

# A postgraduate research training programme in generic skills and strategies: Description and evaluation



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***Abstract:** The Postgraduate Research Training Programme is a centrally co-ordinated, voluntary programme of interdisciplinary workshops at The University of Western Australia that provides postgraduate research students with training in key generic skills and strategies at two critical phases of their candidature: the beginning of research and its completion. This paper briefly outlines our approach to conducting workshops and provides both quantitative and qualitative data that indicate students' approval of the approach. The workshops, some of which began in 1993 and were later amalgamated and expanded to create the Programme in 2000, concentrate on issues of direct and immediate relevance to the processes of conducting and presenting research. They are highly interactive, and designed to explore and build on participants' existing knowledge, expertise and experience. This format offers students the opportunity to exchange information and strategies as well as to learn from staff. Importantly, it encourages and equips students to be active and creative in seeking solutions to problems. All the workshops and the Programme have been rigorously evaluated. By every measure, students who have completed the Programme evaluate it as being highly effective in assisting them with practical matters associated with the research process as well as with affective issues such as motivation and self-confidence. For example, in 114 participants' evaluations in 2000-01, an overall mean of 4.47 out of a possible 5 was achieved for a range of 25 survey items seeking students' levels of agreement with positive statements about organisation, quality of teaching, relevance and personal value of the course.*

***Keywords:** postgraduate research training*

“The problem with books on ‘how to write a dissertation’ is that it sounds so cut and dried, polished, ABC -- whereas for me, everything seemed muddled.”

(Student comment in Hampson, 1994, p.1).

## **Why develop a training programme for postgraduate research students?**

Nowadays there is a plethora of books on how to do research and write a thesis. Nonetheless, the student's comment above illustrates the real dilemmas that research students experience in carrying out their research and publishing it. For this reason and others (see, for example, Zuber-Skerritt and Knight, 1986), a number of universities have instituted courses and

sessions to provide training in generic research skills, strategies and issues. However, a literature search of ERIC, the Australian Education Index and *EDUCATION-LINE* reveals not only a dearth of literature on such courses but also of data evaluating their success (some examples include: Zuber-Skerritt and Knight, 1986; Cargill, 1996; McLaine, 1997; Beasley, 1999; Manolo, 1998; 2000, and McGowan 2000).

This paper describes The University of Western Australia's Postgraduate Research Training Programme (PRTP) which addresses the 'muddle' of research by providing structured courses of practical strategies for postgraduates' induction into research, successful completion of their theses and publication of their work. The PRTP concentrates on two critical phases of their candidature: the beginning of research and the presentation, or completion, stage. These are the stages that draw most upon generic skills, and are thus where students can benefit most from integrated, coherent and comprehensive courses (Zuber-Skerritt and Knight, 1986). Ad hoc postgraduate workshops at UWA commenced in 1993 and, after extensive canvassing of staff and postgraduate students for their perceptions of the types of training required for postgraduate students, and desirable formats and funding models for these, by 2000 the workshops had developed into an integrated two-course programme that is highly effective and popular with postgraduate students and their supervisors.

The PRTP was developed in response to increasing recognition within the University of the need for centrally-coordinated training for research students. The PRTP is distinctive in that it provides coherent and comprehensive coverage of the generic skills and strategies that research students need; it promotes them in an interdisciplinary and multicultural context; it uses a workshop format which fosters student interaction and empowerment; and it has been thoroughly evaluated over a two-year period.

### **The postgraduate research training programme. What is it?**

The PRTP consists of two courses of eight three-hour workshops that provide students with knowledge and practical skills and strategies directly related to the process and communication of their research. The courses are interdisciplinary and draw heavily on the experiences and perspectives of the student participants in a dynamic, highly interactive setting. Workshops are presented in two streams, Arts and Social Sciences and Sciences and Applied Sciences. This acknowledges some important differences between disciplines in the nature and practice of research (Kiley and Liljegren, 1999), and is in response to the clear preferences of students as divulged in informal discussions. Another advantage of streaming is to ensure that class sizes are small enough (<30) to encourage maximum participation by all students. However, an important tenet of the workshops is that most of the issues covered are equally applicable to both groups, and that students benefit greatly from exchange with students in other disciplines. The workshops regularly include participation by staff from the library, central administrative officers and senior management. This strategy familiarises students with key staff and allows them the opportunity to question the staff directly involved with their candidacy. All the workshops are based on small-group activities and are carefully designed to be inclusive of, and respond to, the individual and collective needs of students from different cultural and academic backgrounds and with a range of experience in the practice of independent research, and to acknowledge and address the different needs and preferences of students in different disciplines, within an interdisciplinary context.

### ***Aims and Objectives***

One of the main strengths of the PRTP is its practicality and relevance to student needs: it provides students with practical skills and strategies for direct use in their research. For

example, during the workshops participants practise specific skills and undertake relevant tasks such as drawing up a research timetable, outlining a proposal and preparing a thesis plan. Furthermore, the knowledge and understanding that the students gain can be used immediately in making critical decisions: for example, about choosing a topic or a supervisor; the direction and timing of their research; and, in some cases, whether to continue with their current project or supervisor. A specific purpose of the PRTP is to help students to circumvent many of the problems commonly encountered by research students. In addition, they assist students to solve problems that they are currently encountering.

The primary rationale for the first part of the PRTP, the *Course in Research Skills*, is to assist new research students, particularly those who are new to the University or have particular needs (e.g. international students, students whose language of preference is other than English, and women students in non-traditional areas), to assimilate into the social and research environment of the University (Denicolo and Pope, 1994).

***Course in Research Skills***  
**General aims and objectives**

1. To equip postgraduate research students with generic skills and strategies to facilitate their progress as researchers.
2. To familiarise students with the processes involved in the initial stages of a postgraduate research degree.
3. To provide a forum on research issues, both personal and practical, to encourage interaction among research students from a range of disciplines.
4. To instil confidence in students in relation to their ability to cope with the research process.

The primary rationale for the second course is to facilitate communication of research findings.

***Course in Presenting Research***  
**General aims and objectives**

1. To emphasise the need for effective presentation of research.
2. To provide strategies for the successful presentation of research, viz in a thesis, journal articles and oral presentations.
3. To provide a forum on research issues, both personal and practical, to encourage interaction among research students from a range of disciplines.
4. To elucidate the skills and processes involved in communicating research.
5. To instil confidence in students in relation to writing and giving oral presentations.

The sequence of the PRTP is as follows:

<b><i>Research Skills &amp; Strategies</i></b>	<b><i>Presenting Research</i></b>
<b>1 Rights and Responsibilities</b>	<b>9-10 Presenting a Talk (2 workshops)</b>
<b>2 Managing Research</b>	
<b>3 Working with your Supervisor</b>	<b>11-13 Writing your Thesis (3 workshops)</b>
<b>4 Literature Searching and Reviewing</b>	
<b>5 Introduction to Endnote</b>	
<b>6 Preparing a Proposal</b>	<b>13-16 Publishing an Article (3 workshops)</b>
<b>7 Preparing for your thesis</b>	
<b>8 Issues in doing Research</b>	

Students may opt to qualify for a (non-award) certificate by producing additional work. Here again the emphasis is on practical, authentic (Kraft, 2001) tasks and enhanced metacognition of the processes in which they are engaged. Such tasks include: writing a reflective journal after each workshop, drawing up a detailed research plan, writing a thesis proposal, thesis chapter and short article, and giving an oral presentation.

### **Conduct of the workshops**

The workshops are designed to be non-didactic and to stimulate the students to work through and clarify key processes and issues regarding their research in a supportive environment and to engage in simulations of the tasks they will be expected to carry out in the course of their research. Because of the individual nature of the students' research, there is no single, approved set of skills, methods or strategies. It is left to the students to select, from a range of suggestions offered by peers and the presenters, those ideas that may be of assistance to their individual projects and theses.

A typical workshop exercise proceeds as follows.

#### **Stage One: Preparation**

Students are asked to think and write individually about an issue, idea or problem and to reflect on what they may already know, or assume, about it. For example, students may be asked what they think are the most important qualities of a good thesis; they may be provided with examples of literature reviews and asked to evaluate their strengths and weaknesses; or they may discuss examples of good and bad academic writing that they have brought with them.

#### **Stage Two: Discussion and Negotiation**

After the conceptualisation stage the students work in small groups, usually four to six, each presenting to the others some key idea(s) about the topic. Each group is then asked to arrive at a consensus position on the issue(s), which will later be communicated to the whole class. As an example, in one exercise they have to agree on a list of the five most important characteristics of good research students.

#### **Stage Three: Presentation**

The last phase is a plenary session, during which each group puts forward its decisions and responses, which are then compared and contrasted, thus stimulating further exploration, discussion and clarification. During or after the discussion, the presenters may comment on the decisions, ask for clarifications and add input of their own, either by means of prepared material or *extempore* from their experience. This often includes presentation of material developed by students in previous workshops.

The workshops thus stimulate students to reflect on and evaluate the research processes in which they are engaged, and encourage them to compare their ideas, assumptions, strategies, and methodologies, at an individual as well as at a disciplinary level. In addition, they are encouraged to discuss their aspirations and problems. One of the key objectives of the workshops is not so much the provision of tips and strategies, important though these are, but to encourage students to formulate and refine their ideas about the various stages of research, as well as to clarify their ideas and values concerning their research. Thus, one of the key underlying objectives of the PRTP is to enhance the students' metacognitive awareness of the processes of research and related issues. The workshops include several variations on this basic formula. For example, many activities are highly practical and ask students to work on authentic tasks such as drafting a research timetable, preparing an outline for a proposal, providing a research outline, writing down their proposal or thesis in a single sentence and

explaining it comprehensibly to someone outside their discipline, presenting a talk, or writing an abstract. These practical activities are designed to assist students to engage actively in the various processes of research.

### Evaluation: What do the students think?

Quantitative and qualitative data have been collected in two forms, both anonymous. At the conclusion of each workshop all participants complete a half-page evaluation which asks them to comment on what they liked or disliked about the session, and what they would change. They also check a box to say whether the workshop was: *excellent, good, average, below average, very poor*. Secondly, at the end of each course the PRTP is evaluated using the University's Student Perceptions of Teaching (SPOT) questionnaire, wherein an objective questionnaire is administered to students by another staff member and evaluated independently by the University's Evaluation of Teaching Unit. Students are also invited to comment on the course and the teaching. Both responses thus incorporate quantitative and qualitative data, but the focus of the SPOT is on the former: it measures students' level of agreement with a bank of positive statements about the process and relevance of the course. Both forms of evaluation are used to monitor whether the workshops are meeting the needs of the participants and to tailor future workshops in the series, and future series, to match these needs.

Overall, 114+ students have completed evaluations resulting in some five and a half thousand quantitative data, as well as more than a thousand written comments and observations. Students' responses to anonymous surveys for all workshops indicate an exceptionally high level of approval. For example, in 2000-01 an overall mean of 4.47 out of a possible 5 was achieved in the 114 SPOT surveys of the two courses, for a range of 25 survey items seeking students' levels of agreement with statements about organisation, quality of teaching, relevance and personal value of the course (Table 1).

**Table 1: SPOT EVALUATIONS OF THE WORKSHOPS IN RESEARCH TRAINING COURSES: Mean values for selected items (teaching quality items omitted) on students' perceived value of the courses.[1=Strongly Disagree, 2=Disagree, 3=No Opinion, 4=Agree, 5=Strongly Agree] Responses: 2000 =61; 2001=53**

	Research Skills		Presenting Research	
	2000	2001	2000	2001
2. I have learned much as a result of this unit.	4.26	4.48	4.60	4.48
3. overall, this has been an effective unit.	4.29	4.48	4.68	4.35
4. I would recommend this class to other students.	4.31	4.70	4.65	4.50
5. I have enjoyed attending the classes.	4.26	4.44	4.58	4.19
8. I have been encouraged to be responsible for my own learning.	4.49	4.46	4.35	4.50
12. material has been presented in an interesting way.	3.97	4.37	4.42	4.48
18. I have been encouraged to engage in and learn actively in this course.	4.54	4.67	4.62	4.54
19. use of small group teaching strategies has been effective.	4.37	4.44	4.50	4.38
20. this course has made me reflect on my role as a research student.	4.62	4.69	4.31	4.35
22. I have developed a better understanding of how to manage my research.	4.32	4.57		
22. I have developed a better understanding of how to communicate my research successfully.			4.52	4.27
23. I have an improved understanding of what is expected of me as a research student.	4.50	4.64	4.19	4.50
24. I am more confident about undertaking research.	4.09	4.36	4.20	4.15
25. I have found this unit to be stimulating.	4.14	4.47	4.68	4.12
<b>Overall mean responses to the 25 items</b>	<b>4.36</b>	<b>4.59</b>	<b>4.52</b>	<b>4.44</b>

TOTAL RESPONSES (4 COURSES) = 114 TOTAL# DATA = 5700 OVERALL MEAN RESPONSE (4 COURSES) = 4.47

This measure of satisfaction is corroborated by 917 half-page responses (Table 2).

**Table 2: Half-page responses for 2000 and 2001: Proportion of responses excellent, good and average, and number of participants. Though students were always given the option of selecting Below Average and Very Poor, no-one has ever opted for them.**

	Excellent (%)		Good (%)		Average (%)		Number		
	2000	2001	2000	2001	2000	2001	2000	2001	
Research Skills & Strategies	50	50.5	46	45	3	5	245	196	
Presenting Research	61	47	37	48	2	5	239	237	
Overall	55	49	42	47	3	4	484	433	
Grand total								917	

Our main conclusion is that the workshop format works in fulfilling the aims and objectives of the PRTP. Analysis of students' comments confirms the quantitative data obtained from SPOT questionnaires. Three main themes emerge from students' comments: the practical relevance of the course, appreciation of the workshop approach, and the affective impact in offering reassurance, providing motivation, and instilling confidence in themselves as researchers. It is also evident from many students' comments and attendance records that they find the workshops an enjoyable way to spend a Friday afternoon. A small but representative sample of students' evaluative comments on what they liked about the PRTP and individual workshops are provided below in order to explain and expand on the quantitative data in Table 1. There were few negative criticisms and these tended to appear in the earlier workshops about the length of workshops (revealing a preference for a more didactic and 'efficient' mode of delivery). By the end of the series, however, all students seem to have been converted.

#### **Comments on practical relevance**

These comments amplify items 2, 20, 22, 23 in Table 1.

- *[It] fills the gap in terms of making available practical knowledge about doing a practical PhD which Academics do not have or cannot have the time to give.*
- *Somehow the course has de-mystified the whole process.*
- *I have been made to think "what am I doing" and "why am I doing it"*
- *Put research studies in context, provided many interesting and helpful tips for successful research.*
- *Helped me to understand where I'm going, how to overcome or accept hindrances.*
- *[I was] forced to think about practical issues – it is very easy to just remain lost in the realm of your own ideas rather than having a clear plan to implement them.*
- *Brings to light many useful nuggets of information that otherwise wouldn't have been thought of.*
- *Overall I'm very satisfied with this workshop. I have a chance to learn the requirements & necessary tasks for my research. This workshop is very useful & helpful for research students.*
- *[It] clarified my awareness of potential problems and how to prevent and address them.*
- *The course encouraged me to think for solutions/through problems as opposed to just presenting information – this made [it] a lot more useful and applicable on an individual level.*
- *I have enjoyed the course and I have learned a lot that I have already executed.*

#### **Comments on the workshop approach**

Students also liked the workshop format as demonstrated by items 3, 4, 5, 8, 18, 19, and 25 in Table 1. Student commentary illustrates that this approach not only provided an (inter)active forum that stimulated discussion of their research and of their problems with students from diverse backgrounds but also developed peer support groups. The fact that students were grouped into broad disciplinary groups was considered an advantage, in contrast to Cargill's (1996, 185) conclusion that 'groups should be as homogenous as possible'.

- *Participation – actually being asked to write responses that are then actively discussed on overheads. This allows students who are shy to have a say, also opens up discussion. It also shows students that many others have the same issues which is emphasized when this approach is used. It is also much more interesting than just having summary sheets about information – it personalizes the ideas.*
- *Students were encouraged to get involved not only through exercises though, but through actively sharing ideas.*
- *The practical approach – interactive manner makes asking questions much easier.*
- *A very useful course, particularly for getting some idea of other postgraduate students' perspectives.*
- *Sessions [are] good at forcing you to think and clarify postgrad issues, and get other intelligent opinion, that you might not have considered.*
- *The encouragement of students to interact with others and the peer support through the experiential exercises.*
- *The interaction & feedback from other post grad students – lessens the sense of isolation which postgrad research often produces.*
- *Interacting with other research students (not enough departmental interaction)..*
- *Communicating in a group without worry about being criticized for your opinions or ideas.*
- *Informality; emphasis on group learning and solidarity both as class members + research candidates; summation of material with/in handouts; well organised.*

### **Comments on the affective effects of the workshops**

One of the aims of the workshops is to instil confidence in the students and the fulfilment of this aim is attested by the means for item 24 in Table 1, However, the actual power of the workshops as a peer-group support system was surprising. Among other benefits, they provided a means for students to voice their uncertainties and to come to terms with them.

- *I now have the motivations I thought I had lost - the next 18 months are going to be a lot easier for me. Thank you for this very motivating opportunity!*
- *This week has motivated me to write deadlines and structure my thesis. Presently I have no idea!*
- *All the 8 weeks have been motivating.*
- *It has been engaging to understand that I am not alone in my fears.*
- *I liked the reassurance that others shared my doubts, as well as the strategies offered to overcome them.*
- *Helped me to gain confidence. I derived an enormous amount of enjoyment from attending class.*
- *Very useful techniques to boost self-confidence.*
- *Thanks for all the work you put into the Research Skills course. I gained a great deal from it – both explicitly and, more importantly, implicitly. I have seen a remarkable change in attitude in myself over the last few months as I have grown accustomed to the idea of actually being a PhD candidate...At times I find myself thinking “is this for real?” – every week, it feels more real. It is starting to feel right. I thank you for the new-found confidence that I have acquired.* (Unsolicited e-mail from student)

### **Conclusion**

The PRTP is a practical, flexible and effective response to the expressed needs of research students. It is a popular, voluntary programme that provides students with training in important skills such as time management, negotiation, writing and presentation, in a context that is appropriate to their background, broad area of research interest and stage of research. Thus, the PRTP provides an authentic learning environment for the participants (Kraft, 2001). The workshop format offers students the opportunity to learn from each other as well

as from staff since the workshops draw on the existing knowledge and expertise of participants to provide practical information and suggest approaches and strategies to other students. This forum encourages free exchange of experiences and ideas about how to approach various problems, and also helps students to gain a better understanding of the similarities and differences between different disciplines. Importantly, it encourages and equips students to be active and creative in seeking solutions to problems and assertive and effective in their interactions with others. Thus, in the context of specific training, they are also being trained to communicate effectively with their peers in the same and other discipline areas. We concur, with a slight alteration, with Boud (1987: 12. Epigraph in Hampson: 1994).

If learners . . . **[talk to and listen to]** other learners having experiences similar to their own, they will be able to understand themselves better and be able to learn more effectively. At least, they will be comforted to know that they are not the only ones in the world who have to struggle.

Although the PTRP has been a demonstrated success in terms of students' approval, it is too early to measure objective outcomes of the courses in terms of completion rates of research theses. However, the authors intend to check on these at a later date. In a separate longitudinal study we plan to evaluate the postgraduate research experience by collecting data from a cohort over a minimum of four years commencing this year.

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