ENHANCING PRACTICE IN RESEARCH SUPERVISION

DR STAN TAYLOR

RESEARCH SUPERVISORS NETWORK
UK Council for Graduate Education

FOREWORD

The UK Council for Graduate Education is committed to supporting excellence in research supervision. In pursuit of that aim, it has undertaken a number of initiatives, including the establishment in 2016 – with the Times Higher Education – of a national award for outstanding research supervision and in 2017 the creation of a national research supervisor network. Both of these initiatives were the *first of their kind* in any major research degree awarding country.

Through their Research Supervisors Network, the UKCGE is now providing materials for supervisors to enable them to review, and where appropriate, enhance their practice. In particular, it has asked a series of experts in the field of doctoral education to contribute blogs relating to their areas of expertise, and these have been available on the UKCGE Research Supervisor Network website.

The present publication brings these all together in one document, which is divided into six sections. Section 1 contains two blogs concerned with approaches to supervision. One by the present author argues that it should be conceived of not purely as research but as a form of learning and teaching, while the blog by Lynn McAlpine stresses the need for supervisory practice to be underpinned by relevant scholarship and research.

Section 2 looks at the challenges to supervisors posed by different forms of doctoral programmes, with Geof Hill looking at practice-based doctorates and Douglas Halliday at interdisciplinary ones. The third section has blogs relating to issues arising from the regulatory environment of supervision, with Callie Guerin reviewing the pluses and minuses of co-supervision and Inger Mewburn presenting a provocative review of procedures for monitoring progress.

Section 4 contains a blog by Rowena Murray on supporting students' writing and publication, while in section 5 Richard Hinchcliffe looks at how supervisors can support the majority of candidates who will be employed outside academia.

In section 6, the present author and Alistair McCulloch look at one of the ways in which the importance of supervision is being acknowledged by institutions, namely the establishment of awards for excellence. Sue Gibson presents a case study of one such award, the President's Awards for Excellence in Research Supervision at Imperial College, London.

Colleagues are warmly invited to comment on these blogs on the UKCGE website and to contribute their own through the email address below.

It should be noted that these blogs are a work in progress; they do not cover all of the areas of supervisory practice, but there are plans to add additional materials in the next few months relating variously to industrial doctorates, professional doctorates, and supporting GLBTQ candidates, with other topics in the pipeline.

The UKCGE hopes to continue to lead the way in providing supervisors with that literature through blogs like these, as well as through the workshops, seminars and other publications of its Research Supervisors Network.

Dr Stan Taylor
Durham University
UK Council for Graduate Education
Research Supervisors Network

Email: stan.taylor@durham.ac.uk

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THINKING OF RESEARCH SUPERVISION AS A FORM OF TEACHING

Dr Stan Taylor Durham University

Historically, research supervision has been regarded as an adjunct of research; it was assumed that, as Rudd (1985: 79-80) put it "if one can do research then one presumably can supervise it". However, over the past two decades or so, there has been a recognition that, while being active in research is a necessary condition for effective supervision, it is not a sufficient one.

In particular, it has been acknowledged that effective supervision involves much more than just experts passively transmitting expertise to novices who observe and hopefully emulate (the so-called 'master-apprentice' model). Instead, supervisors need to actively teach candidates about how to research and support them to become independent researchers. So supervision has been re-conceptualised as a form of teaching and supporting learning, in fact 'probably the most subtle and complex in which we engage' (Brown and Atkins 1988:115).

If it is accepted that supervision is, in whole or in part, a form of teaching, the implication then is that, to be an effective supervisor, you need to be an effective teacher. That, in turn, begs the question of what constitutes effective teaching in the supervision context. One way of tackling this is to ask the same questions as we would about conventional teaching to see if this can help us to inform and illuminate our practice.

So, in the same way as the starting point for conventional teaching is to ask about the expectations of students about their roles as learners, the starting point for research students is expectations about their roles as researchers. The literature (see for example Bills 2004, Meyer et al 2005, Meyer 2007) suggests that such expectations are often very different to the realities of modern research projects and how they are undertaken, and that this can be a cause of student difficulties.

Of course, just as students have pre-conceptions, so do supervisors in relation to what they expect research students to do and to be capable of doing. As Kiley and Mullins (2005) have shown, these preconceptions are often formed on the basis of their own experience and extrapolated to research students without regard to the individuality and/or the increased diversity of the latter, leading to a potential for conflict.

Again from the conventional teaching and learning literature, we are accustomed to the notions of teaching and learning styles and to the interrelationship between them. This has been extrapolated to models of supervisory styles which, while they differ in some respects, commonly incorporate two key dimensions, namely 'structure' and 'support'. These have been used by Gatfield (2005) to develop a typology of preferred supervisor styles as 'laisser-faire', 'pastoral' 'directorial' and 'contractual'. Objectively, there is no 'right' style, but each of these styles makes assumptions about students' needs. As Malfoy and Webb (2000) have suggested, as long as there is a congruence between the supervisor's style and the student's needs, there should be no difficulties; but where there is a discongruence, major problems can result. In such cases, supervisors may have to consider adapting their style to align it better to the needs of their students.

However, even if styles are initially aligned, they can and should change over the course of the research as the student moves to becoming an autonomous researcher. But, this may not happen automatically; students can be reluctant to fly the nest and supervisors can be too protective in keeping them there or too pushy in sending them out, with the result that students are late developing independence or find themselves alone and at sea.

QUESTIONS TO CONSIDER

i.   Do you agree that supervision can be considered as a form of teaching and supporting learning?

ii.   Do you think that it is important to reflect on what you expect your research students to do and take time to find out what they think research is about and expect of you?

iii. Do you consider that the notions of preferred supervisory styles and associated assumptions about student needs are useful concepts for supervisory practice?

iv.   Do you think that it is important to monitor the changing balance of dependence and independence over the course of the research project? If so, how do you do it?

RESOURCES

For (ii), a useful resource is the Supervisory Role Perceptions Questionnaire developed by Brown and Atkins and modified by Kiley and Cadman, which can be found at https://www.jcu.edu.au/__data/assets/pdf_file/0003/34806/jcudev_013513.pdf You can complete it yourself or, even better, ask your research students to complete independently and then compare the results.

For (ii) and (iii), Lee (2012) has developed a sophisticated model of approaches to supervision and a questionnaire which can be used by supervisors to surface their assumptions and, where appropriate, develop their repertoire.

For (iv), Gurr (2001) has developed a useful tool for checking with students over the course of the candidature whether there is an appropriate balance in their supervision between direction and autonomy.

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HOW MIGHT RESEARCH ON SUPERVISION INFLUENCE YOUR PRACTICE? THINGS I'M MORE INTENTIONAL ABOUT NOW

Lynn McAlpine University of Oxford and McGill University

I want to begin by asking you to think back to the highs and lows of your own PhD supervision experience. When I have asked academics to plot their journeys from the start to end of their degrees, they invariably report a number of highs and lows, often with an initial positive momentum, then dropping off as they realize the scope of what is demanded and figure out their supervisory relationship, later rising (or falling) at some points related to positive (or negative) feedback and a sense of (or lack of) progress – ending with varied emotional, sometimes equivocal, responses (as in the diagram below).

Such reflection reminds us of what worked and didn't work in our experience of being supervised – which if you're like me and many of the supervisors I have interviewed becomes our starting point for supervising. Interestingly, when new supervisors draw a plot of their

experiences with their first student, they often draw journeys with similar highs and lows as they come to realize that what helped them isn't always what is wanted or needed by the student they are working with.
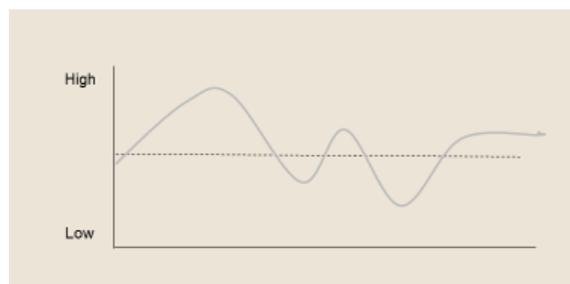
When I began to research and really know the 20+ years of research on doctoral and supervisory experience, I realized I could draw on the research to generate some evidence-based principles to

inform my supervisory practices. I'd like to share these principles with you. Some may be ideas you already use; others may be, as they were for me, new ideas.

1. Get to know the university supervisory policies and particularly how departmental practices relate to these policies since both influence student expectations (and progress). This principle applies particularly if you are co-supervising in another department or university than your own. Things to be attentive to:

   a) University requirements and timelines regarding completion.

   b) Administrative requirements, e.g., form filling.

   c) Roles/ responsibilities of the supervisory team, e.g., co-supervisors, committee members, students.

   d) Roles and procedures for examiners of different kinds.

   e) Expectations of thesis quality.

2. If you are co-supervising, get to know your co-supervisor's views on supervision since each of us has a particular view of the purpose of supervision and supervisory responsibilities. Students report finding it confusing if their supervisors have different and unstated expectations. Be sure to discuss practical aspects as well: frequency of joint meetings, keeping each other informed, etc.

3. Clarify expectations with the student early on. Similar to working with a co-supervisor, don't assume any similarities with your own ideas. Of course, it is important to keep checking in since expectations, both yours and the student's, will change over time. Compare expectations of:

   a) Relationship and responsibilities

   b) The doctoral timeline: Students particularly look to supervisors for a sense of long-term expectations.

   c) Career intentions post-degree: Even if you do not see yourself as providing career advice, students report a desire to discuss with their supervisors their future intentions since these influence their motivation and how they invest their time.

4. Provide constructive, frequent and timely feedback. As in all learning, feedback influences student motivation, satisfaction and progress. So be attentive to:

   a) Kinds of feedback: Provide feedback both on a) present work and b) overall progress. Students report the latter is feedback they need but rarely receive.

   b) Frequency: Studies suggest that we should meet at a minimum once a month; after that, there is a drop-off of student motivation, satisfaction and progress.

   c) Timeliness: If you are like me, previously when meeting with a student, I would begin the meeting with follow-up from the previous meeting, e.g., feedback on submitted work. There is evidence an alternate approach can be more productive: begin by seeking out the student's present concerns; then integrate the feedback about previous work you want to give into the present concerns since the student is then in a better position to use your feedback.

5. Make your availability clear. This seems a 'no brainer' but I did not do this consistently. Research suggests unexpected absence or lack of availability is a cause of concern and/or disruption for students. Keep students well-informed about deadlines, absences and response times so they can plan: particularly foreshadow major changes along with clear alternate arrangements.

6. Provide explicit guidance on knowledge students look to supervisors for: writing, reading, ethical practice and careers.

   a) Writing: Students often put off writing. Set regular writing tasks from the start while acknowledging the difficulties of writing. For instance, require written reports of the discussion and outcomes of each supervisory meeting or consistent summaries and critical assessments of any reading the student does. As well, include students in your writing of genres that are less visible, e.g., manuscript reviews.

   b) Reading: Provide explicit strategies and structures for reading. Experienced supervisors often report that students don't know how to read in a strategic fashion and need to have this demonstrated.

   c) Ethical practice: Students report it difficult to find a 'space' to explore ethical practices and look to their supervisors for guidance. So, discuss issues around day-to-day potential ethical misbehaviours as they arise.

   d) Careers: Discuss career intentions and related requirements. This is increasingly important since a traditional academic career is no longer the norm post-graduation, nor what all

students want. If you don't feel competent in providing advice, direct students to career services.

7. Remember supervision is about 'us,' not just 'me.' This last principle is critical since students often see us, supervisors, as the sole person responsible for their progress. In fact, we should be encouraging them to explore and use the range of resources and individuals on offer in the university and beyond.

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SUPERVISING PRACTICE-BASED DOCTORATES

Dr Geof Hill Birmingham City University

In the provenance of research practice, practical or experiential knowledge was consistently devalued. The Greeks preferred intellectual knowledge over practical knowledge. During the Renaissance, written intellectual knowledge had precedence over practical knowledge. The emergence of scientific method represented a point of ascendance for scientific knowledge and continued degradation of practical or experiential knowledge (Schön, 1983).

Since the paradigm wars, experiential and practical knowledge has found new epistemological popularity in university based research. Some of this can be accredited to Donald Schön's (1983) The Reflective Practitioner that advocated not only the study of practice, but posited an inquiry paradigm to underpin that type of investigation. Similarly, 'The Practice Turn' (Schatzki, Knorr-Cetina and von Savigny, 2001) signified recognition of professional practice as embodied or being linked to people, and argued for situated study of professional practice in specific professional settings. Both theoretical innovations encouraged practice-based research or inquiry.

Undertaking an investigation into any form of practice involves an amount of reflection. In order to know what we do in any practice, there is a need to think about and articulate what that practice involves. Regardless of the practice being investigated, this form of reflection generates a stream of consciousness which can provide information about a given practice but, unless this knowledge is in some way systematized, it can be overwhelming for a reader, and raises questions regarding its value for other practitioners and more generally for practice theory. There are challenges in knowing how to document this body of knowledge in ways that make it both accessible for potential readers and manageable for interrogation by the practitioner/inquirer.

Research supervisors working with professionals as they interrogate their practice within the framework of research degrees need to help them elicit this often tacit knowledge into a form that makes it reviewable and examinable.

SOME RESEARCH SUPERVISOR STRATEGIES

I have found that encouraging the student to undertake provenance reflection of their practice can establish a first articulation of the practice they propose to investigate. Provenance is a term more commonly used in antique dealing where it refers to manufacture and ownership of items of antiquity. Within practice inquiry, I posit (Hill, 2014) that a practice has a general provenance – a history of that particular practice's evolution – along with a personal provenance – how a particular practitioner has developed their practice. A given practitioner's personal provenance may also contain wisdom about the practice derived from other fellow practitioners.

Provenance can be comfortably followed by or paralleled with Naming (Schön, 1983, 42) of the practice or elements of the practice. What one professional may call their practice and how that practice is referred to in the literature may have different names. Reflective practice is a good example. What is recognized by some professionals as an ability to think about their practice may appear in the literature as reflective practice (Schön, 1983) or can equally be referred to as mindfulness or reflexivity (Schippers, Homan and Van Knippenberg, 2013). Helping the inquirer focus on a name for the practice they are investigating and recognising the contested nature of the name of the practice are both ideas that can be facilitated or encouraged by the research supervisor helping a student to study their practice.

Framing (Schön, 1983, 42) a practice involves establishing a way of sorting all the knowledge about a practice – both the inquirer's own practical knowledge and what is available through literature - into a format so that other people can learn about it. This may even involve expressing the practice diagrammatically. Sometimes this framing can be chronological as a time line. A given practitioner can list the critical incidents that have informed their development of a given professional practice. Chronologically sorting the literature about a practice can help to reveal specific lines of inquiry in which one author refers to another, or it could reveal a significant change in perception of certain practices over time. This sort of systemizing of the literature can help an inquirer situate what they know about the practice they are investigating within the larger discourse about that practice.

But, not all practices fit these sorts of systematization. Research supervision is a good example of a practice not fitting a chronological system. While individual practitioners may come to research

supervision in a recognizable chronology that involves their own completion of a doctoral degree and being supervised, others may have experienced different developmental paths into their observed research supervision practice. Similarly the broader discourse around the investigated practice can be framed in a variety of ways. In my own practice led investigation of research supervision I posited (Hill, 2011) a framework for making sense of the variety of different articles on research supervision that presented research supervision:

1. Research supervision as pedagogy.
2. Research supervision as relationship.
3. Research supervision as management.
4. Research supervision as facilitating contributions to knowledge.

I retained that framework for a blog on research supervision I developed: the research supervisors' friend https://supervisorsfriend.wordpress.com/

Provenance, naming and framing can help an inquirer/researcher articulate their professional practice such that it opens up the articulation of practice to criticality, often thought of as a key feature of doctoral inquiry. For some, criticality involves application of another of Schön's (1983) variations of reflective practice, in the form of advanced or critical reflection. Critical reflection is a contested practice. For some (Argyris, 1982; Mezirow, 1990) critical reflection involves identifying the belief systems or the doctrine that underpins a professional's outplaying of their professional practice or aspects of professional practice. This often involves identifying the philosophy behind their practice. For others (Reynolds, 1998) critical reflection is referenced to neo-Marxists Freire (1986) and Habermas (1968) who were concerned with inequality brought about by unequal relations of power within capitalism. Both understandings about critical reflection bring criticality or critical interrogation to bear on a professional's articulation of their practice, and add to its doctoralness.

As most research degrees are examined on the basis of a written document, research supervision also involves developing a researcher/inquirer's writing about their professional practice and about their investigation into their professional practice. It helps to understand the dissertation as an extended argument in which one firstly frames a practice from their own experience and from the perspective of the literature; then posits a way to investigate that practice as framed. Thinking about the argument helps a practitioner who is immersed in their own practice to achieve a certain level of distance and ability to view their practice as an outsider. The argument continues as the researcher/inquirer makes sense of the data they have collected about the practice, either from themselves (auto ethnography)

or from other practitioners of the practice and articulates their contribution to the knowledge about the practice.

QUESTIONS TO CONSIDER

i.   Is it different undertaking research where the starting point is practice and even the researcher's own practice?

ii.   How do you prevent an act of provenance being perceived as self-indulgent?

RESOURCES

One of the tools I have used with my own doctoral students to elicit their knowledge of practice is based on a set of catalyst questions:

- What do you know about your practice?
- What do you know about investigative practice?
- What do you know about university based investigation and academic writing?

Some of my doctoral students have added to this with more specific questions such as:

- What is your own relationship with the practice you are investigating?
- Do you consider yourself an insider/outsider to this profession?
- What do you think are the critical incidents that have led to your development/understanding of your practice?
- What are your own attitudes towards the aspects of the practice that you are investigating? Are you aware of any theoretical frameworks that may underpin these beliefs?
- What sort of impact do you hope for your research to have e.g. on practice?

As this posing of questions often coincides with a first research supervision meeting, there may be parallel questions relating to the nature of the supervision, such as, 'What are your expectations from me as a supervisor?'

These questions are asked in an initial meeting with a student to start a short term process leading to production of a research proposal and a long term process of their doctoral candidature. The questions

are underpinned by the assumption that students have answers to these questions and just need prompting to begin to affirm the knowledge that has already started to formulate their investigation. A contrasting and perhaps traditional strategy might be to encourage the student to look to literature to contextualize their investigative topic. Drawing on an inquirer's background knowledge as compared to asking them to seek knowledge about the practice they are investigating in literature affirms their self-knowledge and focuses on marshalling and clarifying that knowledge into a research proposal.

The initial meeting is the first step in a model that includes six face-to-face meetings and five writing assignments over a period of (usually) six months.

The first writing task involve writing no more than two pages following the initial meeting addressing the following questions:

- What do you intend to investigate?
- What is the context of the investigation?
- Practice based context and
- Literature context And
- What role do you play in the practice based context?
- Why is it important to investigate this issue?
- First thoughts on how you think you might investigate this topic.

Feedback on this writing focuses on identifying in the writing where the student has described ways in which he (she) has been undertaking research in their industry. This helps the student to identify their 'investigative practice' as compared to the practice which is being investigated, their 'professional practice'.

Following the second meeting the student builds the previous two page document into a four page document which again receives feedback, and generates the agenda for the next meeting. In our subsequent meetings we discuss the developing text and also address a number of issues, such as ethics, that are pertinent to writing about and undertaking practice based research.

After five meetings the student has written a document of about 32 pages. This is often the size specification for a research proposal. In this working document they have positioned their own proposed investigation within a summary of what is 'known' about the topic (a literature review) and suggested how they might go about investigating this topic (methodology). This supervision process is focused on producing a research proposal.

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NOTES

INTERDISCIPLINARY DOCTORAL SUPERVISION

Dr Douglas Halliday Durham University

Doctoral study has historically been organised and structured around fairly rigid disciplinary structures and paradigms (Becher: 2001; Trowler: 2014). Many doctoral supervisors and candidates hold the view that doctoral researchers must be firmly embedded in their discipline to acquire all the skills and attributes exhibited by well-established and credible experts in their discipline. The aspiration of many doctoral candidates is to emulate these experts.

Notwithstanding this well preserved and robust disciplinary framework, many universities are seeking to grow interdisciplinary doctoral programmes. A report commissioned by HEFCE in 2015 (HEFCE: 2015) found that interdisciplinary research activity continues to grow in the UK in line with a global trend. RCUK is placing an increasing emphasis on multidisciplinary research projects to solve specific challenges that our society faces; these are often framed as "grand societal challenges". More recently, in September 2016, (HEFCE: 2016) two reports identifying barriers and incentives for interdisciplinary research were published by HEFCE. This highlights the growing need to create new approaches to forming interdisciplinary research cultures.

Despite this growth in interdisciplinary research, the majority of doctoral programmes in the UK and elsewhere remain firmly discipline based. There is a growing recognition of the need to develop interdisciplinary doctoral programmes that expose researchers to a range of research methodologies and concepts early in their formation as researchers. Research literature on interdisciplinary doctoral programmes highlights a number of issues specific to interdisciplinary PhD programmes including: researcher identity, research socialisation process, supervision, risk of failure, language and communication, and what success in an interdisciplinary research PhD looks like (Golde: 2006; Holley: 2009: Manathunga: 2006; Peseta: 2010).

My experience as a Director of an Interdisciplinary Centre for Doctoral Training (CDT) in Energy over the last 7 years, which has admitted 62 doctoral students, is that there is considerable benefit in exposing doctoral candidates to approaches, methods and views espoused by those from different disciplines. One of the key barriers candidates face in such an environment is being able to communicate with researchers from different backgrounds and begin to appreciate different perspectives. It take times to develop this skill. The Energy CDT provides such an environment. Not all students will have access to such an interdisciplinary training environment. How then can a doctoral supervisor facilitate this aspect of a candidate's development?

As a doctoral supervisor I actively encourage doctoral candidates to develop interdisciplinary communication skills. This begins with doctoral researchers recognising that other disciplines have something of value to say about their work; it also requires a respect for other disciplines. How does a supervisor promote (or dismiss) this? What is the language of interdisciplinarity? How does someone communicate key research ideas and methods to those with a different vocabulary and perspective? Possible answers to these questions suggest that the language of interdisciplinarity is the language of simplicity. This is in contrast to the expectation that doctoral researchers develop an advanced discourse akin to well established researchers in their field. A doctoral candidate should then be encouraged to develop both the language and discourse of an expert in the discipline and, importantly, also the skill of explaining their research as simply as possible.

It is widely recognised that supervisors and supervisory teams have more impact on the intellectual, professional and personal development of doctoral candidates than other influences. As a supervisor how can you facilitate this development? Do you seek to develop a new generation of researchers equipped to face the challenges of a world where such challenges are not always organised according to longstanding academic paradigms and world views.

QUESTIONS TO CONSIDER

i.   Do you agree that developing interdisciplinary skills in doctoral researchers is important?

ii.   What can you do as a supervisor to enable doctoral candidates develop interdisciplinary communication skills and perspectives?

iii.   If you do not feel able to do this where might you find support for this?

iv.   Do you actively encourage your doctoral candidates to explore their research field from different disciplinary perspectives?

v.   What do your doctoral candidates learn from you as they observe your interactions with those from other disciplines?

vi.   What is the correct balance for doctoral researchers with regards to breadth (interdisciplinarity) and depth (subject specialisation)?

vii.   Are there any things that you as a supervisor can learn from your own candidates' experiences?

RESOURCES

A number of Short Guides on interdisciplinary research are available from the Institute for the Study of Science Technology and Innovation (ISSTI) at the University of Edinburgh. http://www.issti.ed.ac.uk/resources/briefing_notes

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CO-SUPERVISION IN DOCTORAL EDUCATION: CHALLENGES AND RESPONSES

Dr. Cally Guerin The University of Adelaide

The supervision of doctoral candidates has been subject to many of the same pressures placed upon other aspects of the contemporary university, where staff are required to do more with less, and get it done faster. This presents challenges to established conventions, but it can also have positive outcomes in which new, more effective practices emerge. One such response has been the introduction of 'team' or 'joint' supervision in many universities; instead of relying on the traditional model of dyadic, one-on-one supervision, candidates are co-supervised by two or more academics (Pole, 1998). This approach sits well with current understandings of the distributed responsibility for research supervision and the limited resources available to ever more diverse doctoral candidates.

Co-supervisors can be brought onto the team for a variety of reasons. Importantly, co-supervisors are available to cover absences of other team members owing to study leave, maternity leave, illness, or particularly busy periods of teaching or administrative responsibilities, thus avoiding the abandonment experienced by 'doctoral orphans' (Wisker, 2013). In other situations, co-supervisors are recruited to contribute their expertise in disciplinary knowledge or specific research techniques. For many, co-supervision provides the opportunity for junior academics and early career researchers to learn about supervision by working alongside more experienced colleagues on the team.

Co-supervisors work together along a spectrum of hierarchical structures, from distinctly pyramidal arrangements where the 'principal' supervisor is the senior researcher who has the final say on any decisions about the project, through to flatter, more egalitarian relationships between co-supervisors (Guerin, Bastalich & Green, 2011; Robertson, 2017a). Being the more senior member of the team does

not always mean playing the most active role; often the junior co-supervisors have more regular contact with the student on a day-to-day basis (which can sometimes lead to disgruntled co-supervisors who regard themselves as doing all the hard work but receiving much less than their share of the glory when the student completes successfully). Some supervisors reserve their co-supervisors for fresh eyes to read over the thesis towards the end of candidature; while this can be very useful, it is problematic if, at this late stage, the new reader identifies serious issues regarding the quality of the research or writing. Regular meetings of the full team and clear communication between members can ensure that all co-supervisors are aware of the project's direction and progress, giving them opportunities to raise concerns early.

Teams based on flatter hierarchies work well for those attuned to collaborative, collegial research processes, where it is possible to air a range of opinions and ideas before coming to a group decision about the way forward. Such experiences are stimulating and satisfying for both students and co-supervisors, modelling some of the most rewarding aspects of academic debate and creativity. And, as with any committee, airing a plethora of ideas easily leads to confusion — even paralysis — about which path to take. Clear communication between all team members is crucial for students to take maximum advantage of this rich resource. After that lively discussion, what decisions were made for the project? This is where meeting summaries can play an invaluable role to confirm that everyone's understanding of the final decision are the same.

One of the key challenges of team supervision for students is the potential for conflicting advice from co-supervisors (Guerin & Green, 2015). This might be in terms of the priorities and timelines for the project, the general direction of the research, or in feedback on the writing. This poses a major concern for students: should they follow the principal supervisor's opinions because that's the senior person in the team, or follow their own preference, or simply do what's easiest? Facing these decisions is deeply unsettling for many PhD candidates, and it is incumbent on co-supervisors to help students manage these conflicts and maintain the student's trust in their ability to provide proper guidance (Robertson, 2017b).

Just as relationships between supervisors and doctoral candidates are crucial to the success of the project, relationships between co-supervisors themselves can be critical. Working together does mean that colleagues can see first-hand what has previously been done behind closed doors, and can potentially feel more like monitoring than collegial collaboration (Manathunga 2011, 2012). Transparency sometimes moves closer to surveillance, and supervisors' behavior might be focused on each other rather than on the student's needs. Personality clashes in team supervision have the

potential to derail the PhD all together. Ideally, though, team supervision can provide a practical peer training ground for continuing professional development for all parties. Setting up expectations between co-supervisors at the outset can be very beneficial – does everyone agree on their role and why they are part of this particular team? An expectations questionnaire along the lines of that used between supervisors and students would be one way to embark on this discussion.

Co-supervision has great benefits for both doctoral students and supervisors. It needs to be handled carefully, though, to ensure that multiple perspectives and personalities are managed harmoniously and everyone gets what they want from their efforts – successful completion of a high-quality research project and a new researcher launched on their career.

QUESTIONS TO CONSIDER

i. How does the team supervision described here differ from the US model of a panel of doctoral advisors? Are there valuable elements of that system that should be incorporated into team supervision?

ii. What other dangers are posed by team supervision (for students, for supervisors), and how can they be mitigated?

iii. What are the other benefits for co-supervisors? How is the workload of supervision affected?

iv. Have you experienced other models of team supervision that work well? It would be great to hear about them.

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WHY DO PEOPLE LIE ON RESEARCH CANDIDATE PROGRESS REPORTS?

Dr. Inger Mewburn Australian National University

It is a truth universally acknowledged that university administrators who must report a simple metric to government will develop a tortured system of paperwork to do so. By the time this paperwork reaches the intended target, the original purpose of collecting the information has often become invisible. As a result, much of the administrative paperwork that lands on academics' desks can seem meaningless, confusing, trivial or even intrusive. At least, this is what we found when investigating the sad case of progress reporting in research candidature. Despite volumes of paperwork designed to promote transparency and accountability, research students are still taking too long to do their degree and coming into conflict with their supervisors. What is going wrong?

In order to find out, in 2011/2012 we interviewed a range of research candidates, supervisors and administrators at a metropolitan university in Melbourne, Australia. The results are reported in Mewburn, tokareva, Cuthbert, Sinclair, and Barnacle and Mewburn, Cuthbert, and tokareva, both 2013)

The most startling finding of our research was that most candidates who had multiple poor progress reports had not been excluded from their program – the purpose for which the process had been expressly designed. Meanwhile, candidates who had spotless records were drawn into extended academic disciplinary procedures at the end of their candidature when it was discovered their dissertations were not up to standard.

Clearly the progress report was not always a truthful account of what happened during the research, or the nature of the supervisor / candidate relationship. Our conversations with research participants

shed some light on this complex, but largely hidden problem. I want to highlight two of the key findings and discuss what they mean for supervisors

When people don't know who the form is for, they make up an audience and respond accordingly.

Candidates spoke about the progress report in a variety of ways: as an empty 'rubber-stamping' exercise; a 'spin job' providing a sanitised account of the research; an 'impression management device' to present themselves in a favourable light; a way of viewing a frozen moment in research time; a benchmarking opportunity against a backdrop of fuzzy expectations; a way to request resources and complain about infra- structure; an opportunity to reflect on learning; a chance to clarify supervisor expectations or, a battleground in which the student struggled to be heard.

The progress report was never spoken about as a neutral recording device – which is what the administrators claimed they intended to make. These responses suggest that candidates had a range of possible audiences in mind: a disapproving authority figure, a helpful scrutineer, a university housekeeper, the supervisor or, more often – nobody. Candidates performed for whatever audience they imagined would ultimately read the document. In some (many?) cases, a truthful account would not 'play well', so an alternative performance was mustered.

Supervisors need to bear in mind that the power relations inherent in research candidatures do not disappear when administrative forms are handed out. I want to say that supervisors should encourage students to make honest reports, and make honest reports themselves, but I'm not sure this is the answer. I doubt any written account is entirely honest – and below I discuss why, sometimes, people justify being evasive on compassionate grounds. In the interest of best practice, I instead encourage supervisors and students to make sure they keep good records. Email, calendars, summaries of conversations contain a patchwork of the truth and will no doubt be used instead of the progress reports should any serious conflicts arise.

Progress doesn't always look like progress (and other necessary research fictions)

From the point of view of research managers, one of the weaknesses of the progress report system is a lack of truthful reporting. Our data reveal the complexities around this phenomenon and caused us to question whether we would ever be able to design a system where the 'unspeakable' could be spoken. We found ample evidence of supervisor reluctance to take responsibility for reporting unsatisfactory progress in writing, which is usually the first step in initiating an 'at-risk' candidature classification. The participant responses highlighted the complex nature of student–supervisor

relationships and the difficulty some supervisors experience in managing students' emotional state throughout the degree. Many supervisors highlighted the difficulty they experienced being completely honest and reporting unsatisfactory progress because the progress report was such a 'high stakes' document. Sometimes a surgeon uses and saw, and sometimes they must use tweezers. Supervisors worried that minor problems, ones which may or may not develop into major ones, might be magnified out of proportion by making them 'official'. The progress report was too often seen as a saw, not the tweezers that would help candidates through problems they were experiencing. To avoid the 'nuclear option' many supervisors preferred to adopt a 'wait and see' approach and work to fix problems in other ways (with extra assistance, for example, or by securing the student some leave from candidature and 'stopping the clock').

This finding raises serious questions about what constitutes 'good supervision'. Is good supervision complying with paperwork, no matter the consequences, or is good supervision a matter of creative accounting that recognises the difference between tweezers and a saw?

QUESTIONS TO CONSIDER

i. Do you agree that formal progress reports are often inadequate as a means of genuinely tracking progress?

ii. Do you think that a better alternative would be to encourage supervisors and students to keep good records?

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INFORMING AND ADVISING PGRS ON NON-ACADEMIC CAREERS AND THE KNOWLEDGE BASED ECONOMY (KBE)

Dr Richard Hinchcliffe Freelance Researcher Developer

The employability of research students is an increasingly important issue in the developed world as more PhDs graduate than can be employed in academic research – there are simply not enough jobs. Indeed the over-supply in some subject areas may be as high as twenty to one. Supervisors often only know of the destinations of graduates who have found academic positions and are not aware that many more PhDs go into industry or non-research education occupations. If you want to check this out for yourself you can find detail on the destinations of doctoral graduates in disciplines by going to the Vitae website "What do Researchers do?" https://www.vitae.ac.uk/impact-and-evaluation/what-do-researchers-do

PRESSURE ON SUPERVISORS

Institutions of course have careers services to support student employability, but these may not be the solution for two reasons. Firstly, while careers services staff can give PGRs invaluable advice on how to apply for jobs, they may not have the specialist knowledge of the labour market for graduate researchers. Secondly, many PGRs perceive careers services as perceived (sometimes correctly) as being only geared toward undergraduates, and in consequence are reluctant to contact them.

Thus, the only people that the PGR may feel they can turn to for careers advice is their supervisory team and if they have little or no experience of non-academic or non-research careers then the discussion may not be fruitful. Or, worse, bearing in mind the stigma attached by some supervisors towards their students pursuing non-academic careers (see for example https://www.theguardian.com/higher-education-network/blog/2014/may/23/so-many-phdstudents-so-few-jobs   and

https://www.timeshighereducation.com/opinion/postdoc-blues-how-doyou-know-when-it-is-time-to-give-up), conversations can prove highly negative.

However, if supervisors and PGRs prepare for these discussions as they would prepare for any discussion about a research problem then the results can be highly motivating and successful for both parties. Future governments are unlikely to increase research funds but large corporations have a lot of cash and this is where future research growth is likely to be funded. Having your old research student on inside will have mutual benefits. What follows is a short precis of research into the area of doctoral careers and attitudes toward the KBE which I hope you will find illuminating.

THE CULTURAL ISSUE

Good supervisors should be very supportive of their research students wherever their career ambitions may take them. Among other things, they can point their students in the direction of groups and support structures set up by enterprising early career researchers to support employability (see for example the Northwest Biotech Initiative, Cheeky Scientist, Vitae, Bio-technology YES and other similar initiatives that are popping up across the economies of the developed world). In the USA the employability of PhDs is often seen as a scandal as students often feel they are being sold an academic career without any hope of getting one. This has prompted Cornell Professor Leonard Cassuto to title his solution to the problem The Graduate School Mess: What Caused It and How We Can Fix It.

THE RESEARCH

In the UK, recent studies include Hancock et al (2015), Walsh et al (2015) and Hancock and Walsh (2016). These papers call for reform of the structure of the STEM PhD so that science based PGRs will, as Hancock and Walsh (op. cit.: 48) have put it, '…have a more realistically informed and reflexive approach to the debates about the contribution of science to the challenges facing contemporary society' and are valuable reading for supervisors. In the present context, the paper by Hancock et al (2015) is of particular interest. The authors surveyed 68 PGRs (at Imperial College London) and categorized their responses to produce a typology of 'moral positions' on academia and the Knowledge Based Economy (KBE). They identified four different outlooks, namely:

SCIENTIFIC PURISTS (10% OF THE SAMPLE)

Scientific purists were opposed to the 'corruptive influence' of the KBE. They idealised the university as an 'ivory tower', believing that a demonstrated distance from political, economic and social influences was needed to conduct scientific research in an unbiased and legitimate way.

SOCIAL IDEALISTS (15%)

'Social idealists' shared the anti-capitalist stance of the purists and indeed often began their studies with a purist outlook. But within first year of doctoral studies, a broader identity was formed, promoting an image of the university where scientific researchers work with external stakeholders to improve society and challenge inequity.

PRAGMATISTS (50%)

These students held the most flexible moral position, recognising both traditional academic values and those of the KBE. Within this outlook, a distinction was made between 'weak' and 'strong' pragmatists.

THIRD-ORDER CAPITALISTS (25%)

These fully endorsed the KBE view of scientific research, what Fuller has described as 'third-order' capitalism. Doctoral students with this outlook tended to be male, conducting research in applied disciplines, and had had considerable and varied work experience prior to undertaking the PhD.

This typology can be a useful tool for discussions between supervisors and PGR, as suggested below.

HOW TO HAVE THE NON-ACADEMIC CAREER DISCUSSION

Supervisors and research students should prepare for an open minded discussion about the place of the doctorate within the economy. To discover more about the place of the doctorate within the knowledge economy and gain insight in PhD employability there are three things that both supervisor and PGR can do:

1. Read up and research on the issues.
2. Form an opinion on your own moral positioning toward the KBE.
3. Encourage your PGR to think about their moral positioning.

4. Have an honest discussion as to each other's opinions, why you hold them and discuss those more generally expressed in the sector.

5. Support students to prepare for whatever career options are appropriate to their outlook.

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SUPPORTING STUDENTS' WRITING AND PUBLICATION

Professor Rowena Murray University of the West of Scotland

I have three suggestions for supporting students' writing and publication: (1) a pilot study, (2) analysing published writing and (3) running writing retreats for your students, or having someone else run them, which makes more time for your own writing.

My first suggestion, a pilot study, has the benefit of prompting students to run the method. This grows their knowledge and understanding of what it is they're doing and 'lessons learned for the main study' can be a section in a thesis chapter. A pilot study can also be written up for a conference presentation and publication. If they get accepted for a conference, I encourage my students to spend the slot in the programme after their presentations writing up the questions and feedback they got and drafting or completing their journal articles. That slot is when they are most focused on their work, and this helps to focus their writing. A further benefit is, of course, that the conference and journal provide peer review, which adds to their developing knowledge and profile.

Given the universal pressure to publish, and given the benefits for students' careers, I ask them to consider writing their findings chapters as papers. Each findings chapter can have a bit of literature review, methods, report on findings and discussion. Each chapter-paper could be targeted at a different journal, which might mean that each is very or somewhat different in structure and style. The alternative is to write the thesis and then convert chapters or sections into papers. In some instances, this takes too long.

My second suggestion is to spend time analysing papers in your/their field. I know from talking to supervisors that not everyone likes this idea. Supervisors are not writing teachers. Some say they know when something is wrong in a student's writing but struggle to define exactly what it is. What I'm suggesting is, for example, looking at all the abstracts published in the student's target journal in the past year. Analyse the first sentence of every abstract. Describe how it defines the research problem

addressed in the paper. Analyse the last sentence of every abstract. Describe how the research 'contribution' is defined. If the word 'contribution' is not there, which words were used in that journal in the past year to define research contributions? This is not to say that we want students to copy published writing – and it may be important to say that explicitly – but we want them to be able to analyse how journal articles are constructed in your field. You don't have to be an expert in academic writing to be able to facilitate this analysis. During or after this analysis, get students to write a few sentences to use in their papers. This let you check that they got the point about not copying, and you can give them feedback.

My third suggestion is to run a Structured Writing Retreat for your students (Murray & Newton 2009). This is a great way to boost their writing, develop their confidence and motivation and increase their awareness of writing as part of the research process. You can suggest specific writing tasks for them to do, and you – and they – can monitor the extent to which they achieve them. This can develop their self-efficacy in relation to writing. When you give them feedback during a writing retreat, they can act on it right away, and you can give them feedback on their next draft or revision. You can also get some of your own writing done at the same time. A two-day residential or on-campus writing retreat is a good way of compartmentalising writing for publication. While students' main writing task is to complete the thesis, they can move to this different form of writing for two days. I find this brings my discussions with my students closer to their writing, so to speak. There isn't such a gap between their writing and our discussion, or between our discussion and their next piece of writing. As a supervisor, I get more immersed in their research at writing retreat, and it keeps me in touch with where they're all at. At the same time, they're all sharing their experiences of writing, comparing notes on where they're at, what they're reading, how they're analysis is going, among many other subjects, and this in-depth, cross-project talk has added benefits and can be very stimulating and motivating for them, and for me too.

QUESTIONS TO CONSIDER

i.   Which journals do you want your students to write for?

ii.   Have you discussed how you write journal articles?

iii.   What have you told them about the writing process?

iv.   Are you using the 'stepping stones' model – low-ranked journal first – or aiming high?

v.   Do your students understand research assessment in your discipline?

vi.   Do your students have a publishing plan?

vii. Do they understand how to make time for publications while they are writing their theses?

RESOURCES

For an overview of different writing activities, written for supervisors, detailing writing activities you can use with your students, see Lee and Murray (2015).

For writing activities that students can use, see How to Write a Thesis (Murray 2017).

For guidance for students and colleagues on writing journal articles in different disciplines, including analyses of published writing in different fields, see Writing for Academic Journals (Murray 2013).

A forthcoming ebook for supervisors to complement the student-oriented How to Write a Thesis is available in 2017: How to Supervise Writing – A Guide for Doctoral Supervisors.

For guidance on how to run a writing retreat for your doctoral students and why this might be a good thing, see my chapter on Writing Prolifically in Carter and Laurs (2017).

For an introduction to Structured Writing Retreat approach, see Murray and Newton (2009), and for information about writing retreats running now, see anchorage-education.co.uk.

For information about many aspects of thesis writing, writing for publication and students' experience of writing and supervision see the Thesis Whisperer and the Research Whisperer blogs.

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REWARDING EXCELLENCE
IN RESEARCH SUPERVISION

Dr Stan Taylor Durham University

Prof Alistair McCulloch University of South Australia

Virtually all higher education institutions in both Australia and the UK now have awards for teaching and supporting learning, and there is some evidence (see Mitten and Ross 2016, Smith et al 2016) that these can be effective in identifying, recognising and disseminating exemplary practice. In principle, the same argument should apply to dedicated awards for research supervision, for which reason national awards have recently been established in both Australia and the UK.

However, at present, very little is known about awards for supervision at institutional level in terms of their frequency, their form, and how and why they have developed, and for that reason we embarked upon a research project designed to map the landscapes of such awards in the UK and Australia. We obtained data, mainly from public sources, on 34 of the 40 institutions with research degree awarding powers in Australia and on 134 of the 143 comparable institutions in the UK.

We presented our findings at the International Conference on Developments in Doctoral Education and Training at Stratford upon Avon on April 3rd 2017. Highlights included:

i. Australian universities were much more likely than those in the UK to have had awards for supervision;

ii. In Australia, awards were nearly all led by institutions as opposed to student unions while in the UK the reverse was the case;

iii. A higher proportion of awards in Australia were for 'excellent' or 'outstanding' supervision, while in the UK they were more likely to be for 'best' supervisors or 'supervisors of the year';

iv. In the Australian award schemes, nominations were predominantly restricted to staff, while in the UK the vast majority only allowed student nominations;

v.   In Australia, nearly all of the award schemes had defined criteria for nomination, while in the UK one-third of schemes left the grounds to be determined by individuals making nominations;

vi.   In Australia, nearly all schemes required evidence from nominees to support claims for awards, but in the UK this was confined to a small number of institution-led schemes;

vii.   In the UK, two-thirds of schemes had student-only judgement panels, while in Australia only one had a student-only panel and just over-half had staff only panels;

viii.   A higher proportion of Australian schemes placed requirements on award winners to disseminate their good practice;

ix.   The reason for many, if not all, of these differences is the fact that nearly all of the schemes in Australia were institution-led while those in the UK were predominantly student-led.

On the basis of this final point, we speculated on which of these approaches is most likely to be effective in identifying, recognising and rewarding exemplary supervision. While further research is needed for a definitive answer, in our view this seems in principle to be better achieved by the institution-led awards. These placed a much greater emphasis upon reliability and validity while, as Deem (2015) has argued more generally, the lack of rigour in many of the student-led awards raises the issue of how far the outcomes reflect the popularity of recipients rather than their exemplary practice.

That said, we also recognise that, as Davies et al (2012) have shown, there are potential benefits in engaging students with first-hand experience of supervision as partners in the processes of nominating and choosing winners of awards which should be considered by institutions which currently rely solely upon staff to undertake these functions.

Our view, then, is that the way forward is to unite the best features of institution-led and student-led awards through joint partnerships combining the rigour and validity associated with the former with the student engagement promoted by the latter.

QUESTIONS TO CONSIDER

i.   Does your institution have an award for exemplary practice in research supervision?

ii.   If not, do you think that establishing an award might be an effective way of acknowledging and rewarding outstanding supervision and raising its status?

   iii.   If so, what are the criteria? Have you applied or would you think of applying for an award yourself or as part of a team? Do you think that the award in your institution is an effective way of acknowledging and rewarding outstanding supervision and raising its status?

RESOURCES

Details of the national schemes may be found at:

Australian Council for Graduate Research (2017) Awards for Excellence in Graduate Research Education. Available on-line at http://www.ddogs.edu.au/acgr-awards

UK Council for Graduate Education (2016) Alys Young of the University of Manchester named Outstanding Supervisor of the Year 2016. Available on line at http://www.ukcge.ac.uk/article/alys-young-university-manchester-outstanding-research-supervisor-341.aspx

Examples of institutional schemes are:

Durham University (2016) Awards for Excellence in Doctoral Supervision. Available on-line at https://www.dur.ac.uk/academic.office/card/academicdevelopment/universityawardsforexcellencein doctoralsupervision/

Edith Cowan University (undated) Vice-Chancellor's Staff Award for Excellence in Research Supervision (VCSAERS) Information and Guidelines. Available on-line at:

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CASE STUDY
IMPERIAL COLLEGE LONDON'S PRESIDENT'S AWARDS FOR EXCELLENCE IN RESEARCH SUPERVISION

Professor Sue Gibson
Director, Graduate School and Chair of the
President's Awards for Excellence in Research Supervision

The President's Awards for Excellence in Research Supervision are part of a portfolio of awards to recognise education and research excellence in equal measure across Imperial College London. The Awards also complement the Best Supervision category in the student-led SACAs (Student Academic Choice Awards), organised by Imperial College Union.

Imperial places great importance on the student-supervisor partnership. We recognise that this relationship is key to a rewarding education for our students and to the generation of new knowledge. The President's Awards for Excellence in Research Supervision recognise staff who have made exceptional contributions in the research supervision, encouragement and support of postgraduate research students. By making these awards on an annual basis we aim to highlight some of the many ways in which these outstanding partnerships develop and succeed. Recent awardees include a supervisor who provides outstanding support for her research group split across the UK and The Gambia, someone whose wide variety of methods to inspire her students even incorporated song-and-dance sessions and a supervisor who has stepped forward on many occasions to support the supervision of students facing severe personal challenges.

At Imperial we have an active review programme to ensure continuous enhancement of our research supervision - the winners of the President's Awards and SACAS have made invaluable contributions to this programme. They have been active members of Working Groups on topics such as doctoral students wellbeing, research culture, and student-supervisor partnerships. Awardees have also provided advice and contributed video clips for a range of online materials including the recently

launched Supervisors' Guide. By actively involving winners in a range of College-wide activities, we are able to ensure that their expertise and innovation is disseminated as widely as possible.

The President's Awards for Excellence are run annually. For Excellence in Education awards, a call for nominations is made in November. Staff and students are able to nominate people for the Research Supervision category. Nominations include a reference from the Department, a reference from the student/s and information about the supervisors' students' progression and subsequent career success. Scheme reviewers look for supervisors who go above and beyond; who show a wider commitment to postgraduate education beyond the supervision of their own students; and who have introduced innovative mechanisms to help with the supervision of research students.

Nominations are made via an online system and each category is reviewed in February/March by a panel selected by the Vice-Provost (Education), which includes past winners and student representatives. Panel meetings are held in March/April and a decision is made on the winners. Up to five winners are selected in the Excellence in Research Supervision category and up to two winners can be awarded medals. Winners are presented with a monetary prize and their achievements are highlighted across College channels. Medal winners also are formally presented with their medal in the College's Postgraduate Awards Ceremony, in front of thousands of guests in the Royal Albert Hall – cementing the significance we place on their achievement.

RESEARCH SUPERVISORS
NETWORK

UK Council for
Graduate Education