately 10% of the total supervisor population in Australian and New Zealand Universities. Despite some under-representation in Engineering and over-representation in Health, the proportions of participating supervisors were broadly representative of disciplines, categories of universities and gender split. Thus responses to the survey can be regarded as broadly representative of the total possible survey population.

Supervision load

In relation to supervision workloads, findings (all data are counts of individuals and NOT full time equivalents) from the survey showed:

- the average number of Higher Degree by Research (HDR) students supervised by an *active principal supervisor*¹ (in either a principal or associate role) was 5.91 HDR students
- numbers of HDR students varied in relation to supervisor experience
- some variation in average number of HDR students per supervisor was evident between disciplines and categories of university.

(For further details, see Section 1 in the following section of this report.)

Priorities in supervision

Responses to questions about supervision priorities and practices, indicate that supervisors place highest value and priority on factors that impact directly on the day to day supervision of their students around the thesis. Such factors include providing timely and effective feedback to students, being approachable, responsible and affirming to students; carrying out duties in a professional manner; and maintaining a positive relationship. Supervisors placed less priority on broader issues such as advising on Intellectual Property, introducing students to professional networks, or having skills to deal with difficult students.

Some variations in supervisors' responses were evident. Disciplinary differences had an impact on supervisory practices, although this impact was more evident in relation to broader (and less frequently occurring) activities to do with networks, Intellectual Property etc. Supervisors across all disciplines prioritised activities with their students. Supervisor experience had some impact in that more experienced supervisors reported undertaking more activities more frequently. There were also small differences across categories of universities. Overall, variation in supervisors' priorities and practices reflected discipline differences and levels of supervisor experience to a somewhat greater extent than category of university. Discipline differences were not evident in core supervision practices and interactions with

¹ An *active principal supervisor* is a supervisor who at the time of the survey was currently supervising a student as the principal or first supervisor.

students, but rather in broader practices beyond the thesis. Discipline differences here, and in responses to other questions appeared to reflect a continuum from science and technical disciplines to humanities and social sciences.

(For further details, see Section 2 of following section of this report.)

Development and support of supervisors

Supervisors' responses regarding their own development as a supervisor indicate that experience is by far the most important influence – their own experiences of being supervised; working with colleagues and peers; and undertaking and reflecting on their own supervision of students. However, these experiences may primarily have had a negative impact. For example, open-ended responses indicate that supervisors' own experiences of being supervised as a student were often negative, and that they now try not to replicate their own bad experiences. Some differences regarding influences on supervisor development were evident across disciplines and across levels of supervisor experience; however, overall, survey responses confirm that experience is most important in supervisor development. Of considerably less importance was reading about supervision practice and attending courses on supervision.

Participants' responses regarding their ongoing future development suggest supervisors place higher priority on discussion with colleagues and reflective analysis of their own practices than on accessing outside information – either from scholarly literature or from IT mediated communications about supervision. Disciplinary differences and experience of supervisors had a greater impact on supervisors' priorities here than category of university.

Despite these findings regarding current and future development as a supervisor, survey responses indicate that the majority of participants have attended formal courses on supervision. As would be expected, New Supervisors generally found courses more useful than their more experienced colleagues. There was some variation across disciplines as to which courses were considered more valuable. There was also variable enthusiasm for formal courses, and as open-ended responses show, sometimes, outright criticism. These outcomes highlight the challenge faced by those who have responsibility for designing and delivering courses, and the difficulty in developing courses that meet the needs of supervisors who are diverse in their disciplines, in their levels of experience as supervisors and in their approaches to research.

Survey participants were asked their views on the nature of support provided by universities for supervisors. Rating for items on support were generally lower than for other questions in the survey. Having said that, highest satisfaction was for resources, such as library and ICT, and lowest was for dealing with problematic students. In contrast to most other questions, the greatest variation in responses was not on the basis of disciplinary difference, but on the basis of supervisor experience and to some extent category of university. Overall however, supervisors showed low levels of satisfaction regarding support that universities provide for supervisors.

(For further details, see Section 3 of the following section of this report.)

Views on research

In order to situate demands and pressures of research supervision within a broader context of research priorities in education, participants were asked their views on the nature of research and likely future directions of both research and research education.

Responses to questions on priorities in research; purposes of research; and purposes for publishing research indicate that all researchers in all disciplines are driven by a desire to investigate interesting questions, solve problems, and share their research with others in their fields, rather than by more pragmatic issues such as continued employment, becoming known in the field or advancing their career.

Discipline differences however, were clearly evident in many supervisors' responses to these questions. Once again, these differences appear to reflect a continuum from science and technical disciplines to humanities and social sciences. For example, the level of importance supervisors attach to the social and political relevance of their research was given a higher priority in the social sciences than in sciences, while the reverse was the case for the priority attached to *discovering truth* in research. Some differences were also evident in relation to supervisors' level of experience. New supervisors, not surprisingly, were more concerned with continued employment and with fulfilling expectations of their jobs than more experienced colleagues, although level of supervisor experience had little impact on purposes for publishing research. Category of university had little impact on responses to questions here.

A final open-ended survey question invited participants to comment on future challenges and changes in research education. The themes identified in their responses include: the undervaluing of research and decrease in investment in research; increasing challenges and pressures on academics' work as a whole; the impact and challenge of working with diverse students; pressure for PhD completions and associated pressure on students and supervisors; the need for more preparation for students prior to enrolment in research degrees. Overall, the range of themes identified by supervisors provides some insight into the complex and pressured world of academia, and of the specific pressures associated with research supervision.

(See further details in Section 4 of the following section of this report.)

Major issues to emerge from analysis of the survey

- priority that all supervisors attach to work with students around the thesis, compared with broader issues, such as intellectual property, students' career;
- importance of supervisors' individual experience in shaping their development as a supervisor (and impact of mentoring in their development as a supervisor), rather than formal supervisor development courses;
- despite the majority of supervisors having completed some kind of formal course, they report variable levels of enthusiasm for such courses;
- overall low levels of supervisor satisfaction in regard to support provided by universities;

- differences across disciplines in priority supervisors place on broader supervision practices (i.e. beyond focus on the thesis)
- impact of discipline and of supervisor experience on (different) priorities that supervisors place on broader supervision practices (i.e. beyond focus on the thesis)
- major impact of discipline on supervisors' perceptions of research.

DETAILED ANALYSIS OF RESPONSES TO SURVEY QUESTIONS

The purpose of this section of the report is to present an analysis of outcomes from each question in the survey. Thus the section is primarily descriptive. Analysis of survey data overall is on-going, and in particular, the analysis of open-ended questions is on-going. Our concern here is to make available major outcomes from the survey as a whole for the information of participating universities and for other interested parties. We anticipate that further analysis and interpretation of the significance of outcomes will be published in various forms at a later date. For this reason, only Tables from analysis of Section 1 of the survey (Tables 1 – 16) are included with this report.

SECTION 1 About the supervisors

Section 1 of the survey sought information about supervisors' disciplines, their current supervision loads and their levels of experience as a supervisor.

Distribution of current supervision duties

Survey responses showed that most supervisors have multiple supervision roles. Ninety three percent of the survey population were supervising at doctoral level. Of these 51.5% were supervising only doctoral students, while an additional 41.8% were supervising both doctoral and masters students (Table 4). Slightly fewer than 4.2% were supervising at Masters level only, and 2.4% were not currently supervising at the time they completed the survey. Most supervisors were also both principal and associate supervisors. The largest group were doctoral principal supervisors (73.8%), followed by doctoral associate supervisors (73.3%) (Table 6).

Supervision workloads

The average number of students being supervised by individual supervisors can be estimated from the survey, but because individuals can undertake multiple roles the research team decided to focus only on principal supervisors who were currently supervising students at the time of the survey. These individuals are referred to in this report as 'active principal supervisors'. As indicated earlier, active principal supervisors were further classified according to experience as New Supervisors; Experienced Supervisors; and Very Experienced Supervisors.

On average, supervision loads for active principal supervisors were: (Table 7):

- principal supervisor of 3.02 doctoral students
- associate supervisor of 1.83 doctoral students
- principal supervisor of 0.73 masters students
- associate supervisor of 0.33 masters students

Thus the average number of HDR students supervised by active principal supervisors was 5.91.

The actual number of students being supervised varied in relation to the experience of individual supervisors. New Supervisors averaged 1.99 doctoral students as a

principal supervisor, while Very Experienced Supervisors averaged 4.28 doctoral students.

There was some variation between institutional groups in the number of students being supervised. Supervisors in the ATN group had the highest average number of HDR students per active principal supervisor (6.52) while those in the IRU group had the lowest (5.64) (Table 8).

The average number of HDR students per active principal supervisor also varied with the ASCED BFOS. Supervisors in Creative Arts had the highest average (7.52), while Management and Commerce had the lowest with (5.40) (Table 9). Supervisors in Architecture and Building had the highest average of doctoral students (5.53) while supervisors in Engineering and Related Technologies had the lowest (4.21).

We took a different approach to the analysis of completions of research degrees with the average number of students in relation to types of supervision as the unit of analysis. Student completions can be summarised as follows (Table 11):

- average number of doctoral students supervised to completion by principal supervisors: 2.64
- average number of doctoral students supervised to completion by associate supervisor: 1.81
- average number of masters students supervised to completion by principal supervisor: 2.34
- average number of masters students supervised to completion by associate supervisors: 1.21

An analysis that focuses only on doctoral students supervised to completion by principal supervisors ('principal doctoral completions') enables a comparison of completions across groups of universities and across disciplines. Supervisors in the Group of Eight universities had the highest average number of principal doctoral completions (2.98), while those in Other Australian universities had the lowest (2.64) (Table 12). Number of principal doctoral completions also varied in relation to discipline, with Psychology and Cognitive Sciences having the highest average (3.58) and Law and Legal Studies the lowest (1.55) (Table 13).

Overall 43% of the survey participants had no doctoral completions as a principal supervisor (Table 14). Of the active current principal supervisors 38% (N=393) had no doctoral completions as a principal supervisor (that is, they were New Supervisors) (Table 15). Of this group it appears that 60.6% (N=238) had not first supervised a doctoral student to completion as an associate supervisor before becoming a principal supervisor (Table 16). Thus the notion of academic apprenticeship whereby a New Supervisor first supervises a student to completion as an associate supervisor does not seem to apply in the majority of cases. This finding may partly reflect a relatively recent emphasis on academic apprenticeship, however, it appears to be common across all categories of universities and disciplines.

SECTION 2: Research supervision

Section 2 of the survey asked participants about priorities in their work as a supervisor and about their own practices as a supervisor. There were two questions in this Section.

The first question in this section (**Q6**) asked participants to indicate the priority (low to very high) they accorded to nine listed supervision practices. This question drew on the work of Orrell & Condon (2004).

Average rating of items ranged from 2.83 (lowest) to 3.62 (highest).

Items that were rated as highest priority were:

- *Providing feedback to my students within an agreed time* (3.62)
- *maintaining a productive relationship with my students over the entire period of their candidature* (3.57)

Items that were rated as lowest priority were:

- *facilitating wider academic contacts and networks for my students* (2.83)
- *having skills to attend students who are more than usually demanding* (2.87)

Level of supervisor experience (New, Experienced and Very Experience) had some impact on supervisors' priorities, with Very Experienced supervisors according slightly higher priority to a larger number of factors than those with less experience. All categories of supervisors accorded highest priority to *providing feedback to my students within an agreed time*. Lowest priority for Very Experienced supervisors was *having skills to attend students who are more than usually demanding*, while for New and Experienced supervisors lowest priority was *facilitating wider academic contacts and networks for students*. Overall, however, these differences were not large.

Discipline difference also had some impact on supervisors' priorities. Supervisors in Social Sciences gave more priority to *providing feedback to my students within an agreed time* than those in the Natural Sciences (e.g. Education: 3.75 and Natural and Physical Sciences: 3.52). Those in Agriculture (3.56) and Education (3.53) placed higher priority on *capacity to advise my students on academic writing* than Engineering (3.24). One of the lowest scoring items, *having skills to attend students who are more than usually demanding* was lowest in Management and Commerce (2.74), but highest in Creative Arts (3.07) and Education (3.03). This perhaps reflects the challenges of supervising diverse students in humanities and social sciences. Overall, however, discipline differences were smaller here than for other questions.

The second question in Section 2 (**Q7**) asked participants to identify the frequency with which they employed a range of 40 supervisory practices. The items in this question were based on those used by Pearson & Kyrooz (2004) who asked students to identify the frequency with which their supervisors used these practices. Outcomes from this question provide the possibility of comparing supervisors' and students' perceptions regarding the nature of supervisory practices.

It is worth noting that overall means for all items in this question were high. Means for items ranged from 4.63 (highest) to 3.25 (lowest). Thus most supervisors indicated

that they frequently undertook many of the 40 activities that were listed in this question.

Activities most frequently undertaken were:

- *carrying out duties in a professional manner* (4.63)
- *being approachable, responsive and affirming to your students* (4.60)
- *encourage students to develop and evaluate their own ideas as you discuss what they are doing* (4.59)
- *ensure official requirements are met* (4.55)
- *respect knowledge and expertise students bring to their candidature* (4.54)
- *help students plan and refine viability of their project* (4.51)

Activities least frequently undertaken were:

- *advising on issues related to Intellectual Property Rights* (3.25)
- *introducing students to professional networks* (3.39)
- *periodically review your supervisory process and interaction with students* (3.45)
- *initiate contact with your students* (3.52)
- *encourage students to network within the university* (3.61)
- *assist your students to progress their career goals* (3.64)
- *direct your students to leading researchers* (3.70)

Disciplinary differences had some impact on responses to this question. These differences were relatively small in the most frequent activities. For example,

- *carrying out duties in a professional manner*: Society and Culture: 4.72 (most frequent); Engineering: 4.52 (least frequent)
- *respect the knowledge and expertise your students bring to their candidature*: Architecture and Building: 4.73 (most frequent); Agriculture: 4.36 (least frequent).

However, disciplinary differences were more evident with the least frequent activities. For example:

- *advising on issues related to Intellectual Property Rights*: Creative Arts: 3.98 (most frequent); Agriculture: 3.06 (least frequent)
- *introducing students to professional networks*: Architecture: 3.70 (most frequent), Management: 2.90 (least frequent).

Outcomes from this question indicate that supervisors spend most time in professional interaction with students around the thesis (being approachable and responsive; developing ideas; meeting requirements; respecting knowledge; refining viability of thesis). Here there are few disciplinary differences. They spend less time on issues beyond the thesis (IPR, networks, career goals) or reviewing the supervisory process. However, here disciplinary differences are more obvious.

Level of supervisor experience had an impact on responses to this question. The more experienced the supervisor, the more likely the supervisory practices were to occur.

The greatest differences between Very Experienced and New supervisors occurred in:

- *Introducing students to professional networks (3.65/3.21)*
- *Assisting student to progress career goals (3.87/3.46)*
- *Assist student to formulate research topic (4.30/3.89)*
- *Assist student to obtain resources for conferences (4.20/3.80)*
- *Help arrange for students to present work at seminars/conferences (4.44/4.04).*

Lowest differences were:

- *Respect knowledge of students (4.58/4.48)*
- *Being approachable (4.65/4.55)*
- *Directing students (4.30/4.16)*
- *Initiating contact with students (3.58/3.44).*

The majority of items in this question showed a statistical difference (although often small) between categories of universities. For example:

- IRU most likely (4.08) to *negotiate availability with students*, Go8 least (3.64)
- ATN most likely (4.71) to *carry out supervisor duties professionally* Go8 least (4.58)
- G08 most likely (4.52) to *encourage publication during/on completions*, New Zealand least (4.15).

SECTION 3: Development and support of supervisors

Section 3 of the survey asked participants their views on what shaped their development as a supervisor, and on the formal or informal support that is necessary to develop supervisors capable of effective supervision of research students. There were four questions in this Section.

The first of these questions (**Q8**) asked participants what had influenced their own development as a supervisor. They were required to mark as many as they wished of nine items listed in the question. They also had the opportunity for additional open-ended comment. This question drew on the work of Pearson & Brew (2002).

Of the listed items, the ones marked by the highest proportion of participants were:

- *how they were supervised as a student* (87.9%)
- *refining your supervision practices based on reflections of your experiences* (84.4%)

The items marked by the lowest proportion were:

- *reading about effective supervision practices* (32.4%).
- *participation in professional development sessions* (40.9%)

There were some disciplinary differences here. The factor *how they were supervised as a student*, was highest in Architecture (95.8%), and lowest in Engineering (81.8%). *Reading about effective supervision practices* was lowest in Agriculture (29.2%) but highest in Engineering (37.7%).

Not surprisingly, the extent of supervisor experience impacted on responses. The item with the biggest difference between New and Very Experienced Supervisors was *experiences over time of being a supervisor* (64.8% to 92.1%). New supervisors were slightly more influenced than Very Experienced supervisors by *how they were supervised* (88.8% to 85.6%). Very Experienced supervisors were slightly less influenced by *participation in development sessions* than New supervisors (40.6% to 45.1%).

Participants were also invited to add open-ended responses to the question. The table below shows the issues that were most frequently raised in these open-ended responses.

(As indicated earlier, analysis of open-ended questions is on-going. Numbers in the table are based on analysis of the first 100 responses only. Some participants identified more than one issue in their responses.)

Issue	Frequency
Own experiences of being supervised	26
Working with colleagues / peers	21
Experiences as / while being a supervisor	18
Learning from supervision courses / workshops (good and bad)	16

Other themes	7
- working with diverse students	6
- Involved in presenting supervision training courses	6
- Importance of relationships with students	4
- Experiences in examining theses	4
- Professional experiences outside university	3
- Researching supervision practices	3

Samples of individual comments provide some insight into the nature of identified issues.

Own experiences of being supervised

- Trying to be different from own bad hands-off supervision
- Own experience of supervision was poor --> try to be different
- My supervision was desultory. PG supervision these days is better

Working with colleagues and peers:

- I prefer to discuss practice with experienced colleagues (rather than attending courses)
- Refined practices based on discussion with colleagues and students
- I attempt to share co-supervision with new staff so they get a bit of practice

Experience as/while being a supervisor

- Being mentored in effective supervision
- Talking to and reading about how top class scientists supervise
- Experience: teaching students to think independently and innovatively

Overall responses to the question about influences on development as a supervisor were not particularly surprising. However, the open-ended responses provide some further insights here. It is widely acknowledged, for example, that supervisors' own experiences of being supervised as a doctoral student have a major impact on their own views and practices in supervision. The open-ended responses indicate that this impact is primarily negative. Most supervisors appear to try not to replicate their own bad experiences. Supervisors' comments on the impact of working with peers would appear to have implications for how faculties and Graduate Schools might think about supervision training. Systematic mentoring programs, for example, may provide a valuable adjunct to formal courses for new supervisors.

The second question in Section 3 (Q9) of the survey asked participants what, if any, formal research supervision training sessions they had undertaken. Participants were required to indicate whether they had attended any of seven listed courses, and to indicate whether the courses were compulsory and whether they had found them useful. They were also invited to add open-ended responses.

The course that appeared to be taken most often was *managing candidature* (54.6% of the survey population), with those in the Creative Arts most likely to attend this course (75.8%) and those in Agriculture least likely (40.9%). The course that appeared to be least attended was *examining theses* (16.6%), with those in Education the most likely to attend (24.5%), and those in Natural and Physical Sciences the least likely (9.9%).

Level of supervisor experience impacted on course attendance and perceptions of usefulness of specific courses. Not surprisingly, Very Experienced Supervisors were

generally less likely to attend formal sessions, except for those on *international students*, where they were the most likely. New Supervisors found courses on *codes of practice*, *ethics* and *managing candidature* more useful than more experienced supervisors (e.g. *ethics*: 3.76 for new supervisors, 3.40 for Very Experienced supervisors).

Supervisors in the Go8 were the least likely to attend courses in Australian universities particularly in *codes of practice*, *ethics* (Go8 36.5%, overall 43.1%), *managing candidature* (42.7% to 53.5%) and *examining theses* (11.1% to 16.6%). Not surprisingly, more courses overall were compulsory for less experienced supervisors e.g. *codes of practice* (compulsory for New Supervisors: 42.9%, compulsory for Very Experienced 29.7%).

Overall, the most useful course appeared to be *examining theses* (3.70) despite being the least attended. The least useful course appeared to be *codes of practice* (3.36). Supervisors in the Creative Arts seemed to find courses more useful than those in other disciplines (e.g. *managing candidature*, Creative Arts: 3.81, against discipline average of 3.54). However, only three courses overall showed significant differences across disciplines in perceptions of usefulness, *ethics*, *managing candidature* and *academic writing*. In terms of the latter, Natural and Physical Sciences found it least useful (3.40 against overall 3.69).

A surprisingly large number of participants chose to add comments in the open-ended component of this question. Their responses (based on analysis to date) indicate that most supervisors have completed some kind of formal supervision training session. These courses include

Substantial courses (Grad Dips; courses of more than 11/2 days	21
Short courses on how to be a supervisor	25
Single courses on a range of topics	18

An additional 19 participants commented on the value (or lack of value) of courses on different aspects of supervision, without mentioning any specific course.

These responses suggest that a large proportion of supervisors have attended some kind of course on supervision. However, the range of responses regarding the value of these courses highlight the challenge faced by those who have responsibility for designing and delivering such courses. It is very difficult to develop courses that meet the needs of supervisors who are diverse in their discipline expertise, their approaches to research, and in their experience as supervisors (an issue that was identified by our symposium participants).

The third question in Section 3 (**Q10**) asked participants whether their faculty/university provides adequate support for supervisors. Participants were asked to indicate level of support (from *not at all* to *very well*) in response to eight items.

Means for all items in this question were lower than for many other questions in the survey, ranging from 3.41 (highest) to 2.24 (lowest). Means for items in this question suggest an overall low level of satisfaction in regard to support for supervisors provided by universities.

Highest means were for:

- *resources (ICT, library etc)* (3.41)
- *student support e.g. academic writing, thesis development etc* (2.71).
-

Lowest means were for:

- *dealing with problematic students* (2.24)
- *opportunities to be mentored by other supervisors* (2.30)
- *supervision is recognised adequately in your workload* (2.50).

Disciplinary differences were evident in relation to only three items. These were: *supervision workload, funding for conferences, and resources*. For example, Natural and Physical Sciences were least satisfied with *supervision being adequately recognised in workload* (2.30), and Agriculture supervisors were the most satisfied (2.75).

New supervisors were least satisfied with *support for problematic students* (2.06). Indeed this was one of the lowest scores for the entire survey. Also New Supervisors felt less supported than their more experienced colleagues for *supervision in the workload, funding support for their students to attend conference, and resources*.

University groups showed statistical differences in relation to a number of items: *workload, academic writing, professional development and resources*. Supervisors at ATN universities overall were the most satisfied e.g. *Supervision is recognised adequately in your workload* (2.75 compared with 2.50 overall). New Zealand supervisors were more satisfied in *funding for conferences* (2.68) than their ATN counterparts (2.58). However, levels of satisfaction overall were low.

The final question in Section 3 (**Q11**) asked participants about their own ongoing development as a supervisor. Participants were asked to rank seven items from essential to not important for their on-going development. They were also invited to make open-ended comment here.

The highest scoring items for supervisors across disciplines were:

- *a greater self-awareness of their conceptions of research and supervision* (3.63)
- *extended repertoire of supervisory practices* (3.47)

The lowest scoring items were:

- *a greater understanding of literature on the scholarship of supervision* (2.76)
- *enhanced understanding of IT mediated communications for supervision and supervisory practices* (2.79)

Disciplinary differences impacted on responses to this question. Although there were no disciplinary differences for the highest scoring item (*greater self-awareness of conceptions of research and supervision*) there were differences in the lowest scoring item (*enhanced understanding of literature on supervision*). Supervisors in Natural and Physical Sciences scored 2.35, for this item in comparison to Education (3.44). It was noteworthy that supervisors in Education generally scored highest in items where there were significant differences: *supervisory strategies* (Education, 3.84 in comparison to 3.47 overall); *policy and procedural requirements* (3.59/3.18);

understanding of IT mediated strategies (3.18/2.79); *scholarly literature on supervision* (3.22/2.76). The only factor where Education did not score the highest was *enhanced competency in interactional and communications skills*. Supervisors in six other disciplines scored this item higher than those in Education. This may indicate that those in Education feel they are already competent in communication skills.

Supervisor experience also impacted on responses in this question. All items in the question showed statistical differences when analysed in relation to supervisor experience. Not surprisingly, New Supervisors thought all items more important than those with more experience. The factor with the greatest difference was *understanding the scholarly literature on supervisory practice* (New Supervisors: 3.02; Very Experienced Supervisors: 2.42).

University groups impacted moderately on all responses to the question. Most noticeably, New Zealand universities scored lower on all but one of the items than other categories of universities (e.g. *greater self awareness of own conceptions of research and supervisory practice*: NZ: 3.49, average for all categories of universities: 3.63) . Go8 universities also scored slightly lower than average on all but one of the items, while ATN, IRU and Other Australian Universities were slightly higher in most items than the average.

In sum, it appears that in regard to their on-going development as supervisors, participants are more concerned with reflective analysis of their own practices than with accessing outside information – either from scholarly literature or from learning more about IT.

SECTION 4: Views of research

Section 4 of the survey asked participants their views about the nature of research and likely future directions of research and of doctoral education. The purpose of this Section was to help locate demands and pressures of research supervision within the broader context of research priorities in universities. There were four questions in this section, as well as a final open question inviting participants to comment on any aspect of supervision or supervisor development not already addressed in the survey. The first three of these questions drew on the work of Åkerlind (2008).

The first question (**Q12**) asked participants to rank each of eight items in terms of their importance (very important to very unimportant) to the participant's research.

Overall, items in this question were rated highly by all participants. The items identified as most important were:

- *investigating questions of personal interest to me* (4.56)
- *creating a sense of achievement* (4.49)
- *investigating an issue that has been puzzling me* (4.38).
- *making a contribution to a larger disciplinary or social group* (4.33).

The least important items were:

- *ensuring my continued employment* (3.61)
- *discovering something new in my disciplinary area that enables me to become known in my field* (3.88).

A number of items showed variation by discipline. For example, supervisors in Creative Arts rated *investigating questions of personal interest to me* (4.72) of more importance than those in any other discipline (although differences here were relatively small). Supervisors in Natural and Physical Science rated *contributing to social, political or community change* (3.47) as less important than those in the other disciplines.

Supervisor experience also had some impact on perceptions of importance. Not surprisingly, New Supervisors rated the item *fulfilling expectations of my job* (4.20) as somewhat more important than and Very Experienced Supervisors (3.92). University group, however, had little impact, except that New Zealand supervisors rated *contributing to social change* (3.81) lower than those in Australian Universities (4.01 – 4.19).

The survey outcomes to this question suggest that researchers in all disciplines are driven by the desire to investigate questions of interest to them, rather than more pragmatic issues such as continued employment. There appear to be differences across disciplines in the level of importance supervisors attach to social and political relevance of their research. Here there appears to be a divide along the Sciences vs. Humanities continuum. Not surprisingly, some differences occur as a result of supervisors' levels of experience, with New supervisors being somewhat more concerned with continued employment and fulfilling expectations of their job than their more experienced colleagues.

The second question in Section 4 (Q13) asked participants what they saw as the major purposes of research. Participants were asked to rate each of six items (from very important to very unimportant) in response to the statement 'I see research primarily as a process of ..'.

Items in this question were also generally rated highly. The items identified overall as most important were:

- *investigating interesting questions* (4.58),
- *addressing broad disciplinary issues of importance to my field or to society* (4.31)

Least important items were:

- *gathering of information or collection of data* (3.53)
- *discovering truth* (3.61)

There were substantial disciplinary differences across the majority of items. All supervisors rated the item *investigating interesting questions* as important with Creative Arts (4.63) rating highest here, and Engineering (4.26) lowest. All supervisors also rated *addressing broad disciplinary issues of importance to my field or to society* as important, (4.51 – 4.07, except Engineering: 3.99).

However, substantial disciplinary differences were evident in the item *identifying a problem using a set of specific research procedures or skills*, with supervisors in Health (4.37), Agriculture (4.34) and Engineering (4.27) giving this item considerably higher priority than Creative Arts (3.49) and Education (3.92). The item *discovering truth* resulted in even greater variation with Agriculture (4.23) rating this item considerably higher than those in Education (3.03). Indeed, this response by Education supervisors produced one of the lowest scores in the whole question.

Level of experience of supervisors had little impact on responses to this question. New Supervisors ranked *gathering of information or collection of data* (3.62) as slightly more important than Very Experienced Supervisors (3.49), and they also ranked *investigating interesting questions* (4.43) as slightly less important than Very Experienced Supervisors (4.57). Otherwise there were few differences in responses between less and more experienced supervisors.

University group, also appeared to have little impact on responses to this question. In light of the above discussion, not surprisingly supervisors from all University groups scored *investigating interesting questions* higher than other items. There was some difference in the item *addressing broad disciplinary issues of importance to my field or to society*, with The IRU group scoring highest on this item (4.33), and New Zealand Universities scoring lowest (4.08). New Zealand universities overall scored items slightly lower than those in Australian universities.

Responses to this question overall confirm the value supervisors attach to investigating interesting questions and solving problems. Their perceptions of the primary purposes of research vary, however, in relation to discipline, again, primarily along the continuum between science/ technical disciplines and humanities/ social sciences. Level of experience and category of university appeared to have relatively little impact on perceptions of purposes of research.

The third question in Section 4 (Q14) asked supervisors about their purposes when publishing or reporting on their research. They were required to rate eight items from very important to very unimportant. Responses indicate supervisors have a number of reasons for publishing and reporting research, and generally they rated items highly.

The most important of these were:

- *sharing my research with others engaged in my field* (4.63);
- *making my research known to others* (4.41)
- *improving my research* (4.22).

Lowest rated items were

- *encourage change amongst relevant social groups or communities* (3.75)
- *sustain/ advance my career* (3.86).

Disciplinary differences once again proved to be more important for variation in rating of items than either supervisor experience or category of university. All supervisors in all disciplines rated *sharing my research with others engaged in my field* as important, and thus ratings were very similar across disciplines (Architecture: 4.74 – Management and commerce: 4.45). Ratings were also similarly high across disciplines for *improve my research* (Architecture: 4.43 – Society and Culture: 4.16) and *make my research known to others* (Engineering: 4.59 – Management: 4.18). (Indeed, Engineering's rating of 4.59 was the highest overall for any item in this question.)

However, ratings for a number of other items showed considerable variation across disciplines. Three such items were: *encourage change amongst relevant social groups or communities* (Education 4.21 – Natural and Physical Sciences: 3.16); *extend my understanding of theoretical and conceptual issues* (Creative Arts: 4.40 – Agriculture: 3.87); and *sustain/advance my career* (Agriculture: 4.19 – Education: 3.48). The variation in relation to discipline once again seems to reflect the science/ technical disciplines - humanities/ social sciences continuum.

Level of supervisor experience generally had little impact on reasons for publishing or reporting on research. For example, all supervisors sought to *share research with others engaged in my field* (New: 4.61 – Very Experienced: 4.64); all supervisors sought to *make an impact on their field* (New supervisors: 4.13 – Very Experienced: 4.22). Two items showed some variation. These were: *improve my research* and *sustain/advance my career*. Not surprisingly, these items were more important for New Supervisors than Very Experienced (4.30/4.07 and 4.05/3.86 respectively).

University group had little impact with only two items showing any variation here. These were: *making an impact on my field* and *encouraging change amongst relevant social groups or communities*, with the Go8 scoring the highest in the first (4.30) and the Other Australian Universities in the second (3.97). New Zealand supervisors, again, scored the lowest in both these factors (4.04/3.47).

The fourth question in Section 4 (Q15) was open ended and invited participants to comment on what they saw as important future challenges and changes in research education. As indicated previously, analysis of open-ended questions is on-going, and here we report only on analysis of the first 100 responses. The table below shows the themes with the highest frequency of comments.

Theme	Frequency
Decrease of investment in, and (under) valuing of research	23
Increasing challenges and pressure on academics	22
Impact and challenge of diverse students	17
Specific challenges for future research	14
Pressure for PhD completions + pressure on students	14
Preparation of students prior to enrolment in research degree	14
Pressure on supervisors	12
Changing nature of PhD	12
Need of more support for students	5

A sample of comments provides insights into the nature of these themes.

Decrease of investment in, and (under)valuing of research

- Decrease of investment in research is adverse to creating knowledge and advancing thought
- Rise of bureaucracy and compliance costs; rampant managerialism in universities
- Challenge of funding for research including research education to create sustainable career possibilities

Pressure and challenges on academics

- Pressure for accountability and increasing responsibilities in academic work
- Pressure from adoption of corporate model in university education
- Increased institutional expectations on academics
- Balancing demands of performance based research funding with demands of teaching and community service in environment of increasing constraints

Challenges and changes in research education: impact and challenge of diverse students

- Lack of interest in research by students: convincing good students to undertake research; attracting good students to universities other than Go8
- Distance and part time students (so not part of research culture)
- Increasingly diverse students - age, ethnicity, purposes for undertaking research (challenge of dealing with this diversity)

Preparation of students prior to enrolment in research degree

- Problem of dumbing down of undergrad degrees (and under-prepared students)
- Weakening of disciplinary pathways --> less well prepared students
- Need to engage undergrads in research in preparation for research degrees
- Dealing with students with poor initial skills - writing, reading, critical analysis

Specific challenges in future research

- Addressing new issues in research in relation to global climate change, energy, greenhouse etc
- Contesting hard/soft science schism: avoiding caricature of social science
- Dealing with ethical considerations, especially arising from newer technologies
- Maintaining support for curiosity driven research and all its associated risk
- Creating culture of research which is collaborative and focused around broadly shared agenda, rather than individual whim
- Need for multidisciplinary and team approaches (some universities are poorly prepared for this)

This range of themes identified by participants in their responses to this question is noteworthy in itself. These themes correspond to a number of similar issues identified by symposium participants. In survey responses participants' addressed the specific and often competing pressures faced by academics and students who are engaged in research education. A comparison between symposium outcomes, where the perspective was on the bigger picture of research education, and participants' responses to this survey question provide different perspectives and insight into the complex and pressured world of academia.

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Appendix 1

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Table 1 Survey population by sex

	Number	Percent
Female	832	44.2
Male	1015	53.9
Not entered	37	2.0
Total	1884	100.0

Table 2 Survey population by ANZSRC Fields of research

	Number	Percent
Agricultural and Veterinary Sciences	50	2.7
Biological Sciences	169	9.1
Built Environment and Design	24	1.3
Chemical Sciences	51	2.7
Commerce, Management, Tourism and Services	161	8.6
Earth Sciences	25	1.3
Economics	53	2.8
Education	122	6.5
Engineering	70	3.8
Environmental Sciences	49	2.6
History and Archaeology	51	2.7
Information and Computing Sciences	103	5.5

Language, Communication and Culture	109	5.8
Law and Legal Studies	29	1.6
Medical and Health Sciences	365	19.6
Philosophy and Religious Studies	34	1.8
Physical Sciences	34	1.8
Psychology and Cognitive Sciences	125	6.7
Studies in Human Society	147	7.9
Studies in the Creative Arts and Writing	45	2.4
Technology	8	.4
Mathematical Sciences	40	2.1
Total	1864	100.0

Table 3 Comparisons of Australian 2006 doctoral students and survey population by ASCED BFOS

	Australian 2006 doctoral students Percent	Australian survey population Percent	New Zealand Survey population Percent
Agriculture, Environmental and Related Studies	4.5	2.6	3.0
Architecture and Building	1.3	1.5	0.5
Creative Arts	4.0	2.6	2.1
Education	8.6	6.8	6.2
Engineering and Related Technologies	10.4	4.5	3.2
Health	12.8	21.8	12.4
Information Technology	4.0	5.3	6.4
Management and Commerce	8.5	6.8	14.5
Natural and Physical Sciences	20.7	20.4	18.1
Society and Culture	25.2	27.9	33.7

Table 4 Summary of levels of current supervision

Level of supervision	Number	Percent	Cumulative percent
Doctoral only	971	51.5	51.5
Doctoral and masters	788	41.8	93.4
Masters only	79	4.2	97.6
None	46	2.4	100.0
Total	1884	100.0	

Table 5 Combination of current supervision duties

	Doctoral principal supervisor	Doctoral associate supervisor	Masters principal supervisor	Masters Associate supervisor	Total
Doctoral principal supervisor	228	1012	529	270	1390
Doctoral associate supervisor	1012	219	493	319	1381
Master principal supervisor	529	493	34	209	668
Masters Associate supervisor	270	319	209	28	409

Table 6 Distribution of current supervision duties

Doctoral supervision	Doctorates only	Masters and doctorate	Masters only	Neither	Total
Principal	228	150			378
Principal and associate	524	448			1012
Associate	219	150			369
None			79	46	142
Total	971	788	79	46	1884

Table 7 Average number of research students per principal supervisor currently supervising a student (N = 1390)

	Average number of students
Doctoral students as a principal supervisor	3.02
Doctoral students as an associate supervisor	1.83
Master students as a principal supervisor	0.73
Master students as an associate supervisor	0.33
Average number of HDR students supervised	5.91

Table 8 Average number of research students per principal supervisor currently supervising a student by university group

	ATN	Go8	IRU	New Zealand	Other
Doctoral students as a principal supervisor	3.35	3.00	3.22	2.63	3.18
Doctoral students as an associate supervisor	2.03	1.98	1.59	1.66	1.80
Master students as a principal supervisor	0.75	0.42	0.60	1.42	0.50
Master students as an associate supervisor	0.40	0.27	0.22	0.39	0.35
Average total of HDR students supervised	6.53	5.68	5.64	6.11	5.84

Table 9 Average number of research students per principal supervisor currently supervising a student by ASCED Broad field of study

	Average number of Doctoral students as a principal supervisor	Average number of Doctoral students as an associate supervisor	Average number of master students as a principal supervisor	Average number of Master students as an associate supervisor	Average number of HDR students supervised
Creative arts	2.36	1.56	1.16	0.93	6.00
Education	2.55	1.93	0.82	0.54	5.84
Architecture and building	2.70	2.04	0.61	0.26	5.61
Society and culture	2.46	1.87	0.82	0.39	5.54
Information technology	2.36	1.59	0.60	0.24	4.78
Information technology	2.36	1.59	0.60	0.24	4.78
Management and commerce	2.06	1.53	0.76	0.37	4.72
Natural and physical sciences	2.11	1.83	0.47	0.26	4.66
Health	1.92	1.54	0.60	0.41	4.47
Agriculture, environmental and related studies	2.06	1.58	0.54	0.24	4.42

Table 10 Supervisor role by completions

	Number of completions - percent										
	0	1	2	3	4	5	6	7	8	9	10 or more
Doctoral students as a principal supervisor	43.0	11.8	8.9	6.8	5.5	4.4	3.6	1.9	2.0	1.3	10.8
Doctoral students as an associate supervisor	46.9	15.6	12.1	7.2	4.7	3.8	2.5	1.0	0.5	0.4	5.3
Master students as a principal supervisor	47.4	13.5	8.9	6.0	3.9	3.0	2.5	1.8	1.2	1.0	10.7
Master students as an associate supervisor	66.7	11.0	7.2	4.1	2.4	1.3	0.8	0.5	0.6	0.3	5.1

Table 11 Average number of completions by type of supervision

	Average number of completions
Doctoral students as a principal supervisor	2.64
Doctoral students as an associate supervisor	1.81
Master students as a principal supervisor	2.34
Master students as an associate supervisor	1.21

Table 12 Average number of doctoral completions as a principal supervisor by university group

	Average number of completions
Go8	2.98
ATN	2.53
IRU	2.48
Other Australian	2.46
New Zealand	2.51
All	2.64

Table 13 Average number of doctoral completions as a principal supervisor by ANZSRC fields of research

ANZSRC fields of research	Average number of completions
Psychology and Cognitive Sciences	3.58
Agricultural and Veterinary Sciences	3.58
Engineering	3.37
Built Environment and Design	3.33
Biological Sciences	3.24
Environmental Sciences	3.22
Earth Sciences	3.04
Chemical Sciences	2.92
Education	2.92
History and Archaeology	2.90
Economics	2.85
Mathematical Sciences	2.73
Studies in Human Society	2.60
Language, Communication and Culture	2.51
Information and Computing Sciences	2.41
Philosophy and Religious Studies	2.26
Technology	2.25
Physical Sciences	2.15
Studies in the Creative Arts and Writing	2.13
Commerce, Management, Tourism and Services	2.03
Medical and Health Sciences	2.02
Law and Legal Studies	1.55
All	2.64

Table 14 Levels of experience as a doctoral principal supervision to completion

	Number	Percent
No experience (no doctoral completions as a principal supervisor)	810	43.0
Experienced (1 - 5 doctoral completions as a principal supervisor)	705	37.4
Very experienced (6 and over doctoral completions as a principal supervisor)	369	19.6

Table 15 Current doctoral principal supervisors by level of experience

	Number	Percent
No experience	393	28.3
Experienced	644	46.3
Very experienced	353	25.4
Total	1390	100.0

Table 16 Doctoral completions as an associates supervisor of new principal supervisors

Number of doctoral completions as an associate supervisor	Number	Percent
0	238	60.6
1	85	21.6
2	43	10.9
3	14	3.6
4	7	1.8
5	3	0.8
6	2	0.5
10	1	0.3
Total	393	100.0

Appendix 2

National survey of research supervisors

Section one: About you

1. You are:

Male Female

2. Please select your major academic discipline area.

3. Please select the university where you supervise the majority of your postgraduate research students.

4. How many students do you currently supervise as a:

	0	1	2	3	4	5	6	7	8	9	10 or more
doctoral principal supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
doctoral associate or co-supervisor/panel member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
masters by research principal supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
masters by research associate supervisor, co-supervisor or panel member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. How many students have you successfully supervised to completion as a:

doctoral principal supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
doctoral associate supervisor, co-supervisor or panel member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
masters by research principal supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
masters by research associate supervisor, co-supervisor or panel member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section two: Your research supervision

We begin the questionnaire by asking about what you regard as priorities in your work as a supervisor and about your own practices as a supervisor.

6. Please indicate the level of priority you would give to each of the practices listed below:

{scale L: low, M: medium, H: high, VH; very high}

A. Keeping abreast of latest research and literature in my field	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Maintaining an up-to-date knowledge of different research methodologies	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Providing feedback to my students within an agreed time	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Having the capacity to advise my students on academic writing	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Having the skills to attend to students who are more than usually demanding	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Maintaining a productive relationship with my students over the entire period of their candidature	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Finding an appropriate balance between providing sufficient support for my students while fostering their ability to work independently	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Finding time for effective supervision amongst my competing work commitments	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Facilitating wider academic contacts and networks for my students	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Other	L	M	H	VH
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

7. When you supervise research students do you:

(The items in the question below are based on those in a major cross institutional survey of research students. Your responses in this question will enable us to compare factors that are important for supervisors with those that are important for students.)
 {scale N:never, S:sometime, O:often, U:usually, A; always }

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Assist your students to formulate their research topic | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Challenge your students intellectually | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Help your students plan and refine the viability of their project | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Introduce your students to relevant current literature | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Encourage your students to write early | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Advise your students on problem framing and problem solving | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Advise your students on critical aspects of their research thereby extending their awareness of possibilities | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Provide advice on the logistics for producing a thesis document | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Negotiate a program of study and research with your students | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Direct your students when it seems needed | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Negotiate explicit ground rules for supervision with your students from the beginning of their candidature | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Promote good interaction and learning between your students and others in the research area | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Approach your supervision flexibly depending upon the stage of your students' research projects | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Put in effort to ensure your students get a good start | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Provide your students with information about your availability for planning purposes | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Initiate contact with your students | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Negotiate your availability with your students | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Demonstrate an interest in the well being of your students | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Be approachable, responsive and affirming to your students | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Encourage your students to publish during and/or on completion of their theses | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. Direct your students to leading researchers | N | S | O | U | A |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. Encourage your students to network within your university | N | S | O | U | A |

23. Introduce your students to professional networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
24. Assist your students to progress their career goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
25. Advise your students on opportunities for relevant experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
26. Model effective research practice as an active researcher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
27. Allow your students to take different research approaches (methodological and theoretical) to your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
28. Critically and openly discuss your research practices with your research students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
29. Periodically review your supervisory process and interaction with your students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
30. Carry out your supervisory duties professionally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
31. Encourage your students to engage in open/critical discussion with you on research practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
32. Assist your students to obtain resources for seminars and conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
33. Assist your students to meet administrative requirements in an efficient and timely manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
34. Keep your students informed about procedures and issues related to intellectual property rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
35. Devote sufficient time to your students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
36. Listen with attention by regularly checking for mutual understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
37. Ensure official requirements are met (e.g. ethics clearance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
38. Respect the knowledge and expertise your students bring to their candidature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
39. Encourage your students to develop and evaluate their own ideas as you discuss what they are doing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
40. Help arrange for your students to present their research at seminars and conferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N	S	O	U	A
41. Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section three: Your views on the development and support of supervisors

In this section we are seeking your views on what shaped your own development as a supervisor. We are also interested in your views on the informal and formal support that is necessary to develop supervisors who are capable of effective supervision of research students.

8. What influenced your own development as a supervisor?

(you may tick as many boxes as you wish)

- How you were supervised when you were a research student
- Working as a co-supervisor with a more experienced colleague
- Reading about effective supervision practices
- Discussions with colleagues
- Participation in professional development sessions
- Feedback from students
- Refining your supervision practices based on reflections of your experiences
- Your experiences over time of being a supervisor
- Other

Please specify

9. What, if any, formal research supervision training sessions have you undertaken?

	Have you undertaken a session of at least one hour on this topic?		If you have undertaken such a session, how useful did you find it ? {scale N: not very to V: very}					Was undertaking this session compulsory?	
	Y <input type="checkbox"/>	N <input type="checkbox"/>	N <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
A. Codes of practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Ethics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Managing candidature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Examining theses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Academic writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Dealing with problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. International students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I. Please specify

10. Does your faculty/university provide adequate support for you in the following areas:

{scale NAA: not at all, P: partly, FW:fairly well, VW: very well, NS: Not sure }

A. Supervision is recognised adequately in your workload	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Funding for your participation in conferences	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Student support e.g. academic writing, thesis development etc	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Opportunities to be mentored by other supervisors	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Support for dealing with problematic students	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Support for your further professional development as a supervisor	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Funding support for your students, e.g. conference fees, scholarships etc	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Resources, e.g. ICT, library, other equipment	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Other	NAA	P	FW	VW	NS
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

J. Please specify

11. How important do you see the following for your own ongoing development as a supervisor?

{scale NI: not important, MI: moderately important, E: essential }

A. Extended repertoire of supervisory strategies	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Increased understanding of institutional policy and procedural requirements	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Enhanced competency in interactional and communications skills	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Enhanced understanding of the facilitation of learning in one-to-one and group settings used in supervisory practice	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Enhanced understanding of IT mediated communications for supervision and supervisory practices	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Greater understanding of the literature on the scholarship of supervision	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Greater self-awareness of own conceptions of research and supervisory practice	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Other	NI		MI		E
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I. Please specify

Section 4 Your views on research

In this section we ask about your views on research and on being a researcher. We also explore your views on the future directions of doctoral education. Your responses to questions in this section will help us locate demands and pressures of research supervision within the broader context of research priorities in universities.

12. How important are the following for you in undertaking your research:

{scale VU: very unimportant, SU: somewhat important, N: neutral, SI: somewhat important, VI: very important}

A. Investigating questions of personal interest to me	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Fulfilling expectations of my job	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Making a contribution to a larger disciplinary or social group	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Ensuring my continued employment	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Discovering something new in my disciplinary area that enables me to become known in my field	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Creating a sense of personal achievement	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Investigating an issue that has been puzzling me	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Contributing to social, political or community change	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Other	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

13. I see research primarily as a process of:

A. Identifying and solving a problem using a set of specific research procedures or skills	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Addressing broad disciplinary issues of importance to my field or to society	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Gathering of information or collection of data	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Discovering truth	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Uncovering what has been hidden through reinterpretation or 're-search'	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Investigating interesting questions	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Other	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

14. When I publish or report on my research I am primarily seeking to

A. Make an impact on my field	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Share my research with others engaged in my field	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Gain feedback from peers; engage in academic debates	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Make my research known to others	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Improve my research	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Extend my understanding of theoretical and conceptual issues	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Encourage change amongst relevant social groups or communities	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Sustain/advance my career	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Other	VU	SU	N	SI	VI
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

15. What do you see as the most important future changes and challenges in research education?

16. Are there any other aspects of supervision or supervisor development you would like to comment upon?