

# Co-supervision in postgraduate training: Ensuring the right hand knows what the left hand is doing

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South Africa is experiencing a steep rise in postgraduate candidature and a backlog in research training and supervision. Co-supervision is a means to address such challenges. This study investigated how co-supervision could effectively and efficiently be implemented within a Faculty of Health Sciences. Supervisors and postgraduates brainstormed co-supervisory practice to identify: (1) the reasons for co-supervision, (2) what co-supervisors should discuss to facilitate their interactions and (3) how best to initiate the novice supervisor into supervisory practice. Co-supervisors are formally appointed for different reasons and all co-supervisory activities should be directed towards meeting the purpose of that appointment. Points to consider in facilitating a co-supervisor memorandum of understanding and novice supervisor training were discussed. Our findings provide suggestions to develop accountable co-supervisory practices, enhance novice supervisor training and to design discipline-specific best practice policy at institutional level to enable a common understanding of co-supervisory roles and responsibilities. Threats to effective co-supervision identified were the implications of co-supervision in staff promotion, inequitable workload recognition and no official acknowledgement of informal supervisory activities. Unless these issues are addressed, the full potential of co-supervision will remain unrealised. Supervision pedagogy and research teaching is a sophisticated skill worthy of professionalisation.

## Introduction

South African academic institutions are struggling to rapidly establish a knowledgeable, qualified supervisory cohort to efficiently and effectively cope with the influx of expected postgraduates. Diminishing supervisory skills consequent to the ageing, experienced supervisory cohort have been well discussed<sup>1</sup> The growing need for supervisors, together with the desire for cross-disciplinary research to maximise innovation for future socio-economic benefits,<sup>2</sup> means that co-supervision will become the norm as opposed to the traditional apprentice-type supervision<sup>1</sup> to best address the proposed increase in research graduates as per the National Development Plan (NDP): Vision for 2030<sup>3</sup> and the Health Professionals Council of South Africa's (HPCSA)<sup>4</sup> recent policy. Co-supervision, whether cross-disciplinary or to augment core supervision, brings with it realities which could impact on the smooth functioning of the process. Differences in inter-supervisory expectations, varying departmental norms of how supervision is undertaken, divergent understandings of supervisory tasks and, to tap into the potential supervisory capacity of doctoral graduates outside of tertiary educational institutes, an entire neophyte cohort with no supervisory experience at all could give rise to any number of inconsistent approaches. Although the Higher Education Qualifications Framework requirements for doctoral degree candidates include: 'A graduate must be able to supervise and evaluate the research of others in the area of specialisation concerned'<sup>5</sup>, in reality, a newly qualified PhD or master's graduate would find their first process of supervision daunting unless supported by an experienced co-supervisor and mentor.

### *South African understanding of co-supervision*

We investigated how co-supervision could effectively and efficiently be implemented within the Faculty of Health Sciences at the University of the Witwatersrand (Wits). Co-supervision (also called joint or dual supervision) is used to support 33–70% of all South African PhD candidates<sup>1</sup> and can take various forms. On the one hand, a co-supervisor forms part of a formally appointed committee or panel where one postgraduate is supervised by between three and five qualified academics (commonly referred to as the American system). The committee members are selected on the basis of their expertise within the research field being investigated. The size of the supervisory contribution will depend on the portion of the research project which falls within the scope of each particular committee member. A principal or main supervisor, considered to be the head of the supervisory team, is charged with directing the research project and takes overall responsibility for the postgraduate. On the other hand, the more common approach is to use two formally appointed academic co-supervisors to take responsibility for the educational path of the postgraduate. At Wits, the roles of the supervisor and co-supervisor are described in the Senate Standing Orders on Higher Degrees as follows:

*The Supervisor' is the person who is principally responsible for the supervision of the student and is responsible for 50% or more of the supervision. 'The Co-supervisor' is the person who is responsible for more than 10% and 50% or less of the supervision of the student.*<sup>6</sup>

In reality, this hierarchy and task allocation is not always followed. Obviously, there may be more than one 'co-supervisor' with percentage supervision assigned to each accordingly.

At the Faculty of Health Sciences at Wits, co-supervision is voluntary and not enforced as encountered elsewhere.<sup>7</sup> Co-supervisors are usually formally appointed at the research proposal stage or less frequently at another stage along the research process when it is clear that additional expertise is required. The initiative to appoint a co-supervisor is usually done by the primary supervisor and follows standard university procedures, although elsewhere, doctoral students themselves initiate the process.<sup>8</sup>

Apart from the formal co-supervisory structures, informal supervision of postgraduates also occurs, with differing degrees of support roles and institutional recognition. Informal supervision was found to supplement the formal supervisory arrangement for the majority of PhD students studied by Ives and Rowley<sup>9</sup> who concluded that such informal supervision served as a way of meeting all the *students'* research needs. Wingfield<sup>10</sup>, on the other hand, suggested that informal co-supervision serves as a way to supplement the *supervisors'* needs by using the co-supervision potential (official or otherwise) of co-workers, postdoctoral students and senior postgraduate students to assist in the training of other postgraduates. In this way, Wingfield believed, academics are able to supervise more students than the potential ideal maximum of three postgraduate students per year.<sup>10</sup> Finally, the University of Edinburgh endorses the importance of informal supervisors. Their 'Code of Practice for Supervisors and Research Students'<sup>11</sup> reads:

*In many research programmes other staff members will be involved in an informal advisory capacity, especially if specialised equipment is to be used. It is the duty of the principal supervisor to ensure that these informal advisors are prepared both to undertake this work and to take responsibility for matters of instruction and safety.*

The informal supervisor carries no obligations to meet deadlines or responsibilities for completing the research, might be acknowledged by the student for contributing to the completion of the degree, is seldom credited for the success of the student and never receives recognition from either the Faculty or Postgraduate Office for their inputs made to the work.

It can be seen from the above that co-supervision can take many forms and is subject to diverse regulatory practices. However, there is no working description as to what co-supervision encompasses or the range of activities within which such supervision could be organised, in the South African context or elsewhere. Furthermore, while the transference of research and related skills is core to supervision, anecdotally, South African supervisors appear to undertake far more administrative and procedural responsibilities than their counterparts elsewhere. Co-supervision is poorly covered in the literature<sup>12,13</sup> and is usually dealt with in general studies of supervisory practices. In many cases, reference to co-supervision is peppered with conflicting phrases such as 'co-supervision [is] believed to bring great benefit to both students and supervisors'<sup>14</sup> and 'the idea of co-supervision tends to present more problems and challenges than solutions in graduate research supervision'<sup>15</sup> with little to support either assertion<sup>16,17</sup>. For this reason, there is much need to explore both the supervisor and postgraduate experience of co-supervision to unpack and clarify co-supervision roles.<sup>7,18</sup>

Our initiative was therefore to 'get smarter' about co-supervision and investigate how this practice could be more effectively and efficiently implemented, given the steep rise in postgraduate candidature and the ill-equipped potential supervisor cohort. Our point of departure was that if there is no overall scheme of co-supervisory activities, there will be a lack of skills transfer and diffusion of responsibility, giving rise to problematic situations such as conflicting advice, lack of documentation, imbalance of workload, duplication of activities and at worst, no supervision at all.<sup>13,19</sup>

## Methodology

Permission was granted by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand (ethics clearance certificate M130120) to undertake this study. Two Supervisor Support Group focus groups were organised during February and April 2012 and co-supervision brainstormed, from both the co-supervisors and postgraduate perspective. (The Supervisor Support Group was started in the Wits Faculty of Health Sciences in 2007 to provide an informal forum for experienced and novice supervisors to exchange ideas, listen to presentations by guest speakers, discuss university higher degree policies and share interesting publications and news items. At the time

of writing, there were about 160 participants from mainly the Health Sciences, with others from the rest of campus also joining the meetings).

Approximately 60 people attended the meetings and contributed to discussions. There was further email input from those who could not attend on the days or from those who chose to give a private contribution. Three topics were central to our thinking: (1) identifying the reasons for co-supervision within the Faculty of Health Sciences, (2) ascertaining what discussion points could form a 'memorandum of understanding' between co-supervisors and (3) identifying how best to initiate the novice supervisor into supervisory practice. From each topic, thrusts were developed to formulate questions and stimulate discussion around what the group identified as desired key outcomes of each activity, paths whereby the outcomes could be addressed and finally bridges and barriers within the system which could hamper or help co-supervisory practice. Crucial to our brainstorming was an understanding of best practice procedures for co-supervision and contextualisation of such best practice within the Faculty of Health Sciences. Extensive notes were taken by both authors during the debates and written contributions were scrutinised. Responses to targeted questions were listed and themes which emerged from the debates identified. Draft documents were circulated to Supervisor Support Group members, participating postgraduates, others who had contributed their thoughts as well as heads of schools and the deanery for comment. The extensive literature on supervisor practice was consulted to further develop our thoughts on co-supervision and how this practice could be enhanced within an academic environment.

## Results and discussion

The guidelines that arose from these activities were grouped according to our three discussion topics. Suggestions on co-supervisory 'best practice' and novice supervisor mentoring are given in Boxes 1 and 2, respectively.

### *Circumstances under which formal co-supervision is considered*

Co-supervision is usually considered at various stages of the supervisory process, commonly (1) during research protocol or proposal preparation and (2) during the course of the research project prior to examination. Appointment of a co-supervisor post-examination does occur and addresses an important gap in the progress of some candidates to graduation. Eleven circumstances relating to co-supervision were encountered in the Faculty of Health Sciences:

1. *Expert advice* which can include specialist subject knowledge, administrative, bureaucratic or procedural knowhow. This reason is the most frequent given for co-supervision.<sup>12,13,16,19,20</sup>
2. *Load sharing* by division of labour is also a commonly cited reason for co-supervision.<sup>7,19</sup> A recent publication<sup>21</sup> linking academic staff burnout to rising numbers of postgraduates predicts an associated escalation in co-supervision.
3. *Local vs distant* (or guardian) co-supervision<sup>7,22</sup> occurs when postgraduates are registered at the home faculty but work outside in industry or beyond South Africa's borders. Co-supervisors are appointed at both sites to support the postgraduate and to ensure continuity and oversight. Local co-supervision is also called upon to ensure that departmental requirements are met when the subject supervisor is outside of the student's registered home department. The roles of distant and local co-supervisors are set to increase with the upsurge of joint and double degree programmes to meet developments in the internationalisation of higher education.<sup>23</sup>
4. An academic mobility '*safety net*' to counteract the consequences of imminent supervisor retirement, sabbatical or re-location.<sup>7,9,12,13,24-26</sup> This reason for co-supervision is set to rise as South African universities shift from full-time to part-time academic staff on short-term contracts.<sup>27-29</sup> In this way, South Africa is following the international trend towards increased proportions of sessional staff on short-term contracts<sup>30</sup>, which has the potential to impact on

supervisor continuity and postgraduate completion times.<sup>25</sup> Rather unfairly, it is the postgraduate who bears the consequences of university short-term staffing policy viz. uncertainties regarding supervisor appointment, a vacuum when the supervisor is lost and the shift to realign their research to meet the new supervisor's vision. A 'safety net' co-supervisory arrangement will provide an essential line of continuity and support in such cases.

5. A university *regulatory* co-supervisor to compensate for the large number of clinical specialist academic staff who lack a formal research qualification. Most South African medical schools permit clinical specialists to supervise postgraduates if they have an independent, published research record. However, it is obligatory to appoint a 'regulatory' co-supervisor who has the degree equivalent or above that which is being supervised, to comply with the Council for Higher Education policy<sup>31</sup>, a requirement similarly reported in other health sectors.<sup>32</sup> The university regulatory co-supervisor is generally not an expert in the clinically oriented research topic, but will actively co-supervise the postgraduate in aspects of research approaches, higher degree format and layout, and oversee the administrative processes required for degree completion.
6. The training of *novice* supervisors by experienced supervisors.<sup>12,13,33</sup>
7. *Pragmatism*. 'I always have a co-supervisor so that my postgraduate has someone to go to when they are fed up with me.' An insightful comment from an esteemed supervisor and researcher, sensitive to the emotional dimension of the supervisory process.<sup>34</sup>
8. *Financial incentives* are an increasingly important consideration because of the new university funding formula in which research monies in the form of subsidies and incentives are assigned to supervisors following successful completion of higher degrees.<sup>1,35</sup> Such incentives can increase the co-supervisory pool but can also encourage freeloaders.<sup>24</sup>
9. *Policing* roles have become necessary to keep tabs on errant supervisors, often the excellent researcher with a productive publishing record who attracts postgraduates to their laboratory for perceived benefits of exposure to cutting-edge research. Unfortunately, supervision responsibilities are lacking and the 'policyperson' appointed from the outset is able to preside over completion of the postgraduate process and ensure university obligations are met. A 'policyperson' usually oversees the process, not the research per se, and could be regarded as a formally appointed 'critical friend'.<sup>13,36</sup>
10. When the supervisory track derails for whatever reason, a *minder* could be called upon to forestall a total breakdown in the relationship. This co-supervisor is often a senior academic who acts as a buffer between the supervisor and postgraduate but never takes over the supervisory role. The minder and policyperson roles appear similar, but the minder is appointed when a problem arises during the supervisory process. A policyperson is there from the start to contain an inevitable problem.
11. *Rescue* co-supervisors are formally appointed to oversee the substantial re-working of the thesis following examination. Often the amount of re-working is extensive and well beyond the ability of the supervisor. In our experience, the problems encountered in the thesis are the result of inexperience of the supervisor or negligence on the part of the postgraduate or both. A 'rescue' co-supervisor works with the postgraduate and supervisor to correct the thesis and prepare it for re-examination. Co-supervision in this case is regarded as a formative exercise for the supervisor and student and constructive engagement occurs with both parties to ensure that the 'rescue' is a positive learning experience.

The co-supervisory circumstances or roles which we have identified should not be regarded as a complete listing of all possible interventions: in other faculties in other countries, other co-supervisory experiences will occur, which require categorisation. Whatever the case, it is recommended that the purpose of the co-supervision should be clearly identified at the

outset, and supervisory roles explicitly directed and executed to support those purposes efficiently, optimally and without duplication. Noteworthy from the above is that the latter three co-supervisory roles, i.e. the policing, minder and rescue roles, have not previously been described. The co-supervisors in these instances may not reflect South African supervisory realities as highlighted in the PhD study by ASSAf<sup>1</sup> viz. increasing postgraduate numbers, ill-prepared students, high undergraduate teaching loads and administrative responsibilities together with staff having academic requirements for supervision, but lacking the experience, aptitude, interest or time to do the job. Even dedicated supervisors bewail their inability to supervise optimally because of university pressures to chase and raise third stream research funding.

Supervision is crucial to doctoral students' successful completion of their theses<sup>16,37</sup> and this applies to co-supervisory practices as well. Our emphasis in the following section is on developing a mutual agreement as to the roles of each co-supervisor with the idea of developing a memorandum of understanding between co-supervisors, similar to the postgraduate-supervisor contract, rather than the deeper considerations of tertiary education supervision pedagogy.

### Co-supervision activities and outcomes

Box 1 is largely self-explanatory. In summary, co-supervision needs to be actively managed with all co-supervisors starting on common ground with periodic, built-in reviewing activities flagged within the programme on an ongoing basis. They need to agree on expectations of the research project, the postgraduate and their own roles and responsibilities, as well as those of the postgraduate. It would be preferable to include the postgraduate in some or all of the co-supervisory discussions, but that can be determined by the circumstance. Ongoing progress is reliant on keeping co-supervisory relationships open and transparent, regularly reviewing the postgraduate's advancement; meeting administrative requirements; monitoring project development and fulfilling co-supervisory roles. All these require an enabling environment, the right frame of mind and a constructive attitude towards diversity, flexibility, willingness to learn and recognition that if things go wrong, it is the postgraduate who suffers.

Divergent interpretations of the work needed for the various research degrees offered by the Faculty are not uncommon.<sup>32</sup> Divergent interpretations, together with differing research and supervisor experience levels, and understandings of what supervision, let alone co-supervision entail, led one of the younger participants to exclaim, 'Are we supposed to do all that?' when viewing the multiplicity of tasks identified in the two boxes. Delany<sup>38</sup> warns of the pitfalls when presenting supervisory practice as a series of lists, as we have done, as this implies a fragmented approach to what is in reality a rich array of dynamic activities and multifarious phenomena. However, he acknowledges that effective supervision requires 'a salient need for a program of coherent empirical validation'. Similarly, Lahenius et al.<sup>8</sup> concluded that co-supervision in the engineering disciplines would benefit from specific rules and responsibilities.

The current study was undertaken to provide guidelines to establish and support the co-supervisory needs within a Health Sciences Faculty environment, guidelines that we believe would apply to many other academic institutions. We further contend that listing supervisory duties, as we have done, is essential to convey the scope and variety of tasks expected for successful co-supervision, be it intra-departmental, cross-disciplinary or for the training of novices. A poor understanding of the range of tasks expected, without explicit discussion of the scope of each, can impact negatively on the nature of the relationship between co-supervisors and theirs with the postgraduate. No matter which reason forms the basis for co-supervision, it is imperative that a memorandum of understanding be drawn up between co-supervisors as a matter of course, just as the student-supervisor 'contract' is utilised in many tertiary academic institutions. Such a document is increasingly appropriate in an academic climate where universities must demonstrate to the tax-payer accountability, quality assurance and quantifiable training outcomes which are likely to facilitate successful postgraduate student completion.

**Box 1: What co-supervisors should clarify in advance**

1. Common aims of the research project	they can see the others corrections or will each supervisor receive a copy of the same draft to comment on?	g. Have a clear contact procedure for all when crises emerge
2. Common goals for dealing with the postgraduate student		
3. Formal requirements of the higher degree to be supervised	e. What are the arrangements for the final draft regarding reading, correcting, standards to be met and overall quality of the final thesis prior to all co-supervisors signing the document off for examination?	15. University requirements and policies
4. The division of work (to be reviewed or renegotiated annually or biannually)	f. What sort of assistance should the postgraduate be given in terms of writing?	a. Who is responsible for ensuring the candidate achieves milestones and meets the administrative requirements in a timely manner?
5. Informal co-supervision policy		b. How will the postgraduate be kept up to date with policies and procedures?
6. Time commitments and availability		c. Whose role is it to ensure that the student knows, and follows, policies related to research ethics, plagiarism etc.?
7. Roles and contributions of each co-supervisor towards the project and postgraduate with regard to:	11. Meetings	d. Whose role is it to take the student through the ethics application process and sign-off?
a. The purpose of the co-supervision, i.e. distinct roles that complement each other without duplication of effort or diffusion of responsibility	a. Will there be an agreed format for keeping records of meetings?	e. Who will take care of the postgraduate administration file, progress reports and records of the supervision?
b. Which aspects of the process will be dealt with by whom	b. Will both co-supervisors, together, meet with the student or have independent meetings with the student?	16. Provision of funds and facilities for the postgraduate's research project. Who will be responsible for:
c. Who will take final responsibility for the content, bureaucratic process, meeting administrative deadlines etc. Will there be a 'principal' supervisor who has the final say on all matters?	c. Who will organise meetings? How often? Where?	a. Overseeing the payments and budgeting of the project
d. Commitment to the postgraduate student and to each other	d. Will meetings be minuted and if so by whom, to what level of detail and will the notes be copied to both co-supervisors and the postgraduate?	b. Arranging access to basic resources such as bench space, computer etc.
e. Expectations of the postgraduate and of each other	e. How often will co-supervisors meet on their own to discuss the postgraduate's progress?	c. Fieldwork and conference funding
8. Roles regarding facilitating the project:	12. Workload percentages	d. Communicating with the funder as regards regular reports, dissemination of funds, etc.
a. How much help does each co-supervisor think is reasonable to give a postgraduate, e.g. the amount of technical, statistical or editing assistance permitted?	a. What percentage split is accorded a 'primary vs secondary' or 'senior vs junior' co-supervisor?	17. Publishing and conference attendance expectations:
b. How long will a postgraduate be allowed to struggle before a co-supervisor offers assistance?	b. If each co-supervisor is responsible for different aspects of supervision, how is each aspect recognised and split?	a. Supervisors' expectations with regard to the postgraduate publishing and presenting
c. Who will oversee the development of research skills, methodological knowhow, technical skills, information retrieval etc.?	c. Financial compensation split (incentive) should be clarified upfront and where necessary, agree with university policy	b. Authorship on papers – who will appear as authors and how will the order of authors be determined?
9. Style of supervision	d. Workload percentages should be revised from time to time	c. What contribution is reasonable without being a co-author or alternatively, the size of the contribution required to be named as a co-author?
a. Will it be 'hands on', 'hands off'; according to an existing university 'supervisor-student contract'; as the need arises; an acknowledged educational approach; or to each his own?	e. The line of supervision should be clearly defined (if required)	d. Who will take charge of conference organisation, registration, costs and presentation preparation?
b. Are there specific aspects of the process that are thought to be critical and need to be understood by the other supervisors. For example:	13. How conflicting advice to the postgraduate will be handled	18. The process for discussing concerns and conflicts:
• Industrial or funding partnership interventions	a. If views differ, does each advise the student of their recommendation and let the postgraduate reach an independent decision or should the co-supervisors try to reach a consensus first and present a united approach?	a. About the candidate
• Embargo on data or confidentiality clauses	b. Will the principal co-supervisor make the final decision?	b. With and between co-supervisors
• Informal co-supervisor policies	14. Communication	c. If the postgraduate goes to one co-supervisor with a problem about another supervisor, how will this be handled?
• Intellectual property	a. Will all emails be copied to co-supervisors and the postgraduate?	19. Integration of the postgraduate. Who will:
10. How the drafts of the research report/thesis will be handled	b. Will the postgraduate send emails to both co-supervisors, or just to one co-supervisor? If so, which one?	a. Introduce the postgraduate to the department and staff members
a. What is a reasonable turnaround time on drafts?	c. How will the long absence of a co-supervisor be managed?	b. Take the student on a campus tour
b. How many drafts is it reasonable for a member of a supervisory team to read?	d. What vacation leave or study leave will be granted to the postgraduate?	c. Ensure peer group assimilation and common room access
c. Will both co-supervisors read each draft or only portions of the draft?	e. What notice of leave should be given and how far in advance and should it be given to all concerned?	d. Ensure participation in seminars, journal clubs, meetings and academic social events
d. Will the same draft be read consecutively by each co-supervisor so	f. What will be the best way to access one another, especially if off-campus?	e. Obtain personal, family background and contact information

**Box 2: Mentoring of novice supervisors: Training and support**

<p>The mentor should:</p> <ol style="list-style-type: none"> <li>1. Establish goals for the novice supervisor             <ol style="list-style-type: none"> <li>a. Annual plan with milestones</li> </ol> </li> <li>2. Assist the novice in engagement with the student             <ol style="list-style-type: none"> <li>a. Encourage the novice to lead discussions during supervisions</li> </ol> </li> <li>3. Provide referencing and library assistance</li> <li>4. Provide networking opportunities for the novice supervisor within the academic environment</li> <li>5. Critique drafts:             <ol style="list-style-type: none"> <li>a. At first, the experienced supervisor should forward drafts with comments to the novice for their input. A meeting between the two supervisors should be arranged before meeting with the student to discuss the feedback and present a common approach to the postgraduate.</li> <li>b. With time, the process should be reversed with the novice providing initial comments.</li> </ol> </li> <li>6. Provide personal feedback on their co-supervisory performance</li> <li>7. Clarify the novice supervisor's role with respect to the experienced supervisor's role as per Box 1</li> <li>8. Encourage the novice supervisor to attend supervision courses</li> <li>9. Ensure the novice has knowledge of the university administrative and policy requirements for higher degrees. The novice should keep copies of all updated documents to hand such as:             <ol style="list-style-type: none"> <li>a. University Standing Orders and Policies dealing with postgraduates and supervisors</li> <li>b. Faculty rule books and handbooks</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>c. Faculty Standing Orders and documents from the Faculty Graduate Studies Office</li> <li>d. Ethics requirements and procedures</li> <li>e. Protocol and examination procedures</li> <li>f. Official 'supervisor-student contract'</li> <li>g. Details of student support services and international student policies</li> </ol> <ol style="list-style-type: none"> <li>10. Keep watch to ensure the postgraduate, under instruction from the novice, complies with rules, especially concerning submission dates for assessors for the protocol, ethics clearance, annual registration, dates for fee payments, length of registration requiring motivation for an extension and submission for examination</li> <li>11. Encourage the novice to have an independent research and publishing career</li> <li>12. Monitor time management of both the novice supervisor and the supervisory/research process. The novice has probably realised from their own experience that completion of a higher degree inevitably takes longer than anticipated</li> <li>13. Encourage active acquisition of new research skills and extend knowledge outside the novice supervisor's specialist research field</li> <li>14. Assist the novice in establishing a supervision style preference, ranging from very hands-on and directive to very hands-off and non-directive. In addition, ensure the novice is well acquainted with different supervisory approaches, is able to critically evaluate educational assumptions and has a good understanding of when and which supervisory roles to optimally apply to fully meet the needs of individual research students at any given time</li> <li>15. Ensure the novice is aware of funding and grant opportunities and procedures</li> </ol>
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*Mentoring of novice supervisors*

While there are many academic articles which focus on the role of the supervisor in the intellectual development of the postgraduate, there is an absence of similar texts on the development of the novice supervisor by the experienced supervisor. Although such a mentoring activity seems straightforward, a one-on-one relationship such as this can be better and more effectively served if an explicit agenda is prepared to chart tasks and procedures which the novice needs to know in order to be effective in her/his early supervisions. Our concerns are pragmatic rather than driven by the values, beliefs and concepts of supervision *per se* and we focus on tasks which will ultimately set the novice up for their supervisory careers. In Box 2 we suggest ways in which the novice supervisor may be eased into their supervisory role prior to embarking on independent supervisor practice. The list is not definitive, but can form the basis for interaction between the novice and experienced supervisor in most situations.

As a point of departure, the following was generally agreed upon as being good novice supervisor mentoring:

- A novice supervisor should not supervise on their own, a decision which is in line with other codes of practice.<sup>11</sup>
- Even with a co-supervisor, a novice supervisor with a master's degree should start by supervising honours students. Those with a PhD should start with a master's student before negotiating a PhD supervisory role (assuming the newly qualified PhD has had some experience overseeing and supervising honours projects).
- The novice supervisor should begin by overseeing a project within their field of research and methodological expertise.
- The first postgraduate assigned to the novice supervisor should be of reasonable standard and the novice should preferably have some say in the selection of the postgraduate.

The 'see one, do one' of novice supervisor development is insufficient<sup>39</sup> and this sentiment was echoed in our debates. There was consensus that the novice should undertake at least three co-supervisions before

going solo and if possible, be mentored by three different supervisors, preferably with related, but differing, research interests. Thereby the novice would be exposed to different supervisor styles with the added benefit of widening their research horizons with different research topics and methodologies. This would permit the novice supervisor to acquire new research skills and provide further impetus towards developing an independent research and publishing career as described above. As to who should co-supervise with a novice supervisor, one respondent, a potential novice supervisor, remarked:

*It would be nice when a novice is co-supervised by a willing hard working mentor with a good track record. Now who is going to make a list of good and bad mentors? What criteria are best to be used? Publications, complaints or comments from others?*

Buttery et al.<sup>24</sup> warns that students are unimpressed with their status as a postgraduate 'guinea pig' when they perceive their supervisor is an 'on the job' trainee. A more structured intervention when training novice supervisors, as we advocate, has the added spin-off of reassuring the supervised postgraduate that experienced oversight is present and makes them more amenable to the process. Contrary to ordinary co-supervision practice where co-supervisors can be called in at any stage of the research, Stack<sup>40</sup> feels that co-supervision with a novice should involve joint supervisory consultations with postgraduate students from the very start of the research process. The novice should play an active role in the choice of topic, designing of the research, carrying out the fieldwork and data analysis and giving feedback on written drafts submitted by the student. Bringing the novice supervisor in at a later stage is inadvisable.

It happens all too often that supervision activity is so directed towards the postgraduate that the interaction between experienced and novice supervisor gets overlooked. It is paramount that the novice and experienced supervisor have meetings separate from the postgraduate so that supervision mentoring can take place apart from postgraduate mentoring. During such sessions, administrative and procedural aspects

of supervision can be conveniently covered (see point 9 in Box 2). In South Africa, the focus of the registered postgraduate is on the research and the student is seldom party to the 'behind the scenes' administrative aspects of the degree. Consequently, when they oversee postgraduates, they are surprised to find this as an expected supervisory responsibility. Thus we recommend that a programme of continuous feedback be built into the mentoring co-supervision calendar and is best done at the direction of the experienced supervisor,<sup>40,41</sup> who offers suggestions in this regard to the novice to maintain morale.

Most novice supervisors base their supervisory practice on their own experiences as a research student, whether good or bad.<sup>7,33,34</sup> Novices are often perplexed to find that utilising strategies which worked for them is not necessarily appropriate for their supervisees.<sup>41</sup> Thus, novices should be aware of the variety of supervision styles available<sup>36,42-46</sup> and the outcomes of each. Formal training is often used to expose the novice to the entire gamut of supervisory approaches and to critically evaluate each one's assumed value. However, Turner<sup>41</sup> cautions that for practical purposes, formal training is insufficient for many doctoral supervision dilemmas. A further challenge is the current predominance of an overtly Western approach to learning which does not take into account the more didactic approaches found in other parts of the world.<sup>47</sup> This challenge has implications for South African research co-supervisors working with divergent cultural groups and the increasing numbers of international students<sup>48</sup> accessing South African tertiary institutions.<sup>1,28</sup>

The assumption that a research degree is adequate for effective supervision is damning.<sup>1</sup> Shannon<sup>49</sup> reflects: 'It would be very rare for a person inactive in research to be even a barely adequate supervisor in mathematics or science.' Such sentiments are reflected in other disciplines too.<sup>12,15,24,32</sup> Indeed, Grossman et al.<sup>50</sup> recommend that independent supervision can only be satisfactorily accomplished once the supervisor has authored or co-authored four accredited research publications. Thus, the experienced supervisor should encourage and assist the novice in developing an independent research and publishing career during the novice co-supervision experience, where postgraduate research training can occur in tandem with novice research mentoring.

### Co-supervisory threats and systems

Although there was agreement that co-supervision is beneficial to postgraduates, supervisors and university throughputs alike, some threats to healthy and productive co-supervision were raised of which three generated a great deal of discussion.

The first threat was noted by the following response:

*I am now trying to go through the motions of applying for promotion; I get a sense that it does count against my application having all my students co-supervised. It has not been said in so many words, but the gist of it is there.*

This perception was substantiated by participants who encountered similar experiences when seeking promotion or during job interviews. Co-supervision was seen as militating promotion and advancement prospects and therefore to be avoided. Tellingly, University policy is silent on the merits of co-supervision versus sole supervision in staff promotion and the literature appears equally silent on the matter.

Secondly, there was considerable debate about the practicalities of implementing point 4 of Box 1. A typical stance is illustrated by the following:

*I've also had several cases where the bulk of the workload of supervision and all the nitty-gritty technical stuff gets dumped on me because the others tend to disappear. ... in the end the other person gets all the kudos for the work that I do.*

Our situation is not unique. Buttery et al.<sup>24</sup> urges equitable reflections of effort in the workload agreement, stressing that requisite expert input may vary throughout the thesis lifecycle. Workloads and financial compensation of co-supervisors have been implicated by Spooner-Lane et al.<sup>13</sup> as being subject to power play and institutional duplicity, and

incidents of such were recounted by our group members. Universities should heed Shannon's<sup>49</sup> warning: 'If there is no workload recognition for the supervisory role then it may not be done well or it may be avoided except for the most dedicated.'

Finally, the substantial inputs expected of 'experts' to give of their time as informal advisors without formal recognition also raised ire during discussion. A postgraduate describes his predicament which necessitated him seeking informal supervision:

*My first draft of the thesis (intro and materials and methods) has been looked at by Mrs R, whilst the draft sent to Supervisor 1 is still on his desk since ... [eight months prior] and has not been looked at once. If I would need to guess, Mrs R and [you] will be the only ones I can effectively rely on ... for outside help as Supervisor 1 generally has made poor attempts in this area, with Supervisor 2 only in it for the ride.*

Informal postgraduate assistance has occurred because participants felt 'sorry' for the student or else did not wish to be perceived as churlish or 'un-collegial' when refusing 'informal' supervisory requests from colleagues. However, informal supervisors expressed resentment at the lack of recognition for their inputs and unhappiness about claims made on their time, similar to those described by Spooner-Lane et al.<sup>13</sup> Participants wanted a formal university policy or guideline to regularise 'informal' co-supervision so that their inputs could be officially recognised. This demand is not unreasonable, considering the curriculum vitae orientated job market, the new university funding formula subsidy base and expanding network of informal supervisors needed for increased higher degree throughputs. Indeed, Deuchar<sup>36</sup> goes so far as to predict a future escalating reliance on such advisors to meet the current 'neo-liberal focus on efficiency, economies of scale and the image of students as customers with rights' in higher education performativity.

These three outcomes were completely unexpected and appeared to be at odds with the university desires of improved quality and quantity of postgraduate throughput. Unless suitable changes are made to university regulations to positively address the role of co-supervision in employee advancement, equitable workload recognition and regularising informal supervisory activities, the full potential of co-supervision will remain unrealised.

In the final analysis, our results show that one of the ironies of the 'secret garden'<sup>51</sup> is that, in hiding supervisor-student practices, it has also obscured the enormous amount of indirect work and tasks associated with student supervision. This secretive practice has dumbed down the role and range of professional skills, administrative rigour and vast institutional knowledge associated with supervision to such an extent that supervision is poorly regarded by many non-supervising academics and non-academic faculty. Furthermore, supervision appears to be largely considered by university bureaucrats as an 'add-on' to lecturing tasks. There is no notion that the supervisor performs a complex variety of tasks and roles,<sup>44</sup> many only remotely related to monitoring and improving postgraduate performance,<sup>42</sup> and of an increasing awareness that supervision pedagogy and research teaching is a sophisticated skill.<sup>48,49</sup> The latter was enlarged upon during our discussions, concluding with the view that the time has come to create the niche of postgraduate supervision within university employment categories and to give it a professional ranking much like lecturer, tutor, specialist, scientist and other academic categories.

### Conclusion

Our findings can provide a starting point for the development of co-supervisory practices, enhancement of training of novice supervisors, and the design of cross-discipline 'best practice' policy at an institutional level. The fleshing out of the bare bones of our Boxes 1 and 2 could form the basis of a co-supervisor memorandum of understanding and we suggest discussions should occur within departments to meet specific needs of local conditions and academic traditions. Additionally, these findings might also stimulate topics for reflection and discussion among educators and

administrators in a higher education climate, which increasingly requires evidence of the organisation and administration of the postgraduate research degree as a tangible verification of quality assurance.

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## Authors' contributions

E.S.G. conceived the project; and both authors participated in the design, conceptual contributions and completion of the work. E.S.G. wrote the manuscript with inputs from N.J.C.

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