

**Assessing Research Training and Resources at ECU:
A Needs Analysis**

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BACKGROUND

In January of 2009, the Graduate Research School and Governance and Planning Services developed an electronic survey to administer to all research staff and Higher Degree by Research students currently enrolled at ECU. The purpose of this survey was to assess the research training needs of research staff and students to: 1) identify ways of improving research skills training workshop offerings; 2) identify research software currently utilized by researchers at home and on campus; 3) and to promote a stronger research environment by brokering advanced research trainings, workshops, and identifying experts to invite to campus for presentations. Initial drafts of the survey were sent to key stakeholders including the Associate Deans and Research Consultants of each Faculty (FEA, CHS, BL, and RPS) for feedback. Additionally, a pilot study was conducted to identify any topics or survey questions that should be modified or included in the survey. The survey was distributed via ECU email addresses to 1,133 research staff and students with 473 responses received by the close of the four week data collection period. This is a response rate of 42%. A paper copy of the survey can be found in the Appendix of this report.

CHARACTERISTICS OF RESPONDENTS

Demographic characteristics of respondents who participated in the Needs Analysis Survey are presented in tables 1-10 below. Generally, respondents were more likely to be researchers or PhD students, female, between the ages of 31-50, non-parents, English as first language speakers, and from the Joondalup campus. Schools with the highest response rates were: Exercise, Biomedical and Health Sciences; Psychology and Social Sciences; Communication and Arts; and Education. Among students, respondents were more likely to be domestic students and in the proposal phase of their candidature.

Table 1. Primary Role of Respondent at ECU

	n	%
Researcher	150	31.7
Postdoc	21	4.4
Masters	48	10.1
PhD	170	35.9
Doctorate	25	5.3
Other	15	3.2
Refuse to Answer	44	9.3
TOTAL	473	100

Table 2. Gender of Respondent

	n	%
Female	240	50.7
Male	146	30.9
Refuse to Answer	87	18.4
TOTAL	473	100

Table 3. Age of Respondent

	n	%
21-30 years old	56	11.8
31-40 years old	105	22.2
41-50 years old	119	25.2
51-60 years old	92	19.5
61-70 years old	12	2.5
71 + years old	3	.6

Refuse to Answer	86	18.2
TOTAL	473	100

Table 4. First Language of Respondent

	n	%
English	325	68.7
Non-English	62	13.1
Refuse to answer	86	18.2
TOTAL	473	100

Table 5. Home Campus of Respondent

	n	%
Mt. Lawley	121	25.6
Joondalup	213	45.0
Bunbury	12	2.5
Off campus	18	3.8
Refuse to answer	109	23.1
TOTAL	473	100

Table 6. Faculty and School of Respondent

Faculty	School	n	%
Business & Law	Accounting, Finance & Economics	16	3.4
	Law & Justice	9	1.9
	Management	20	4.2
	Marketing, Tourism & Leisure	10	2.1
Computing, Health, and Sciences	Computer & Info Sciences	30	6.3
	Engineering	17	3.5
	Exercise, Biomedical, & Health Sciences	54	11.4
	Natural Sciences	26	5.5
	Nursing, Midwifery & Postgrad Medicine	18	3.8
Education & Arts	Psychology & Social Sciences	52	10.9
	Kurongkurl Katitjin	4	<1%
	Communication & Arts	52	10.9
	Education	51	10.8
	WA Academy of Performing Arts	10	2.1
	Regional Professional Studies	9	2.0
	Other	9	2.0
	Refuse to answer	86	18.3
	TOTAL	473	100

Table 7. Student Respondent: Domestic or International

	n	%
Domestic Student	182	74.9
International Student	34	14.1
Does not apply	14	5.7
Refuse to answer	13	5.3

TOTAL	243	100
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Table 8. Student Respondent: Stage of Candidature

	n	%
Proposal	72	29.6
1 st year	27	11.1
2 nd year	35	14.4
3 rd year	41	16.9
More than 3 rd year	34	13.9
Does not apply	20	8.3
Refuse to answer	14	5.8
TOTAL	243	100

Table 9. Parental Status of Respondent

	n	%
Parent	98	20.7
Not a parent	141	29.8
Refuse to answer	234	49.5
TOTAL	473	100

Table 10. Parents: Number of Children

	n	%
One child	34	34.7
Two children	38	38.8
Three or more children	26	26.5
TOTAL	98	100

SURVEY RESULTS

Ways of improving research skills training workshop offerings

Since many researchers and HDR students juggle multiple roles (i.e., working full time, pursuing an advanced degree, raising a family, etc.), the survey asked respondents which GRS research skills training workshops they are interested in attending as well as when and where they prefer the workshops be offered. Respondents were asked about their interest in the following trainings: Getting Started with Research as ECU, Preparing a Literature Review, Endnote X1, Word 2007 for Postgrads, Avoiding Plagiarism, Managing Qualitative Data, NVivo 8 and Introduction to SPSS for Windows. Table 11 displays the number of people enrolled in the workshops at the time of the survey and the number of people interested in attending future workshops. The workshops with the most interest for Semester 2, 2009 are: NVivo 8, Preparing a Literature Review, Managing Qualitative Data, and Word 2007 for Postgrads.

Table 11. Respondent Interest in Research Skills Training Workshops

WORKSHOP	# CURRENTLY ENROLLED	# INTERESTED IN ENROLLING IN FUTURE
Getting Started with Research	42	66
Preparing a Literature Review	44	124
Endnote X1 Demonstration	35	99
Word 2007 for Postgrads	39	114
Avoiding Plagiarism	22	97
Managing Qualitative Data	26	116
NVivo 8	26	129
Introduction to SPSS for Windows	18	96

Table 12 summarizes respondents' top preferences for when and where they would like workshops to be held.

Table 12. Respondent Preference for Timing and Location of Research Skills Training Workshops

WORKSHOP	PREFERRED MONTH*		PREFERRED TIME OF DAY*		PREFERRED CAMPUS LOCATION			
Getting Started with Research	May	7%	Morning	38%	JO	46%		
	June	17%	Afternoon	14%				
	July	11%	Evening	18%			ML	47%
	Aug	7%	Weekend	3%			BU	7%
Preparing a Literature Review	May	10%	Morning	36%	JO	54%		
	June	16%	Afternoon	15%				
	July	15%	Evening	17%			ML	41%
Endnote X1 Demonstration	May	10%	Weekend	6%	BU	5%		
	June	19%	Morning	42%				
	July	16%	Afternoon	13%			JO	54%
	Aug	13%	Evening	13%			ML	42%
Word 2007 for Postgrads	Weekend	3%	Morning	44%	JO	55%		
	June	23%	Afternoon	14%				

	July	12%	Evening	13%	ML	42%
	Aug	11%	Weekend	3%	BU	3%
WORKSHOP	PREFERRED MONTH*		PREFERRED TIME OF DAY*		PREFERRED CAMPUS LOCATION	
Avoiding Plagiarism	June	13%	Morning	39%	JO	54%
	July	14%	Afternoon	16%	ML	41%
	Aug	11%	Evening	16%	BU	5%
Managing Qualitative Data	May	14%	Weekend	1%	BU	5%
	June	17%	Morning	36%	JO	53%
	July	16%	Afternoon	13%	ML	43%
			Evening	15%	BU	4%
NVivo 8	May	17%	Weekend	4%	BU	3%
	June	17%	Morning	36%	JO	55%
	July	9%	Afternoon	12%	ML	43%
	Aug	9%	Evening	14%	BU	3%
Introduction to SPSS for Windows	May	15%	Weekend	4%	BU	2%
	June	11%	Morning	38%	JO	59%
	July	15%	Afternoon	15%	ML	39%
	Aug	12%	Evening	19%	BU	2%

*Percentages may not sum to 100% because some respondents indicated no preference (not reported).

The survey also asked respondents if they are interested in using web based conferencing tools to support flexible and interactive delivery of ECU research trainings over the web. These tools would allow respondents who are restricted by time and/or their location to participate in live workshops off campus or access archived sessions at a later time. Of the 367 respondents who answered this question, thirty-two percent indicated they are very interested in web conferencing tools, 43% indicated they are somewhat interested, and 25% indicated they are not interested at all.

Research software currently utilized by researchers

In order to facilitate the development of a Research Software Operating Environment at ECU, the survey asked respondents to report what software they current use to conduct their research, where they use it, and how it was paid for. Results are displayed in table 13.

Table 13. Research Software Used by Respondents

SOFTWARE	VERSION*		LOCATION OF USE*		PAID FOR BY*	
Endnote (n=316)	9 or earlier	22%	Campus	30%	Respondent	3%
	X1	43%	Home	27%	ECU	93%
	X2	3%	Both	41%	Other	4%
NVivo (n=86)	N6 or earlier	1%	Campus	55%	Respondent	2%
	7	23%	Home	28%	ECU	91%
	8	54%	Both	16%	Other	7%
SPSS (n=199)	15 or earlier	33%	Campus	45%	Respondent	20%
	16	13%	Home	25%	ECU	76%
	17	33%	Both	30%	Other	4%
MS Windows (n=368)	2000 or earlier	3%	Campus	28%	Respondent	42%
	2003	17%	Home	28%	ECU	48%
	2007	74%	Both	42%	Other	10%
MS Mac (n=67)	X or earlier	11%	Campus	31%	Respondent	39%
	2004	21%	Home	28%	ECU	55%
	2008	50%	Both	37%	Other	6%
Sigmaplot (n=31)	9 or earlier	11%	Campus	38%	Respondent	17%
	10	36%	Home	23%	ECU	73%
	11	18%	Both	26%	Other	10%
LISREL (n=14)			Campus	29%	Respondent	23%
	8	36%	Home	21%	ECU	39%
	9	36%	Both	29%	Other	39%
AMOS (n=10)			Campus	56%		
	6	33%	Home	11%	ECU	90%
	7	33%	Both	11%	Other	10%
HLM (n=5)					Respondent	20%
	6	20%	Campus	20%	ECU	40%
			Home	20%	Other	40%
WEB SURVEY TOOL (n=20)			Campus	35%	Respondent	35%
	Survey Monkey	55%	Home	15%	ECU	30%
	Other	45%	Both	30%	Other	35%

*Percentages may not sum to 100% due to answers of "Don't Know" or "Other" (not reported).

Other software utilized by respondents to conduct research includes: Adobe Photoshop, ISATIS, MATLAB, ASTSA, Arc GIS, Ballistic Measurement System, C-PEN, Corel Wordperfect, Delta graph, Dragon Dictate, Eviews, Foodworks, GMAV, GraphPad Prism, Image J Paintshop Pro, Inspiration, Jade, Latex, Leximancer, Linux, C++, OptiWAVE, OptiFDTD, Origin, PRIMER, SAS, STATA, UCINet, VMware, M/S Viso, and XLStat.

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. Twenty-nine percent of all respondents suggested specific topics they would like to have on offer for Semester 2, 2009. These topics include: public speaking, methods of research design (for the natural and social sciences), a hands on demonstration of the Ethics/Stream System, how to submit an Ethics application, how to publish research, job prospects for postgraduate students, advanced quantitative analysis (particularly factor analysis, logistic regression, structural equation modelling, and LISREL), advanced qualitative analysis, survey construction and web surveys.

Finally, the survey asked respondents to identify any external speakers, trainers, or professionals they would like to visit ECU and the experts' areas of expertise. A total of fourteen respondents answered this question and suggested the following individuals be contacted to visit ECU: Dr. David Skellern (NICTA CEO), Dr. Rowan Gilmore, Professor Peter Wypych (U Wollongong), Darren Garvey and Kim Collard (Kooya Consultancy), David Gurteen, Professor David Lindsay (UWA), Deborah Hay, John Hall, Professor Adrian Baddely, Professor Sue Rowley (UTS), and Will Hopkins. These professionals work in the areas of digital technology, choreography, indigenous psychology and cross cultural awareness, knowledge management, pneumatic conveying system, qualitative research, and advanced statistics. Also of note, respondents identified Dr. Greg Maguire and Dr. Jo McFarlane of ECU as experts they would like to speak on the subject of academic writing.