



THE UNIVERSITY OF
MELBOURNE

Eleven practices of effective postgraduate supervisors

Richard James and Gabrielle Baldwin

Centre for the Study of Higher Education
and The School of Graduate Studies
The University of Melbourne

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Introduction

One of the great advantages of an academic career in a University with a national and international reputation for research is the opportunity for many fruitful and fulfilling research partnerships with postgraduate students.

Postgraduate supervision is a cornerstone of an academic career at this University. It provides important linkages between staff research programs and their coursework teaching at both undergraduate and postgraduate levels. These synergies capture the very essence of a research-intensive institution like the University of Melbourne.

This guide is about the role of the supervisor and the quality of supervision. Postgraduate supervision is doubtless one of the more complex forms of teaching in higher education. Few academics would agree on a formula, recipe, or 'dos and don'ts' checklist for successful supervision. Nevertheless, there are certain time-honoured practices, and these are the focus of this guide.

“...caring for students has to be the key”

Treat this guide as a tool for building a flourishing postgraduate environment. It offers possible approaches and strategies, and flags potential trouble-spots. These ideas are distilled from the best research into effective supervision practices. Detail has been kept to a minimum to make the ideas readily accessible, so references are given wherever further reading will be valuable. We also report some of the consistent patterns that have emerged in recent years from the University of Melbourne's quality assurance surveys of graduates and research students during their candidature.

For postgraduate supervisors, this guide is a ready reference to effective practice. For departments, it can be the stimulus for examining and reconsidering departmental practices. The content is designed to complement and be read in conjunction with other resources of the University of Melbourne, including *The Degree of Doctor of Philosophy handbook*, available from the School of Graduate Studies, and *Postgraduate Supervision*, a booklet by Margaret Powles available from the Centre for the Study of Higher Education.

The highlighted practices are underpinned by the following principles:

- Supervision involves the fundamentals of good teaching, among them, concern for students, interest in their progress, and the provision of thoughtful and timely feedback. Good supervisors exemplify the characteristics of good teachers in any setting.
- Supervision is an intensive form of teaching, in a much broader sense than just information transfer. The sustained complexity of supervision involves much time and energy. Good supervisors are aware of this and of the professional commitment necessary to every student they agree to supervise.
- The supervisory relationship has a particularly personal dimension, especially when students face crises of confidence or personal problems.
- Research students are highly individual. They have different preferences, expectations of the relationship, and approaches to study, some of which may be related to their cultural background. Good supervisors recognise and value this diversity, and adjust their own practices accordingly.
- Good supervisors extend their students well beyond what those students thought possible, by setting high but realistic standards. They encourage independence by building students' confidence in their personal research capabilities.
- Finally, good supervisors are conscious of their mentoring role. They aim to be a model for first-rate scholarship.

Research differs vastly across the disciplines. What constitutes a contribution to knowledge, and how this contribution is presented, differ similarly – creative novels, performances, and CD-ROMs, for example, are now establishing themselves in certain disciplines as alternatives or complements to the written thesis. Regardless of these differences in research cultures, all research involves critical enquiry: the strenuous intellectual activity of collecting, sifting and analysing information and presenting new knowledge. The emphasis of this guide is on the partnership between students and supervisors in this process.

...ensure the partnership
is right for the project

“My supervisor gave me the opportunity to pursue an individual research project and develop my own ideas and methods for investigation”

“I think I would have benefited from being given a clear-cut project at the beginning of my enrolment – I felt I drifted in my first year”



The appropriate matching of student and supervisor (or supervisors) is a key catalyst for the progress of research students. The initial consultation between a student and prospective supervisor is therefore a critical time for both parties. If the two haven't met before, this is the chance to begin exploring each other's research interests and to gain early impressions of each other as people.

The research topic is usually sketchy at this stage. In fact, the initial meetings usually begin the process of honing the topic and assessing its likely significance. In some disciplines, supervisors may play a leading role in selecting research topics, for student research can be part of funded investigations. In other disciplines the topic is very much the student's own. As a general rule it is inappropriate to 'allocate' a topic to a student. But there are mixed views on this matter, as the contrasting graduate opinions on the previous page illustrate. Nevertheless, surveys of University of Melbourne postgraduate students show they value highly their independence in choosing a research topic, and that students are more likely to flourish when they have a strong personal desire to pursue research questions of their own. This is not to say that students won't benefit from listening to suggestions and from reassurance about their ideas – particularly if the topic is especially important to their career advancement.

During the canvassing of a topic with a potential postgraduate student, there are five questions that staff members should ask themselves before making a commitment to the project:

- Do I have an adequate disciplinary background to advise this student or is the project likely to head into academic terrain that is very unfamiliar to me?
- Is my expertise strong enough in the methodological approach the project requires?
- Am I truly interested in the proposed study and in what ways does it relate to my own research interests?
- Thinking of my total academic commitments, in particular my supervisory commitments, do I have time to do justice to this student's needs?
- Does the department (or the University) have resources for the specific needs of this project?

“On reflection, I would have preferred to choose my own supervisor rather than accepting the one who was appointed on my behalf”

Of course, intending students should be encouraged to ask themselves similar questions about their prospective supervisors and their departments. Students need to be fully aware of staff research interests and any possible limits to their involvement (such as impending study leave), since gaps in the continuity of supervision frequently cause problems in postgraduate studies.

Five 'yeses' to the above questions would be ideal, but unrealistic. There are probably few perfect matches between research students and their supervisors: these relationships require communication, negotiation and compromise. It follows, then, that students and supervisors should both be asking themselves: do I have a comfortable rapport with this person? do I feel I can communicate freely?

The student-supervisor partnership is a sustained relationship; both partners need to be confident that the project team is compatible, and that there is an appropriate degree of trust and mutual respect.

“To ignore personalities is to court disaster”

Most commonly, prospective research students approach those staff members they believe will be suitable supervisors, perhaps on advice from the head of department or the postgraduate coordinator. It can be a mistake to 'appoint' a supervisor to a new student (or to a student who requires a new supervisor in the middle stages of the project) if the two are yet to meet, since the quality of the student-supervisor relationship hinges a good deal on coinciding academic interests and a strong personal compatibility over an extended period. The individuals concerned have much to discuss before agreeing to the partnership. Of course, the prior allocation of a supervisor is sometimes necessary, especially for international and interstate students. Telephone and email contact before the first face-to-face meeting can be helpful. Such appointments may be temporary if it is decided that another staff member is more appropriate.

Joint and panel supervision

Across the University of Melbourne, about 70% of masters students and 50% of PhD students have a single supervisor. Around 10% of PhD students have a supervisory panel and roughly 40% have joint supervisors.

Some people favour joint and panel supervision arrangements, particularly if a student is proposing to research an area in which the department has limited expertise. In these cases a principal supervisor should be appointed. The principal supervisor has overall responsibility for the project and the quality of supervision, even though he or she may not have specialised knowledge of all aspects of the research topic. In these situations, it is essential to be explicit with the student about areas of supervisory responsibility.

“Co-supervision exposed me to a wide array of ideas, thoughts, and views”

Co-supervision may overcome some of the shortcomings of one-to-one partnerships, enriching the project with specialised knowledge and diversity of opinion. This is especially true of interdisciplinary projects. A student can also benefit from the additional critical input and personal support that such an arrangement makes available. Further, it allows for increased flexibility in arrangements for staff leave.

Of course, co-supervision is not always smooth sailing. If there are disagreements among supervisors, students can receive conflicting advice. New interpersonal dimensions come into play. The principal supervisor must be on the look-out for these potential conflicts and steer the project through them.

An initial discussion between the student and all supervisors can help establish respective roles, and these can be monitored through subsequent discussions. The Confirmation Committee for PhD candidates offers a valuable opportunity to explore and confirm understandings about roles and responsibilities, as well as providing the opportunity for other members of the department to contribute ideas to the proposed project.

2

FOUNDATIONS

...get to know students
and carefully assess
their needs

Research supervisors must make thorough assessments of student needs, especially in the early stages. The initial assessment has two principal dimensions – the academic and the psychological – which inevitably impinge on each other:

As a supervisor, you need to know

- what knowledge and skills students bring to their project;
- the areas in which they will need special assistance; and
- how they are likely to approach their research.

The last is determined by a complex mixture of factors, both personal (motives for doing the research, preferred learning style, confidence, past experiences, ideological perspective) and social (cultural background and gender).

Try exploring these matters in your early discussions with students. Many supervisors do so intuitively, but there is something to be said for a more systematic approach – it makes sense to work with a mental checklist appropriate to your discipline.

An important point to remember is that, while your immediate concern is the development of the knowledge and skills the student will need for this particular project, you also have a responsibility to provide research training. By the end of the project students should have developed the core attributes of competent researchers in the discipline. So your initial assessment of where they are starting from needs to be quite broad. Some of the areas that should be probed are:

- knowledge of the relevant theoretical base
- understanding of methodological procedures and options
- necessary technical skills (for example, statistical analysis or use of laboratory equipment)
- necessary computing skills
- writing skills.

Policy-related issues with which supervisors must make all students familiar include the University's Occupational Health and Safety Policy, intellectual property considerations, research ethics for projects involving human subjects or animals, and responsibilities for good research practice in the collection and storage of data and records. The University provides extensive support and resources in these areas. Web addresses to which students can be directed are listed on the following page.

If any significant gaps in knowledge and skills emerge during early discussions, they should be addressed immediately. Knowledge gaps could be the focus of a systematic reading plan for instance. A number of programs run by the University can assist with specific skill development, although the supervisor must still play an important role. Know where to direct students for help, move early on any problem and be prepared to insist that they take appropriate action.

However, such assessment should not focus purely, or even principally, on remediation. It is just as important to identify students' strengths. Supervisors should challenge and extend students in all areas, even those in which they show advanced ability – this aspect of the teaching is perhaps the most satisfying.

Students' psychological needs can be more difficult to identify than their academic needs. As in any relationship, these may take time to emerge. For instance, an apparently poised student may not reveal a crippling lack of confidence until well down the track, when he or she cannot stop data-gathering to face the task of interpretation. In the end, the success of the relationship depends on sensitivity and tact. But there are things to look out for – areas where misunderstanding is common and where an empathetic reflection on the student's position can go a long way towards resolving problems before they grow too large.

One such area is that of gender, particularly in fields where women are not well-represented. In male-dominated areas, it may be especially important for the supervisor to play an active mentoring role, and to be sensitive to the kind of pressures women are likely to experience.

Another area concerns different cultural expectations about the respective roles of supervisors and students and the appropriate protocols for conducting the relationship. The University of Melbourne is a diverse community that

is enriched by the cultural diversity of its staff and students. All students bring particular expectations of teaching and learning, and of teacher-learner relationships, derived from their own cultures. Of course, academics also have culturally determined frames of reference.

Looking back, about two-thirds of graduates who complete research studies at the University of Melbourne believe they received appropriate guidance from their supervisors. Slightly more believe they were encouraged and supported in developing independent research skills. Over 80% are satisfied with the independence they had in planning their own project.

The University welcomes students from over ninety countries, mostly from the South-East Asian region. There is evidence to suggest that many of these international students commence their studies in Australia with assumptions about the nature of teaching and learning that are somewhat different from those which underpin mainstream education in this country – such as, for instance, the belief that supervisors should not be challenged. There is always a danger of

stereotyping in discussing this matter; which is all the more reason to focus on the particular assumptions of individual students from other countries. However, research suggests that there are some broad issues where cultural differences may emerge, such as:

- the authority of the teacher and the appropriate respect to be shown by students
- the significance of direct disagreement
- the use of published authorities.

Several detailed guides explore these issues, summarising research and offering practical advice to academics. The most useful is by Brigid Ballard and John Clancy (1991), *Teaching Students from Overseas: A brief guide for lecturers and supervisors*.

One aim of the University of Melbourne's Cultural Diversity Policy (www.unimelb.edu.au/diversity) is to ensure that cultural differences are heard and explored within the University. Supervisors are encouraged to reflect on their own assumptions, and to talk about cultural differences with students. Perhaps the most helpful approach a supervisor can take is simply to acknowledge by talking with a student that both are going through a process of learning and adjustment, which requires mutual respect and support, and that this is normal and will take time.

Research Essentials

Research Data and Records

www.unimelb.edu.au/research/

Both the University and individual researchers have responsibilities concerning the collection, maintenance, use of, and access to, original research data/records. Good research practice entails the retention of research data/records for periods of at least five years after publication of results. This allows for discussion of data and research methods with colleagues and for verification of the research.

The University of Melbourne Code of Conduct for Research, which prescribes standards of ethical conduct in research, contains specific provisions concerning data collection and management. University Guidelines for the Management of Research Data and Records assist academic departments in their policies and procedures for storage and retention of data/records.

Research Ethics

www.unimelb.edu.au/research/ethics/

Research conducted at the University of Melbourne which involves human subjects or animals must be approved by the Human Research Ethics Committee or the Animal Experimentation Ethics Committee prior to commencement of the work. In certain cases, applications for approval should be directed to the appropriate committee at an affiliated teaching hospital. Approval should be granted by the time the project design is finalised and before work on the project begins.

Intellectual Property

The University owns all intellectual property generated by students except copyright works. Such works (including computer programs) are owned by the student who has generated them. This arrangement for ownership of intellectual property may be different where the student has received a scholarship or funding from sources who impose certain intellectual property conditions. It is thus important for the student to be aware of the intellectual property conditions imposed by such funding sources.

The University of Melbourne Intellectual Property Statute 14.1 is available at www.unimelb.edu.au/ExecServ/Statutes/. The Registrar is the University of Melbourne's Intellectual Property Officer and should be contacted if any matter needs clarification. A set of brochures on intellectual property produced by The University of Melbourne Postgraduate Association is a useful source of general information.

Occupational Health and Safety

www.unimelb.edu.au/ohsm/

Students are required to comply with the University's Occupational Health and Safety Policy, and are responsible for adopting safe work – and study – practices. Students should familiarise themselves with their Department's occupational health and safety procedures to minimise the risk of being harmed by fire, explosion, radiation, biological hazards and chemical release.

...establish reasonable, agreed expectations

Consider this recent scenario, in which a group of students and their supervisors were provided with a structured opportunity to 'talk straight' with each other about their working relationship. One supervisor emerged shaken from his discussion. He had found out that an international student had been expecting far more direction from him than he had realised – and more than he considered appropriate. He had been working with this student for eighteen months. During that time, it seems, the student had formed a judgment that the supervisor was negligent.

The most rewarding supervisory relationships are those in which the lines of communication between student and supervisor are established early and clearly.

The most frustrating are those in which supervisor and student are working at cross-purposes. Messages are misinterpreted; the student becomes confused and resentful about not knowing what the supervisor really wants; the supervisor in turn becomes disappointed with the student's work and 'attitude'.

This common problem – produced by a mismatch of expectations about the appropriate degree of direction – is not easy to solve, but one thing is clear: expectations need to be articulated before they can be reconciled. Students new to research may not realise that this form of learning is quite different from structured coursework – that it requires more independence and much less certainty about knowledge. The answer does not lie in a one-way explanation of the supervisor's expectations of the student. Of course the supervisor has more experience and more understanding of the nature of research, but the relationship is a partnership which requires a sharing of perspectives and views continually throughout the candidature.

It is important to provide a structured opportunity for such an exchange of views about how the partnership is going to work. This might start with relatively straightforward matters, such as how frequently students should submit something in writing and how often meetings should be held. The supervisor may have very clear views about what is desirable, but will also need to take into account the student's circumstances and preferred habits of work. It is a matter for negotiation, although the supervisor obviously has greater experience.

“Initially, I thought I would get more direction but I found I benefited from finding my own resources to research, analyse and interpret”

Some of the areas in which expectations need to be articulated and negotiated are:

- the extent and nature of direction from the supervisor
- the degree of independence of the student
- procedures for consultation – frequency, preparation, conduct – including, where appropriate, the degree of support in the laboratory
- the submission of written work – progress reports, literature reviews, drafts
- the nature and timing of response from the supervisor
- the appropriate role of the supervisor in editing
- how ideological differences are going to be handled.

Since these expectations evolve over time, they need to be discussed more than once.

The resource requirements of the project should also be discussed, and students should be given all relevant information about availability, cost, and provisions for purchase of new equipment and consumables. They should also be informed about the facilities available to them, such as study space and photocopying entitlements.

Many of these issues are covered in the University of Melbourne's Guidelines on PhD candidature. Although these guidelines were developed specifically for PhD supervision, the general principles apply to the supervision of research at all levels. They offer a valuable foundation, but are by necessity broad in nature. The detailed understandings appropriate to individual supervisory arrangements need to be negotiated by the participants.

“With more dialogue it could have been completed earlier but I doubt that finishing earlier would have resulted in work of anywhere near the same quality or value for me. The light hand proved ideal”

One of the most important areas in which to work towards clear and agreed expectations, and to monitor and review regularly, is the timetable for completion. Over-lengthy completion times are neither in students' nor the University's interests. It is appropriate (and essential) for students and supervisors to plan a schedule and to check regularly on the project's progress against this schedule. The 'progress-to-plan' need not be rigidly adhered to – most research tends to be unpredictable – and should not be allowed to interfere with the quality of the study; nevertheless the time factor should be kept in the foreground.

A useful way of opening up a discussion of expectations is provided by the *Role perception rating scale*, developed by Ingrid Moses. This instrument is provided on the following page. It requires both supervisor and student to indicate their views of key issues. Having done this, they then discuss their responses, focusing particularly on items about which there is a wide divergence of opinion. As with all questionnaires, there is an inevitable simplification of complex issues, as the author acknowledges. But in this case it hardly matters, since the exercise gets people talking, and conveys a strong message that the way to resolve any difficulties is by honest, direct communication.

Something like this exercise may need to be repeated during the course of the candidature, since expectations are likely to shift as the student becomes more independent. A less structured approach is probably appropriate at later stages. The supervisor may simply suggest a 'taking stock' discussion, in which the terms of the partnership are checked and possibly re-negotiated. It is very useful to step back occasionally from the content of the

research project to review the process. Some departments conduct regular reviews of all projects. These do not eliminate misunderstandings, and are not a surrogate for action of the part of each supervisor, but they can help.

If you're not sure of the typical expectations of postgraduate students then you will find the following summary of student expectations useful. The list was prepared by Phillips and Pugh on the basis of their research in Britain. It is a summary of 'generic' expectations, which should not stop you from exploring the particular expectations of each student you supervise.

What students expect of their supervisors

(Phillips, E. M. and Pugh, D. S. (1987)
How to get a Ph.D. Milton Keynes: Open University Press.)

Students expect to be supervised.

Students expect supervisors:

- to read their work well in advance
- to be available when needed
- to be friendly, open and supportive
- to be constructively critical
- to have a good knowledge of the research area
- to structure the situation so that it is relatively easy to exchange ideas
- to have the courtesy not to conduct a telephone conversation during a supervision meeting
- to have sufficient interest in their research to put more information in the students' path
- to be sufficiently involved in their success to help them get a good job at the end of it all!

Role perception rating scale

(by Ingrid Moses (1985), *Supervising Postgraduates*. Campbelltown: HERSDA Inc.)

Instructions

Read each pair of statements listed on this sheet. Each expresses a standpoint supervisors may take. You may not agree fully with either of the statements. Therefore, please estimate your position and mark it on the scale. For example, if you believe very strongly that supervisors should select the research topic you would circle (1) on scale 1.

Topic/course of study

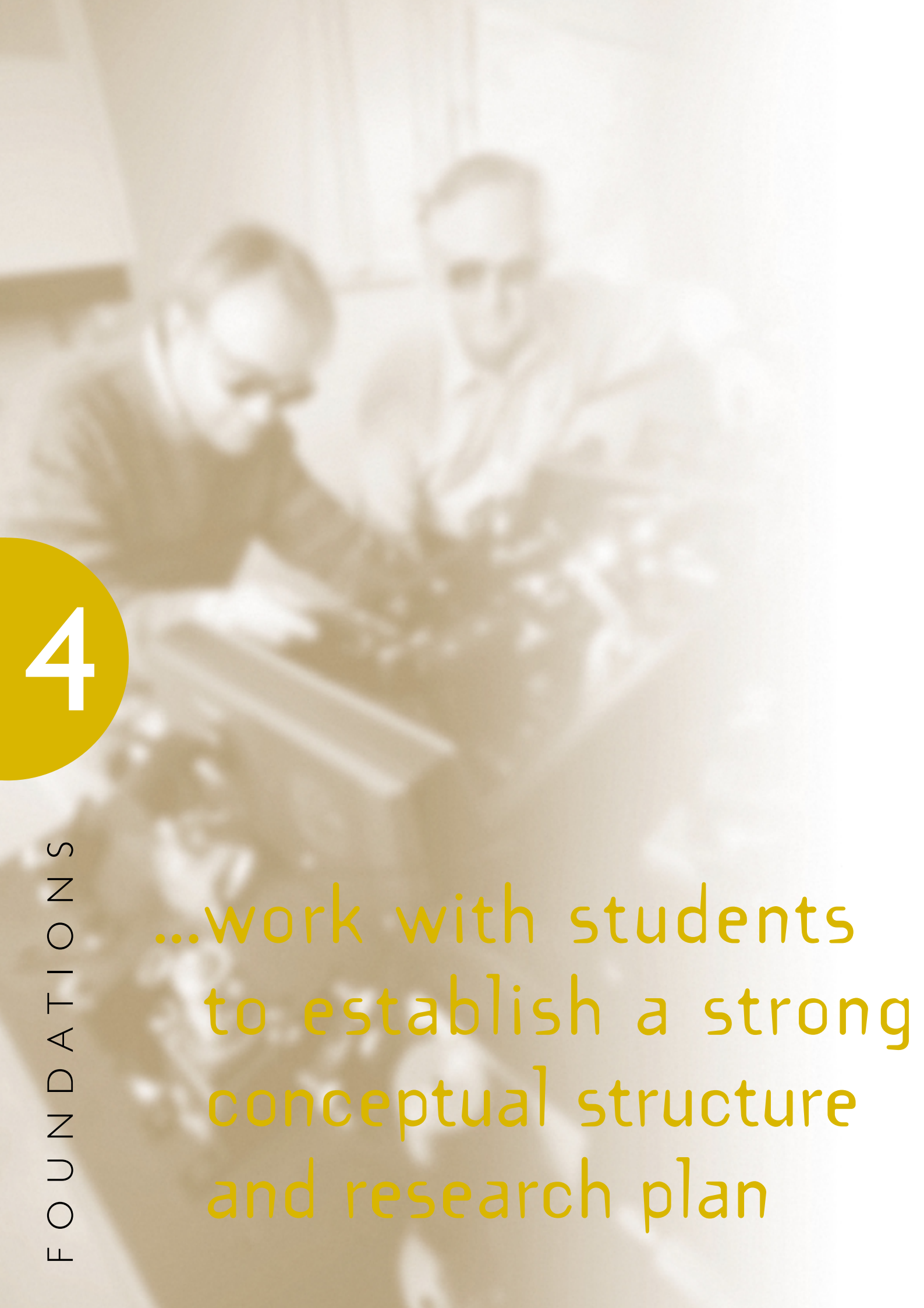
- | | | | |
|---|---|-------------------|---|
| 1 | It is the supervisor's responsibility to select a promising topic | 1 2 3 4 5 | It is the student's responsibility to select a promising topic |
| 2 | In the end, it is up to the supervisor to decide which theoretical frame of reference is most appropriate | 1 2 3 4 5 | Students have a right to choose their own theoretical standpoint even if it conflicts with the supervisor's |
| 3 | The supervisor should direct the student in the development of an appropriate program of research and study | 1 2 3 4 5 | The supervisor should act mainly as a sounding board for the student's ideas and give advice |

Contact/Involvement

- | | | | |
|---|--|-------------------|--|
| 4 | Staff-student relationships are purely professional and personal matters should not intrude. | 1 2 3 4 5 | Close personal relationships are essential for successful supervision |
| 5 | The supervisor should initiate frequent meetings with the student | 1 2 3 4 5 | It is up to the student to decide when s/he wants meetings with the supervisor |
| 6 | The supervisor should know at all times on which problems the student is working | 1 2 3 4 5 | Students should have the opportunity to find their own way without having to account for how they spend their time |
| 7 | The supervisor should terminate supervision if s/he thinks the project is beyond the student | 1 2 3 4 5 | The supervisor should support the student right through until the thesis has been submitted, regardless of his/her opinion of the work |

The Thesis

- | | | | |
|----|--|-------------------|--|
| 8 | The supervisor should ensure that the thesis is finished not much later than the minimum period | 1 2 3 4 5 | As long as the student works steadily s/he can take as long as s/he needs to finish the work |
| 9 | The supervisor has direct responsibility for the standard of the thesis | 1 2 3 4 5 | The supervisor advises only and leaves all decisions concerning content, format and standards to the student |
| 10 | The supervisor should insist on seeing drafts of the every section of the thesis in order to review them | 1 2 3 4 5 | It is up to the student to ask for constructive criticism from the supervisor |
| 11 | The supervisor should assist in the actual writing of the thesis if the student has difficulties | 1 2 3 4 5 | The supervisor should be wary of contributing too much to the thesis |



4

FOUNDATIONS

...work with students
to establish a strong
conceptual structure
and research plan

One of the supervisor's first roles is to train students in the practices and ethics of research in the discipline. Most research students need careful instruction in conducting research – only exceptional commencing students arrive with a polished research concept – and the logical first phase of this instruction involves jointly planning a good study. The objective is to produce an agreed written research proposal. A written proposal is a requirement for the PhD and professional doctorates, and many departments require one for other degrees as well. Where it isn't a requirement, supervisors should insist on one.

During the first planning stage, it is especially important for students to grapple with and make explicit their assumptions and where appropriate their hypotheses. In certain disciplines, students must also determine the conceptual framework that will guide data collection and reporting. The creation of this research framework is a period of exploratory reading and writing. The supervisor should direct students to relevant reading. As students explore the territory and its possibilities they need to be encouraged to write freely. The demands during this planning period vary of course according to the level of the award. There is far less pressure on students preparing for minor research projects to scour the full territory. Even during these early days, urge students to avoid heart-breaking computer catastrophes by regularly backing-up and storing their work.

There are no hard and fast rules for the length of this period, but it shouldn't be hurried. Supervisors need to balance freedom to explore with a good measure of pragmatism – completion times are important after all, and meandering can be a form of avoidance. Clearly students who do not read in and around the research idea may discover later, to their dismay, that a similar investigation has been done elsewhere. But there are other risks: students may lose sight of the research questions they are trying to answer, or end up with a theoretically shallow study. Students who begin their data collection without an adequate conceptual understanding may find themselves struggling to analyse and interpret the information.

This planning process is repeated in cycles throughout the life of the project. It is a mistake in the first cycle to constrain the project too tightly, since later on these early ideas are likely to be changed or even discarded altogether. However, the supervisor needs to be convinced that the student has both a sound conceptual overview and a grasp of where the proposed research will fit in relation to the relevant literature.

The size and style of a formal research proposal differ significantly according to the level of the degree, and whether the project aims to conduct scientific or technical investigations, prepare a philosophical argument, develop new theoretical frameworks, or produce creative works (such as dance, creative writing or film). The degree of detail in the research proposal also depends to some extent on the student's level of independence. Broadly speaking, however, the proposal might include:

- Where relevant, is the project likely to receive the approval of the University's Ethics Committees?
- Will adequate resources be available? (for instance, will primary sources be accessible?)
- Will enough data be collected?
- Is the timeframe plausible?

“My supervisor spent time defining the principal requirements of a thesis and set out a timetable which avoided last minute problems”

- a statement of the problems or issues and why they are worth investigating
- a description of the study in relation to previous research
- clear research questions or objectives
- a methodology that can investigate these, including, where relevant, the specification of equipment and facilities requirements
- a feasible timeline, with measurable targets.

Students planning research involving human or animal subjects may find that preparing an application for the approval of an ethics committee clarifies their thinking. Some students will even benefit from the structure provided by preparing preliminary thesis chapter titles and outlines.

All students will benefit from some early reading about the principles of shaping a research proposal. There are many step-by-step guides to which students can be referred; departments often include them in postgraduate handbooks. A short outline of a typical format for a research proposal is presented on the following page.

Unless students have produced a sufficiently thorough written plan it is unwise to give the project the green light. The research proposal needs to be robust enough to allow the student and supervisor to consider the following questions.

- Is the scale of the project appropriate to the level of the degree?
- Is the research truly worth doing? (that is, is it likely to lead to significant advances in knowledge, and will it be useful for the students' career?)
- Is the methodology feasible and manageable?

Frequent meetings might be needed until successive iterations have produced a refined blueprint which is internally consistent and coherently sums up the planned study. For PhD students this process is a carefully formalised one that leads to confirmation of candidature.

Defining the project can be a puzzle for a novice researcher; and this can be a period of great uncertainty and frustration, particularly for a student anxious to begin with data collection. Supervisors must monitor this process carefully, and may need gently to steer students away from dead-ends and extravagant ideas. This should be done with caution, for while supervisors have experience, research students can have ideas that are at the cutting edge. It would be a shame if innovative ideas and insights were nipped in the bud. Nevertheless, students can be too ambitious in framing the questions they think can be answered. The supervisor also needs a keen eye for the despairing student – students can be overwhelmed by the volume of existing research in the area, and may lose confidence in their capacity to produce something new.

The proposal or research plan is the beginning of the sustained argument of the eventual thesis. When the pieces finally fall into place, the project has reached one of its satisfying milestones and the research and writing which lie ahead will seem less of a mystery journey. It is worth noting that only slightly more than half the University's graduates from research studies believe they received clear information and advice on what is required to produce a successful thesis. Fortunately, these people did produce one. Nevertheless this widespread uncertainty about the process of research and the expected standards needs to be recognised by academic staff. Concrete suggestions from supervisors and a solid planning period are not the only answers to this troubling insecurity, but they can do much to counteract it.

A guide to preparing a research proposal

(Adapted from Moses, I. (1985) *Supervising Postgraduates*. Campbelltown: HERDSA Inc.)

A four-part statement of the research problem, usually accomplished in four to fourteen pages, in the following order:

Introduction, in which the student states as succinctly as possible the nature of the problem, why the student considers it important, and how the research would contribute to its solution.

The research question (or hypothesis), stated in the form of an interrogative sentence that asks the relationship between two or more concepts, variables, phenomena or events. This section includes a definition of terms. Great care should be given to phrasing the proposition, which will determine the thrust of the research efforts and point the student firmly in the right direction.

Subsidiary questions (or sub-hypotheses), which, like the research question, may be stated in hypothesis form.

Review of the relevant research and theory. Every researcher owes much to predecessors and contemporaries. While it is both useful and appropriate to recognise their contributions, there is a noticeable tendency to drag in studies that have only the most tenuous connection with the research in hand. As a result, this section of the dissertation proposal sometimes has a disjointed quality or becomes a mere catalogue or listing of research with a bit of annotation added. This will not suffice. Required here is an integrated statement that affords some explanation of why theories or studies cited are important to the work the student proposes to undertake.

The procedure (from four to fourteen pages) which may include:

- a description of the theoretical or conceptual framework
- sources of evidence and authority
- analytical technique and research design
- a timetable for completing the dissertation.

A trial table of contents (one to two pages), which has three advantages to recommend it:

- it indicates to the reader the dimensions of the topic
- it affords the writer a temporary organisational framework
- it helps to simplify the process of note taking.

A brief bibliography (one to five pages), which may be partially annotated. Its chief advantage is that it enables the supervisor to form an opinion of the quality of the sources available and to suggest any useful references the student may have overlooked. Work on a preliminary bibliography is time and energy well spent, for it is the foundation for the more comprehensive listing that will accompany the finished thesis.

...encourage students to write early and often

The kind of writing required in research degrees varies enormously between disciplines. In some fields, the dissertation, thesis or report presents results obtained over long periods of experimentation and analysis. In other fields, the writing *is* the research (though based on many hours of reading). These differences make it difficult to generalise about effective writing habits.

However, it does seem that, across all disciplines, early writing – on focused writing tasks, not necessarily the thesis chapters themselves – and regular presentation of work to supervisors are beneficial. It helps to prevent a psychological pattern in which 'writing up' becomes more and more daunting as data or ideas are accumulated. A vicious cycle can be established in which the student postpones writing because of the enormity of the task, continues to gather data or do more reading, and thus adds to the looming mountain of intractable material.

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In many areas of the humanities and social sciences, the concept of 'writing up' is not appropriate at all, and the phrase should be avoided. In these fields, a student who has not started writing has, in an important sense, not really embarked on the research.

Even in those disciplines where the 'writing up' concept is more appropriate, much writing should be undertaken from an early stage of the project: literature reviews, conceptual frameworks, and reports on discrete aspects of the research that are the basis for conference papers or articles. Once the project is under way in laboratory- or field-based disciplines, early writing can take the form of polishing research notes/records and methodological details into a form suitable for immediate publication and later inclusion in the thesis.

“I was blessed with a supervisor who knew when to push and when to let me figure it out myself”

For most students, a literature review is a good place to start. Students usually do a good deal of reading in the first stage of their research, in order to locate their project in the forest of literature. In this area, writing can begin virtually from day one. Students can be encouraged not only to take notes on their reading, but also to prepare brief critical summaries in a form that can be readily incorporated into their theses. Of course, their understanding and judgments will develop as they explore further; and their initial thoughts may need to be thoroughly revised or discarded. But the effort will not be wasted; a record of progress can be a valuable resource. And the good habit of producing succinct and focused writing will be established.

The supervisor must review writing at an early stage. Comment on such informal pieces can be equally informal and brief – and therefore not an onerous task for the supervisor. Of course, if a major problem emerges at this stage, it can be picked up and dealt with. Students who are found to have difficulties with basic grammar and expression, or word-processing skills, for instance, can be directed to attend courses which will help them. English language difficulties are appropriately handled by the Learning Skills Unit or the Centre for Communication Skills and English as a Second Language. The School of Graduate Studies and the Postgraduate Association also run skills programs that might help.

An important aspect of the supervisor's role at this stage is to help students to find an appropriate style or 'voice' for this specialised form of writing. Disciplines have their own conventions, which go far beyond such obvious points as the use of first- or third-person pronouns. How to achieve an appropriate tone is often difficult to explain. The student can learn from reading in the discipline, especially if good models are recommended specifically for this purpose. The supervisor can also help by focusing on this aspect in early responses to student writing, by suggesting re-wordings where necessary, and explaining why these forms are preferable.



Bypassing writer's block

The early-writing strategy outlined in this section can go a long way towards preventing the development of writer's block. However, paralysis might set in at any point in the cycle of the research project.



Difficulty in writing can be caused by a number of factors, including overwhelming work or family commitments. But persistent writer's block usually develops from academic difficulties: either a lack of confidence in dealing with the material or a particular conceptual problem. Academic and personal factors may of course be intertwined.



If a student is confused about a core concept or cannot get clear the logic of an argument, the supervisor needs to assume a strongly directive teaching role until the problem is resolved: talking through the issues, suggesting alternative ways of approaching the problem, perhaps using a series of probing questions to help the student think it through.



If the student has been guided out of such an intellectual cul-de-sac and the aversion to writing lingers – or if the problem seems to stem from a chronic lack of confidence and fear – a behaviourist approach may work to break the destructive circuit. Try selecting a manageable sub-topic and asking the student to produce one page about it in a short time. It could be presented in point form. If this is successful, you might ask for this page to be elaborated in specified ways. Or you could ask the student to repeat this exercise on another, related point. The key is to break up what looks like an overwhelming task into units small enough to be managed without fear. Of course, this can be only a temporary stage in solving the problem.



If all else fails, you could try sitting the student at a desk near your office and allowing one hour to produce the required page. A cup of tea might help.





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M O M E N T U M

...initiate regular contact and provide high quality feedback

Many experienced supervisors believe that frequent and regular contact is the single most important factor in successful supervision. There is much truth in this, though extremely independent students might require assistance only at strategic points throughout the project.

The principal responsibility for maintaining contact rests with supervisors, but clearly students have responsibilities too. Keeping in touch requires a balance between appearing unreasonably intrusive and neglecting to initiate meetings. There are also judgments to be made regarding the frequency of meetings.

Some students and their supervisors favour a regular appointment, say fortnightly or monthly. In many laboratory environments, weekly or even daily meetings are desirable, especially if the supervisor is playing a hands-on role in solving technical problems or devising methods. Certain students will thrive in the structure provided by regular meetings. Others prefer to meet only when the need arises. This is a risky practice, but it may work well for independent students who are willing to initiate meetings. Email is a fine way to stay in touch, especially for part-time students.

Timely feedback is important in maintaining the momentum of the project and helping it stay on course. The means by which feedback is provided is very much a personal matter for individual supervisors – formal sessions, chats in the lab or over lunch, email, phone, fax – but the nature of the feedback is not. Postgraduate students may be understandably sensitive about their developing ideas and draft work can conceal a mass of insecurity and doubt. Not surprisingly, students react adversely to criticism that is delivered unsympathetically or without suggestions for how they can improve their work. What students value in feedback is confirmation of their success (it's easy to

overlook the things that are going well), unambiguous identification of problem areas, and suggestions for how to tackle them.

Feedback can range from very specific comments on particular issues in the research, to the occasional friendly reassurance that the project is on track and worthwhile. This is especially important when students encounter practical hurdles in their study or experience personal stresses and strains.

Feedback is a powerful tool in the hands of a good educator. The best feedback will invite, nudge, and provoke students into exploring what is possible. This kind of feedback rarely supplies answers, but instead it points students towards discovering things for themselves. Feedback that stretches and extends in this way is necessary for even the best and most independent students. The worst sort of feedback is that which demoralises, or leaves students totally puzzled about what they should do next. Naturally it is deflating for a student who has worked painstakingly at crafting a thesis chapter to discover that his/her supervisor has only skimmed it or, worse, not read it at all.

Obviously feedback can be both oral and written. Research students in laboratory-based disciplines often get much informal oral feedback and support. This is valuable and necessary, but on its own it is seldom adequate. All students benefit from formal consultations, and of course need extensive written comments on their draft writing which they can consider at an appropriate time and place. Much of what is discussed in a supervision session or at the laboratory bench may seem to make sense at the time, but students can feel overwhelmed once the meeting is over. Specific issues are easily forgotten in the absence of written notes.

The University's surveys show that about three-quarters of research students are satisfied with the frequency of supervision meetings during their candidature. On the most recent figures, 64% of masters students meet at least once per month; over one third meet at least once per fortnight. PhD students meet far more frequently: 28% meet weekly; over 80% meet at least once per month.

Typically, 70% of the University's research students report that they are satisfied with the quality of feedback on work completed and a similar proportion are satisfied with the turn around time taken to provide feedback.

Overall, one in six graduates from research studies express some dissatisfaction with the arrangements they had for consultation with supervisors.

Getting the most out of supervision sessions and documenting the journey

- Where possible, discuss an informal agenda with the student beforehand.
- Arrange your office so that it is a comfortable place to meet. Avoid possible distractions by diverting phones and so on.
- Always check on the student's motivation – look for signs of flagging spirits.
- Agree on the length of each session and try to stick to this agreement.
- Prepare for the meeting by refamiliarising yourself with the project.
- Allow for some informal and wide-ranging exploration of ideas – many students remark that this is one of the most valuable aspects of their supervision sessions.
- Take a record of the key issues and decisions of each supervision session, and provide students with a copy. In addition to being an aide memoire for yourself, these will remind students of the discussion.
- Discuss the timeline ahead and any periods during which you will be unavailable.
- Settle on a date for the next meeting and agree on the tasks to be undertaken by that time. Although it should be understood that the 'pencilled-in' date can be changed, to alter or postpone the meeting will now require some action from either party.
- File copies of all documents relating to the project. It is essential for supervisors to keep an adequate document file on the project. This file is especially important should a colleague be required to take over the supervision at some stage.

...get students involved in the life of the department

Students' experiences of conducting research are greatly enhanced and enriched if they feel part of the academic community. The University's surveys indicate that there is still considerable room for improvement in this area: over one-third of graduates who complete research studies do not believe they were acknowledged as colleagues or co-workers by staff in their department. On the other hand, those graduates who are the most positive about their candidature report that they were accepted by staff as equals.

Academic and social isolation are widely recognised problems for postgraduate research students. Supervisors and departments can take simple steps to avoid negative experiences of this kind. In a nutshell, the solution is for departments to build vibrant postgraduate learning communities. Such communities are interested in the personal and career development of their members, and recognise and reward individual achievements. Belonging to these groups provides inspiration and support if the going gets tough. Postgraduate students who are part of a learning community feel a sense of allegiance, affiliation and a shared sense of purpose with both fellow students and academic staff. The booklet, *Induction and Welcome to Postgraduate Studies* (available from the School of Graduate Studies), offers suggestions for how a department can assist new students to become part of its community. It also provides advice on meeting other needs of students when they are commencing their studies.

"The acceptance by the staff was extremely rewarding"

The responsibility for building a learning community and ensuring that each student is part of it rests squarely with individual supervisors and Postgraduate Coordinators, though postgraduate students should also be encouraged to take a lead in developing an active postgraduate life in the department. As a starting point, there should be frequent opportunities for postgraduate students and staff to meet as a group. There are many ways to do this, and across the University there are excellent examples to be found:

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- Regular series of lunchtime or early evening seminars, at which students and staff present research-in-progress, are an ideal way of combining academic with social objectives. Research seminars are an excellent introduction to collegial support networks beyond the supervisor. A vibrant seminar program is a key factor in maintaining motivation and morale among students, since it helps postgraduates to polish their presentation skills and grow in confidence about the value of their research. Such programs also enable all staff to become involved and interested in each student's research.
- Seminars by visiting scholars provide good opportunities to strengthen the department's postgraduate community.
- Beginning-of-year functions, end-of year celebrations, and irregular informal afternoon or evening social get-togethers help people stay in touch. These occasions also allow newcomers to be welcomed into the community.
- Regular newsletters can also help, as can email discussion groups and networks, especially for students who are off campus for much of the time.

“You know, looking back, the thing I enjoyed best was being surrounded by and working with intelligent, motivated people”

The Postgraduate Coordinator is the person who should take primary responsibility for activities of this kind. Individual supervisors should urge their students to be involved.

Part-timers and students who aren't working at the laboratory bench especially need to be encouraged to spend time around the department. The provision of a pigeon-hole is a minimum service. Space permitting, postgraduates can be provided with office or study-carrel space. The Graduate Centre also provides space for postgraduate students.

Sessional undergraduate teaching involves postgraduate students in the academic life of the department. This is also an excellent way for postgraduate students to relate their research to teaching, as long as they are careful to keep appropriate boundaries between their teaching and research commitments. Departments should ensure that postgraduate students who have teaching responsibilities receive appropriate support and guidance to ensure they get the most satisfaction and success out of their teaching. Supervisors should ensure that teaching responsibilities do not distract from research progress and timely completion.

It is also essential to introduce postgraduate research students to the wider postgraduate community and life of the University. The University of Melbourne Postgraduate Association and the School of Graduate Studies offer a wide range of academic and social activities. Alert students to the benefits of these programs.

“What can be done to reduce the isolation and loneliness of academic study and life?”

...inspire and motivate

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“The thrill for me was the independence of doing my own research and being the first to make certain discoveries”

Supervisors have a key role to play in helping to stimulate and maintain student motivation. Generally postgraduate students start with a strong desire to conduct research, but their supervisors can affirm and support this desire, and help to sustain it if it flags along the way.

The most powerful motivating force in postgraduate research is a conviction that the project is important. Researchers have to be self-starters and self-managers, and the effort of will required over an extended period demands genuine engagement and personal commitment.

“The best thing about my supervisor was that he was an encouraging individual”

From the beginning of a project, a supervisor can help a student to understand the significance of what she or he is doing – and frequently reaffirm that significance as the work progresses. Presumably the supervisor is convinced of the importance of the project before taking it on. It may be only a tiny gap in the great map of knowledge that will be filled by this piece of research. Nonetheless, the student contributes to the enterprise in which all researchers are engaged – the advancement of human understanding. To give students a sense of the nobility and excitement of this role is to bestow a gift of considerable value and utility.

Another way of affirming its importance is by engaging with the student's ideas and arguments. The more you do this, the more you will signal that you regard the student as a colleague. Just as you might engage a colleague in vigorous debate at a conference, you can pay a student the compliment of doing the same, once you are sure that she or he is confident enough to handle it and (most importantly) understands the spirit in which the challenge is offered.

Structures, organisation, procedural clarity – all of these are very important in research supervision. But unless there is also an engagement of minds and a sense of excitement in intellectual exploration, the research will be a pretty dour business, and difficult to keep believing in.

Troughs of interest and motivation are to be expected in an extended research project. Since many postgraduate students live and breathe their research for some years, such concentration can lead to periods of mental tiredness and boredom. Some may seriously question the purpose and significance of what they are doing. A generally sympathetic acknowledgment of the problem is appropriate, along with a reassurance that the reaction is very common. But the most effective response is likely to be one which focuses on the project in hand, and reminds students of why it is being undertaken. Try something along the following lines: 'Look, you have really rich data here, and look at what you have achieved already. It would be a great shame to let it all go to waste. Other people need to know about this: it's an area we know too little about.' You can also encourage students to refocus on their personal and career goals and the importance of completion in achieving these.

Another practical way of helping students to stay excited about their work is to arrange opportunities – in seminars and at conferences – for them to communicate with others about what they are doing. A vital research seminar program in a department is a key factor in maintaining motivation and morale among postgraduate students. It requires the regular, active and supportive participation of the academic staff.

...help if academic and
personal crises crop up

9

M O M E N T U M

The dominant impression that emerges from the huge body of research on teaching and supervision in higher education is that the key to success is quite simple: concern for the individual learner. Of course this is not enough: the teacher/supervisor also needs expertise and pedagogical skills. But interest in students as individuals goes a long way, and without it the chances of success are slim. Students seem prepared to accept all sorts of limitations and eccentricities in teachers who genuinely care about their progress and welfare.

Sixty per cent of University of Melbourne graduates report that they received appropriate personal support during their research studies. About 15% of graduates do not believe they received such support.

Such concern requires a commitment to the intellectual development of students, and a desire to see them grow through discovery, struggle, excitement and challenge. It does not require a close friendship, although this sometimes develops. It does require an understanding of the student as a whole person, with interests and commitments in a wide range of non-academic activities involving family, friends, work, and the local community. The demands of these activities will often impinge on a student's research work, sometimes with catastrophic effects.

Investigations of the reasons for non-completion of PhDs indicate that these external factors are generally more significant than academic factors, with financial concerns emerging as the major problem. Family commitments often impede progress, particularly for women, since postgraduate study frequently coincides with high-demand periods in women's lives when they are starting to have children. Help with personal difficulties is provided in the University through several avenues listed in the final pages of this guide.

With international students, the demands of adapting to a new research culture may be intensified by the demands of adapting to a new social culture. Homesickness, loneliness, a sense of alienation – all these can make it difficult to focus on the task at hand, especially at first.

What can supervisors do in such situations? These external factors seem beyond both their control and responsibility. A supervisor can hardly solve a student's financial problems, for instance (though small loans are not unknown). To some extent, it is appropriate to recognise the limits to responsibility. But there are ways in which supervisors can assist with these problems, if not solve them.

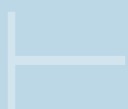
- Be aware of the interaction between the personal and the academic. If students are struggling, try to ascertain tactfully whether personal problems are interfering with their research. Most students will welcome the opportunity to let you know about these – but you may have to take the initiative.
- Make clear to your students from the beginning that you are interested and approachable, if they wish to inform you about any non-academic difficulties. Let them know that you will listen sympathetically if they want to talk about housing problems, a child's illness or an unexpected demand at work.
- Be flexible in your requirements at times of personal stress. Just how flexible to be is a matter of judgment. At times, it may be necessary to get tough with students who use a succession of pseudo-crises to evade the task. But don't be too quick to decide this is the case. Some students experience real crises.
- Be a sympathetic listener, but don't try to act as a counsellor. To do so is exhausting and dangerous if you are not trained in counselling skills. Many experienced teachers develop a warm and sympathetic manner, but also maintain an appropriate detachment. Students are given signals that repeated and intense personal discussions are not invited. You need to know enough to determine your approach to the student's research schedule, and your role is to be generally and genuinely supportive.
- Finally, serious problems require expert help, and the University offers a good deal of this. Know where to refer your students, and, if necessary, help them to make the contact and even the appointment.

The appropriate level of friendship and social interaction with students is a matter for individual judgment. But sexual relationships with students are not acceptable. The profession regards them as unethical, and the University's policy on sexual relationships between staff and students is that they constitute a conflict of interest which must be avoided.

Research students' crises sometimes have little to do with their personal circumstances, but stem from a major problem with the project itself. As discussed in other sections of this guide, the best way to prevent such disasters is to make sure that the foundations are rock-solid. Yet the soundest structures can be subjected to unexpected stresses. And since research students are encouraged to be independent thinkers, no supervisor can ensure that they never run into trouble.

Students in laboratory-based disciplines who rely on equipment and other resources can be especially prone to crises, and spend much of their time tracking down equipment or fixing major problems with their methodology. Other academic crises are caused by the publication of work that pre-empts or undermines the project, a methodology that proves to be flawed after much work has been completed, the loss of data or experimental subjects, and the accumulation of masses of seemingly intractable material. Students need to be reassured that, since research rarely proceeds exactly as planned, such set-backs are neither unique nor necessarily a sign of their own inadequacy.

Each problem must be addressed in terms of the specific context. The general point to be made is that the supervisor has a responsibility to work with the student to find the best solution. They are a team, engaged in a joint enterprise. If the panic button is pushed, everybody associated with the project should be prepared to assist.



Continuity of supervision

Inevitably during lengthy candidatures, supervisors will take leave, be required to accept new responsibilities, or depart to take up appointments elsewhere. The Head of Department or Postgraduate Coordinator has designated responsibilities for ensuring continuity of supervision, but supervisors have personal and professional obligations to ensure that students are not left for extended periods without assistance.

Relationships between supervisors and students can sometimes sour and break down. There is no predicting when this might happen, and it would be unrealistic to imagine that it can always be avoided. Supervisors can often be the last to know if students are unhappy or dissatisfied. In such cases, it is the student who must take the initiative in drawing attention to the problem. It is therefore vital that the department has mechanisms in place which allow the students to do so in an unthreatening context and offer possible resolutions.

It may be advantageous for departments to nominate an adviser to all postgraduate students in the department. Students should be informed that supervisory problems do arise from time to time, and that to voice dissatisfaction is not necessarily to make an accusation against one's supervisor. It should be made clear that the designated staff member is available for informal and confidential discussions, after which no further action will be taken unless the student requests it. Strategies for resolving difficulties may range from three-way meetings (with the adviser acting as mediator) to a change of supervisor. Students should also be reminded that UMPA provides confidential advice to students experiencing difficulties with their supervision.

Given that all supervisors must be ready to pass supervisory responsibilities to colleagues, sometimes at short notice, each project's journey needs to be thoroughly documented in a file that is readily accessible for the next supervisor. Commencing a new student-supervisor partnership on a research project that is well under way requires considerable mutual adjustment. The supervisor 'inheriting' the supervision responsibility must be respectful of decisions made previously and must accommodate, to a point, existing expectations of the partnership and the project plan. It can be very destructive for a student to feel that she/he is virtually starting again. Of course, it is reasonable to expect the student to accept new advice and directions, but the extent of this will depend on the progress and schedule of the project. Establishing a new partnership means revisiting the processes of discussion and negotiation referred to earlier.

Drowning in data

Occasionally, students are mesmerised by the information they have collected, and cannot start to identify patterns or analyse implications. One suggestion is to ask the student to set aside all data and prepare a one-page outline of possible major themes – completely from memory. If he or she has been living with the data, an understanding of the broad patterns should be there; it just needs to be brought to the surface. It may be necessary to do this orally. If the student is sitting in your office, you can rule out any reaching for computer printouts. In some disciplines, it helps to ask a student to tell you 'the stories' that are there in the material.

...take an active interest in students' future careers

10

FINAL STAGES

In the past, research degrees were stepping stones into the academic profession. As the numbers undertaking higher degrees have grown rapidly, the destinations of graduates have diversified considerably. Many students now enrol in research degrees to boost employment prospects in the professions, to help them keep abreast of growing bodies of knowledge, or to support a career change. While continuing to guide some students into academic careers, a supervisor's main mentoring role is in advising and supporting students who are planning or developing careers in other professional areas.

Supervisors can do a great deal to assist students with their careers. The first step is to ascertain their career aspirations in the early stages. Often the supervisor will be in a position to advise about labour markets in the field and strategies for success. If you don't have this specialised knowledge, you may be able to suggest an acquaintance who would be prepared to discuss the field and offer advice. Another valuable role is to help students become aware of the qualities they have to offer in a competitive market place. Universities are not employment agencies, but it is in the interests of students and the University to make graduates aware of the skills they have developed and how to present these in terms attractive to employers. The School of Graduate Studies offers Leadership Development courses to postgraduate students that focus on many of these issues. Supervisors can also inform students of the services offered by the Careers and Employer Liaison Unit, which has an adviser with special responsibility for postgraduate students. Sometimes the only assistance required is a prompt and carefully considered reference when requested.



“With the wisdom of hindsight I now realise that I needed more advice and resources to help me become aware of the options opening up to me before I entered the job market. I think the University can do much to help prepare students for the outside world”

The role of the supervisor in preparing students for an academic career is well-established. A key element is helping them to assemble a publication record, but just as important is introducing them to academic networks through conferences, seminars and personal contacts. The classic model is the large national gathering of academics and graduate students (such as the annual MLA conference in the United States) which operates unapologetically as a job market. This kind of networking is not so well-developed in Australia, but the advantages of personal contact and recommendation are just as clear. Academic careers can also be fostered by supporting applications for postdoctoral positions and offering continuing collaboration in research after the student has graduated.

‘Looking back, I wish I’d been given more encouragement to write journal publications during my research, as this would be helpful to me now’

All postgraduate students benefit greatly from having their research published. This is especially true of students who are contemplating academic careers and need to build up their CVs with a steady stream of publications, but other students will also benefit both personally and in career terms from the skills they acquire while presenting their research in the public arena.

Where and when appropriate, supervisors should persuade students that their research deserves a wider audience than their examiners, and assist them in publishing it. Research output generally takes the form of journal articles and conference papers, but students should be alerted to other possibilities, such as professional periodicals, newspapers, interviews, the web, exhibitions and performances. These and other outputs from higher degree projects form a valuable component of the University’s total research production.

Learning to present and publish research

Training in the dissemination of research is considered to be an integral component of a research higher degree at the University of Melbourne. Sometimes publication is appropriate or essential before the project is in its final stages. Science students are especially encouraged to publish regularly prior to submission and there may be an urgency to publish findings. Other postgraduate students may need to be well into their research before being encouraged to offer it to public scrutiny.

Some students, especially those undertaking research for higher degrees in professional disciplines, may not consider publication to be a high priority. Nor are all students confident that their research is of interest to a wider audience. However, a strong publication culture in the department helps raise publication aspirations by communicating that publication is the norm. Departments should work to develop and maintain a postgraduate research culture in which all students, with their supervisors’ advice and encouragement, are keeping a watchful eye on publication and other opportunities for dissemination.

“There should be a greater requirement at the departmental level to verbally present work-in-progress to others”

Co-authorship

Disciplines have their own conventions about authorship of publications. Often it is entirely appropriate for supervisors to be co-authors of publications derived from research students' projects. Authorship of such papers should be discussed early in the project with the aim of determining an agreement that is fair to all. Co-authorship should be determined on the basis of each person's initiative and involvement in collecting information, analysing it, planning the publication, and, of course, in the actual writing. However, since the origins of core ideas are difficult to determine, a 'formula' for authorship is unlikely to work well and can be no substitute for discussion and negotiation.

Presenting a paper at a national or international conference can be a valuable educational and professional experience, and all postgraduate students should be encouraged to attempt it. At the same time, however, a conference presentation can be a damaging experience for any student whose research is insufficiently advanced or who lacks adequate presentation skills and confidence.

- Strongly advise students to inform you about their plans to offer conference papers well before a commitment is made. You may need to discuss thoroughly whether or not the research is ready to be released, and whether the proposed conference is a suitable outlet.
- Recommend appropriate conferences. Supervisors can advise on conference styles, likely audiences and their expectations, and those areas and issues which are currently being investigated and/or debated in the discipline. Students should be advised to plan well ahead and can be directed towards possible funding sources.
- Assist students in preparing paper titles and abstracts. Sometimes this will require the astute choice of a manageable portion from the much larger body of the research project.
- Help plan the paper and recommend appropriate presentation styles and presentation aids. Most postgraduate students will benefit from advice and training in how to present their conference papers, including assistance with the choice of presentation tools and the timing of the presentation. Departments can assist students to develop such skills by providing research-in-progress seminars. These 'controlled' occasions offer a reasonably relaxed setting in comparison with the harsher spotlight of an academic conference.

Students are likely to need similar assistance when they make their first foray into publication. They may benefit from being directed towards suitable journals. They may also need advice on which aspect of their research to present as an article. Many students can feel overwhelmed when trying to distil a selection of findings from a large body of research or capturing the essence of an idea that has been given extended treatment in the thesis. Some adjustments to the tone and style of writing may also be needed. In all, preparing an article for a journal and surviving the rough and tumble of the refereeing and editorial process are skills that students need to learn with the guidance of their supervisors. When a journal finally accepts an article, this is a moment of joint triumph.

Travel

Travel can be an important aspect of postgraduate research. The University provides some funding opportunities for travel expenses during candidature, and doctoral students have opportunities for study abroad. Carefully timed travel to appropriate venues enriches the postgraduate experience and helps students develop networks. Importantly, travel can allow PhD students to explore possibilities for postdoctoral positions. Once again, this is an area in which the supervisor can guide students' professional development.

...carefully monitor
the final production
and presentation of
the research



FINAL STAGES

The final push towards submission of the thesis is usually frenetic, as the project moves into a higher gear and the research presentation is given its last polish. During this phase the supervisor adopts a new frame of mind, because now the research needs to be looked at from the perspective of an examiner. Some hard-nosed judgments may need to be made and firm recommendations given.

“I had an enormous sense of achievement when I completed my thesis and felt I had genuinely developed intellectually and personally from the whole process of learning and the self-discipline necessary to see it through”

Students may require a good deal of feedback on their writing in the last few months and weeks. It is often a simple matter to provide written, ‘big picture’ feedback on draft chapters – on the general shape of the argument, the appropriateness of the coverage, and so on. Here, a list of bullet points is often sufficient. But the devil can be in the detail, when assisting students with paragraph-by-paragraph problems in the style of their prose, or unravelling disjointed arguments. Sometimes it can be difficult to put your finger on the precise nature of the problem. One method for alerting students to flaws in their arguments is to ask, through annotation, ‘why are you telling me this?’ and ‘why are you telling me this now?’, inviting them to reconsider the logic of their reasoning.

The ethics of editing

The PhD handbook defines editing as ‘the detailed and extensive correction of problems in writing style and of mechanical inaccuracy (as opposed to providing general guidelines about problems)’.

Supervisors should undertake some editing tasks, but within limits. Throughout this guide the point has been made that writing problems, if they exist, should have been spotted early on and appropriate steps taken to assist students to learn these skills.

Acquiring skill in writing and editing is part of the research training, and the integrity of a thesis relies on it being demonstrably the student’s work and evidence of his or her ability to write and argue.

Only in rare and exceptional circumstances will paid editorial assistance from an outside source be endorsed by the University. Any editorial assistance that students receive must be fully supported by supervisors.

Opinions differ in the academic community about the merits of annotating student work and the pedagogical value of doing so. Some supervisors prefer to amend sections of student work by pencilling insertions and suggesting rephrasing of sentences. Although such modelling provides an instant corrective, students may not learn from it. Other supervisors resist the temptation to suggest amendments, preferring to underline problem areas and write questions in the margins, leaving their students to resolve the situations. Each approach has its place. A student who is having problems finding the right ‘voice’ or

battling to unfold a step-by-step argument may benefit from editorial modelling while they find their feet. Later, this kind of help can cease.

The first full thesis draft requires a careful reading, focusing on the overall coherence and internal consistency of the argument. Some last-minute sacrificing or addition of material is also usually necessary. Once this has been done, the next reading can concentrate on detail and general tidying-up. Before submission, supervisors should check that students have attended to all their final suggestions. Departments can improve the chances of successful examination by having all completed research reviewed by a staff panel before it is submitted for examination.

“I didn’t want to end up with eight pieces of advice on how to present my thesis. My supervisor gave me unambiguous instructions”

The supervisor is also responsible for choosing appropriate examiners. The criteria for selection vary of course according to the level of the degree being awarded, but broadly supervisors should recommend examiners who are familiar with or expert in the area, who are likely to be respectful of the approach the student has taken, and who can contribute to the student’s career development. All supervisors should be conscious that, in a significant sense, they themselves, their departments, and the University are under examination too.

Checking and rechecking the presentation

The University of Melbourne's higher degree graduates receive prestigious degrees and the quality of the presentation of their research should be first rate. The University expects supervisors to ensure that research is not submitted for examination until it has been given a thorough quality-assurance audit. One aspect of this audit is presentation. Clearly, research should not be submitted for examination if its presentation is unsatisfactory.

Supervisors are responsible for pointing out problems in presentation and for assisting students to deal with them. Questions to ask include:

- Are the chapters, sections and paragraphs numbered consistently and consecutively?
- Is the layout consistent, so that there are no irritating variations?
- Have errors and variations in spelling been eliminated?
- Are the page numbers on the Contents page accurate?
- Is the style of citation and referencing consistent?
(it is wise to provide students early on with a style guide)
- Are the acknowledgments appropriate?

The selection of examiners is one of a number of decisions in the final stages, albeit one which the supervisor must make alone. Other choices are for students and supervisors to discuss together. One such decision is simply whether the research is ready for submission yet. It is appropriate to consider the likely outcome if the research is presented in its current state and to what extent the project could be improved if it is persisted with.

For most people, completing a research degree is one of their biggest accomplishments in life, and their emotional investment causes stresses and strains. Moments of doubt can start to appear in the final stages. Even though the vast bulk of the work has been done and (in the supervisor's opinion) little additional work may be necessary, some students nevertheless stall. The supervisor must be a calming and reassuring influence, while at the same time playing the devil's advocate and putting the work through a comprehensive quality-assurance audit.

The student-supervisor partnership clearly does not end with submission of the thesis. It continues through the assessment period, the celebration of successful completion, and beyond—for there are possibilities for publishing the work to be discussed and career plans to be considered.

The gradual evolution of the partnership to this point is one of the most pleasing and rewarding aspects of academic life in a research university.

Services for postgraduate research students

The School of Graduate Studies and The University of Melbourne Postgraduate Association are excellent first points of reference for postgraduate students.

The School of Graduate Studies – www.unimelb.edu.au/research/sgs/

The School offers many services and resources for postgraduate students. Skills development programs are conducted for postgraduate students in a wide range of areas, including leadership, computer skills, communication skills, and general research skills. The School's staff also provide advice on all matters relating to candidacy. A Postgraduate Library Research Consultant is also available.

The University of Melbourne Postgraduate Association – www.umpa.unimelb.edu.au

The University of Melbourne Postgraduate Association provides representation and advocacy, information and advice, academic and professional development programs and courses, social and cultural activities, orientation, support for departmental groups, international and women postgraduate programs, and publications.

The Graduate Centre

Located in the 1888 Building, the Graduate Centre provides facilities and resources specifically for the University's postgraduate students, including computer laboratories, study carrels, and social and dining facilities.

The following services can also provide postgraduate students with expert advice. Supervisors who refer students to a service should be very specific about the issue of concern or the skill development that is required. Information and contact details are easily found through the University's website at www.unimelb.edu.au.

Learning Skills Unit

The Learning Skills Unit has a specialist postgraduate adviser who can provide advice on issues such as time management and organisation skills (including juggling work, family and study), writing critical literature reviews, thesis writing, and oral presentations. LSU has a number of self-help booklets written especially for postgraduates.

Centre for Communication Skills and English as a Second Language

This Centre supports all students from non-English speaking backgrounds. It offers free lunchtime ESL support classes to improve students' listening, speaking, reading and writing skills, and free individual tutorials dealing with language-related issues, in theses and oral presentations.

The Library Program for Postgraduates

Among the many services offered to postgraduate students by the library are consultancy opportunities and information sessions for postgraduates on research-related topics.

The Statistical Consulting Centre

This Centre offers statistical advice and training courses to research students. This Service is free of charge up to a certain limit.

Information Technology Services (ITS)

ITS offers a wide range of short courses, ranging from introductions to computer systems to advanced courses in the use of software packages. Some of these courses are free for postgraduates; for others, there is a modest fee.

Counselling Service

The Counselling Service offers help for students and staff with personal and university-related concerns, relationship difficulties, family conflicts, depression, anxieties, or is available just for advice.

Health Service

The Health Service is a bulk-billing medical clinic with staff skilled and experienced in areas of major concern to students and staff.

Disability Liaison Unit

This Unit provides information and support for students with a disability or long-term medical condition. It assists students who require note-takers or readers, materials in an alternate format, assistance in gaining access to library materials, specialised equipment, attendant care on campus and other University-related needs resulting from a disability.

Chaplaincy

The chaplaincy provides counselling, support and information for all denominations. A chaplain for international students is available.

Student Support Services

These services assist students with housing, employment and financial aid. Advice and information is available on a range of matters including housing options, tenancy, part-time and temporary employment, loans and HECS.

Careers and Employer Liaison Unit

The Unit offers programs in career planning and job searching skills. It provides assistance in finding vacation work and conducts an extensive graduate recruitment program in collaboration with employers.

Children's Services

The Service provides assistance with arranging child care for student and staff parents in University and community centres.



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Both are experienced in
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