

# Needs Analysis Report

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Assessing the Research Training and Resources  
for Higher Degree by Research Candidates at  
ECU

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## Background

In January 2009, the Graduate Research School, in collaboration with the Planning, Quality and Equity Services Centre, conducted an inaugural research training needs analysis survey to all Higher Degree by Research candidates and Research Staff at ECU. Responses and feedback were summarised into a report (<http://www.research.ecu.edu.au/grs/surveys/>), which formed the basis to a series of new training sessions and initiatives. These included new qualitative and quantitative data research methods courses, the delivery of online and after hours sessions, new ESL training courses every semester, extra STREAM and ethics training sessions, informal lunch time discussion on research methods and theories and the establishment of the SOAR Centre, a peer-to-peer support service for all research students.

In an effort to continue enhancing the quality of research training at ECU, in May 2011, the Graduate Research School conducted its second Needs Analysis Survey with a specific focus on the cohort it serves, namely Higher Degree by Research candidates. Once again, the purpose of the survey was to assess the research training needs of Doctoral and Master by Research candidates in order to: 1) identify ways of improving research skills training workshop offerings; 2) identify research resources most widely used or required by HDR candidates; and 3) promote a stronger research environment by brokering advanced research training and identifying experts to invite as trainers.

The Planning, Quality and Equity Services Centre distributed the survey to the ECU and personal email addresses of 632 Higher Degree by Research candidates. Of whom 285 or 45% responded. This represents a 9% increase in response rate from our initial Needs Analysis survey in 2009.

## Characteristics of Respondents

The demographic characteristics of respondents are presented in tables 1-9 below. A majority of respondents are enrolled in the degrees of Doctor of Philosophy and Master by Research and females. Most respondents are between the ages of 31 and 50 years of age, domestic, full-time, on-campus students, with Joondalup being the home-campus of the bulk of respondents in the survey. Students were most likely to be in the pre-proposal phase of their candidature. Schools with the highest response rates were Communication and Arts and Education, closely followed by Psychology and Social Sciences.

Table 1. Degree of Enrolment of Respondent

<b>Degree of Enrolment</b>	<b>N</b>	<b>%</b>
Doctor of Philosophy (PhD)	197	69
Professional Doctorate	11	3.9
Masters	74	26
Other	3	1.1
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 2. Gender of Respondent

<b>Gender</b>	<b>N</b>	<b>%</b>
Female	176	61.8
Male	105	36.8
No Answer	4	1.4
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 3. Age of Respondent

<b>Age by Age Group</b>	<b>N</b>	<b>%</b>
21-30	50	17.5
31-40	92	32.3
41-50	72	25.3
51-60	51	17.9
61-70	14	4.9
71 and over	4	1.4
No Answer	2	0.7
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 4. First Language of Respondent

<b>First Language</b>	<b>N</b>	<b>%</b>
English	15	5.3
Non-English	49	17.2
No Answer	221	77.5
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 5. Home Campus of Respondent

<b>Home Campus</b>	<b>N</b>	<b>%</b>
Mt. Lawley	114	40
Joondalup	139	48.8
Bunbury	6	2.1
External	25	8.8
No Answer	1	0.3
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 6. Faculty and School of Respondent

<b>Faculty</b>	<b>School</b>	<b>N</b>	<b>%</b>
Business and Law	Accounting, Finance and Economics	13	4.6
	Law and Justice	6	2.1
	Management	17	6
	Marketing, Tourism and Leisure	7	2.5
Computing, Health and Sciences	Computer and Security Science	18	6.3
	Engineering	20	7
	Exercise, Biomedical and Health Sciences	24	8.4
	Natural Sciences	18	6.3
	Nursing, Midwifery and Postgraduate Medicine	14	4.9
	Psychology and Social Sciences	33	11.6
Education and Arts	Communication and Arts	51	17.9
	Education	41	14.3
	WA Academy of Performing Arts	18	6.3
Regional Professional Studies		3	1.1
No Answer		2	0.7
<b>TOTAL</b>		<b>285</b>	<b>100</b>

Table 7. Enrolment of Respondent: Domestic or International

<b>Enrolment</b>	<b>N</b>	<b>%</b>
Domestic	216	75.8
International	67	23.5
No Answer	2	0.7
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 8. Enrolment of Respondent: Full-Time, Part-Time

<b>Enrolment</b>		<b>N</b>	<b>%</b>
On-Campus	Full-Time	160	56.1
	Part-Time	85	29.9
External	Full-Time	7	2.5
	Part-Time	32	11.2
Does Not Apply		1	0.3
<b>TOTAL</b>		<b>285</b>	<b>100</b>

Table 9. Stage of Candidature of Respondent

Stage of Candidature	N	%
Pre-proposal	81	28.4
First Year	46	16.1
Second Year	64	22.5
Third Year	41	14.4
Later than Third Year	47	16.5
Does Not Apply	6	2.1
<b>TOTAL</b>	<b>285</b>	<b>100</b>

## Survey Results

### HDR Support

Respondents were asked to answer questions regarding the support needed and received for their research degrees and requested to rank in order of preference the various sources of support. The majority of students (85.4) considered that they are receiving the required training skills and support, with an outstanding number of respondents (216) ranking their supervisors as their main source of research support. Among other highly regarded sources of support were the Graduate Research School, “Others in Your School” and librarians.

Table 10. Do you consider that you are getting the required research training skills and support for your candidature?

Support	N	%
Yes	243	85.4
No	41	14.3
No Answer	1	0.3
<b>TOTAL</b>	<b>285</b>	<b>100</b>

Table 11. From whom are you receiving this support? Please indicate in ranking order (Select all the appropriate options and number them as 1, 2, 3, etc.)

Rank	Your Supervisors	Others in Your School	Your Faculty Research Consultant	Your Faculty Academic Writing Consultant	The Graduate Research School	Librarians	SOAR Centre	Other at ECU	Other External to ECU
1	216	1	1	3	19		1	1	1
2	18	57	18	22	41	12	9	7	9
3	4	14	22	21	39	29	10	9	7
4	2	11	9	16	19	19	10	3	3
5	2	9	8	7	5	18	7	3	3
6		5	3	8	3	13	8	1	2
7		2	3	2	3	3	7	5	3
8		1	2	2		1	4	3	2
9			1	2			3	3	5

*Note:* The colour scheme in the above table is used to highlight the most common categories selected by respondents, whereby the brightest colour (green) represents the most recurrent choice (216), followed by darker blue (57), paler blue (41) and orange (39).

Some respondents did not rank the help but mentioned postgraduate peers (6) and colleagues (4) under “Other at ECU.” Among those who selected “Other External to ECU,” respondents mentioned: a. Academics at other universities, including external co-supervisor, which in two cases were ranked as being the main source of support. Staffs at external institutions, including CSIRO and DEC were also considered to be an important source of support. External work colleagues, friends in industry related to their research and professional mentors were also listed as providing important guidance.

We asked respondents to indicate other types of help that would provide them with the required support. The majority (46 %) did not respond. Of those who responded, they mentioned more research training skills (7.4%), more time with their supervisors (6.3%), more availability to academic writing consultants and more peer support networks (4.6%), more engagement with academic staff and (4.2 %)more availability to research consultants (3.9%). Only 3 respondents (1%) selected “Other,” to refer to online training and Skype sessions (2) and better library resources (1).

Table 13. Could you indicate what help would you like to get the required support? (Select all appropriate options)

<b>Help to Get Required Support (Options)</b>	<b>N</b>	<b>%</b>
More time with Supervisors	18	6.3
More engagement with other Academic Staff	12	4.2
More availability to Research Consultants	11	3.9
More availability to Academic Writing Consultants	13	4.6
More Research Training Skills Workshops	6	7.4
More peer-to-peer support networks	13	4.6
Other at ECU	3	1
No Answer	246	86

## Promoting a stronger research environment: advanced research trainings, workshops and experts to invite to campus for presentations

To promote a stronger research environment at ECU, respondents were asked what other workshop topics they would like to be offered. More than half of students (55%) indicated that they would like to have regular access to workshops on academic writing and journal publications (57.4%). Almost half of respondents (49.8) also mentioned that they would like regular access to sessions on conference presentations and developing a conceptual framework (40.3%). About a third of students expressed interest on receiving regular training on qualitative methodologies (36.5%) and quantitative methodologies (31.6%). A relatively lower proportion of respondents indicated an interest in more regular training in English as a Second Language (12.6%).

Table 14. Would you like to have regular access to workshops on: (Please select all applicable options)

Help to Get Required Support (Options)	N	%
Academic Writing	157	55
English as a Second Language	36	12.6
Developing a Conceptual Framework	115	40.3
Quantitative Methodologies	90	31.6
Qualitative Methodologies	104	36.5
Journal Publications	164	57.4
Conference Presentations	142	49.8
Other	27	9.5

Some candidates (9.5%) requested training in areas other than the ones specifically given as a choice of answer for this particular question. These other trainings include the following:

- Statistics
- Mixed Methodologies
- Grant writing
- Getting published
- MS Access and Excel
- Online workshops x2
- Time management, motivation and employment opportunities
- EndNote
- Data analysis tools
- Multidisciplinary research
- Supervisor / student relationship and university / student relationship (addressing mutual benefits)
- Visits to labs, companies, universities
- Thesis construction and development
- Text research skills
- Creative research methodologies

- Resources available to candidate (e.g. iVEC)
- NVivo
- Examples of GOOD proposals and research topics
- Phenomenology.

When respondents indicated that they required more regular methodologies training sessions in research methodologies, they were requested to provide detail. In most cases, these represented single requests. Among the quantitative methodologies indicated, the following were mentioned:

- Descriptive statistics
- SPSS
- Statistical analysis
- Variance analysis
- Multivariate statistical techniques
- Factor analysis (SPSS)
- Framework analysis
- Advanced Statistical support
- Multiple regression
- SEM
- High Frequency data analysis
- Experimental design
- Growth Accounting methodology
- Questionnaires
- Randomised controlled trial in health sciences

Among the qualitative methodologies, the following were mentioned:

- Case study
- Ethnography
- Netnography
- Focus Groups
- Interviews
- Narratives
- Classroom observation methods
- Grounded theory
- Phenomenology
- Social constructionism
- Practice-led research

Ethnography (5 requests), phenomenology (4 requests) and practice-led research (4 requests) were the methodologies most commonly requested by students.

To gain a better understanding of delivery preferences we asked students to indicate whether they preferred the training to be conducted in face-to-face, online or a combination of the two modes. Nearly half of respondents (48.8) showed a preference for a combined mode, followed by face-to-

face (35%). A relatively small number of students (13.7) selected only the online delivery mode, with many making clear that this was their only but not first option, as they far away from campus or have work and family responsibilities. A few students (2.5) did not indicate any preference.

Table 15. Please indicate your preferred mode of training delivery

<b>Training Delivery Mode</b>	<b>N</b>	<b>%</b>
Face-to-Face	100	35
Online	39	13.7
Combination (f2f / Online)	139	48.8
No Answer	7	2.5
<b>TOTAL</b>	<b>285</b>	<b>100</b>

To create a richer and more vibrant research environment for candidates, we asked them to identify any external speakers, training professionals that they would like to give presentations on their specific areas of expertise. The requests ranged from ECU-based to external local and international experts, and from the performing and creative arts disciplines to plant biology. The list below presents an arrangement of the requests according to broad disciplinary areas, including Creative and Performing Arts, Business and Management, Theory and Methodology, Education and General Academic Skills. In some instances, students have only indicated the presenters' names, thus, we have organised their requests under heading for expert speakers.

### **Creative and Performing Arts**

- Daniel Keene – playwright
- Declan Donnellan. Author of 'The Actor and the Target'. Theatre Company Artistic Director and Theatre Director.
- Matthew Lutton- Director- Theatre, opera Rachel Macdonald- Director Theatre, opera Robyn Archer- Singer, curator of festivals
- Presenters from WAAPA and the mental health area

### **Business and Management**

- Dave Snowden – 7 principles of knowledge management
- Dr. Mark Burgman of Monash University on Quantitative Decision Making Techniques / Risk Assessment Techniques or Operational Research in General

### **Theory and Methodology**

- Dr Leesa Costello (ECU) to speak on Netnography as a new Qualitative research tool
- In the area of objective measurement using Rasch model - Professor David Andrich, Graduate School of Education The University of Western Australia
- virtual ethnographic researchers e.g. Danah Boyd, Jenny Preece
- Gareth Griffiths; Post colonial specialists from Murdoch University
- Theorists, such as Prof. Vijayshree and other specialists to speak on their current research on post-colonial societies

### **Education**

- Professor Trevor G. Bond School of Education, James Cook University
- ECU Educational Psychology experts

### General Academic Skills

- David Lindsey – scientific writing
- iThinkwell was excellent all of the internal ECU presenters have always been of an excellent quality (I have been to quite a lot of the sessions, and have never been disappointed)
- Karen Armstrong Author and speaker Patron of charter for Compassion
- Marketers in the public sector both practitioners and academics.
- Public speaking professionals from ECU
- Someone to talk on invasive plant species

### Expert Speakers

- David Gauntlett
- Anthony Giddens
- George Gessert
- Walton Ford
- Richard Bell
- Jacqueline Stevens
- Dr Brian Cox, Manchester University UK
- Dr Fiona Stanley
- Dr Sue Byrne
- Jamie Kirkpatrick UTAS
- John Freeman
- Prof Dietmar Schmidbleicher
- Prof Ute Mueller
- Professor Graeme Currie Nottingham University

Finally, with the increasing use of mobile technologies in communication, we have included a question on social media in relation to accessing research information and networks. Respondents were asked to indicate the types of social media they use. However, nearly half of students (42.8%) reported that they do not use social media to access research information. Among those who use social media for research purposes, Facebook (30.5%) and GRS Google Groups (20.7%) were the most commonly reported. Close to a tenth of students (10.9%) did not respond to this question. Some candidates (1.7%), indicated using a different type of media to those provided in the list of choices, CREATEC Google Group, Email, MSN and Academia.

Table 16. If you use social media to access research information and networks, please indicate your preferred social media (select all the appropriate options)

Preferred Social Media	N	%
Facebook	87	30.5
Twitter	14	4.9
LinkedIn	21	7.4
Del.icio.us	4	1.4
Digg	1	0.3
GRS Google Groups	59	20.7
Wiki	22	2.7
Blog	24	8.4
None	122	42.8
Other	5	1.7
No Answer	31	10.9

## Qualitative comments from respondents

At the end of the survey, we asked participants for further comments or suggestions for improvement. Those who commented were positive feedback, with special praise for the work of the Graduate Research School. Others requested more regular training sessions to cover all areas of research preparation and even suggest that they are made compulsory. There is recognition for the benefits of having continuous access to online resources, but many students feel they need better mapping to identify and use those resources more effectively. The verbatim quotes presented below stand out.

“When I started, I wish I had had access to all the courses that are now available. You are all doing a great job.”

“In my first year of study I would have liked regular seminar/workshop sessions that covered all the aspects of research preparation. Attendance at one-off workshops doesn't enable one to learn anything much - information dissemination in these situations is either truncated, or too concentrated and is often just too hard to follow. Such seminars ought to be part or all of a formal unit and attendance should be compulsory. It would also enable students to develop a learning community - something that doesn't exist at present. On-line materials are fantastic...but out of sight - out of mind. I am an Australian student and give quite a lot of my time assisting international students who don't know what exists. Even if they do, they have difficulty finding it on the web...perhaps their cognitive maps are not wired like those of the web designers. To finish on a positive note - I do appreciate the efforts of the Graduate School puts into providing supports in the various ways offered. I have attended a number of these as part of my journey.”

## Final Remarks

While there is an overall high level of satisfaction with the research support received, many students have requested that training be provided on a more regular base and in a combination of online and face-to-face delivery modes, as well as expanding the choices for after hours training. In particular, we should note the areas of research methodologies, theory and academic writing as having a higher demand. When considering these requests in light of the list of experts speakers and themes that were named in the survey, it becomes apparent that there is a requirement not only to general research skills building but also for discipline-based, perhaps at the school level, training.