

Facilitators and barriers to doctoral supervision: A case study in health sciences

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Supervision capacity is becoming an issue that may restrict the ability of universities to meet eligible students' needs. Although there has been considerable research into the methods of supervision and the supervisor-student relationship, at this time there is little specific research into reasons why qualified academics choose or otherwise to put their names forward to be doctoral supervisors. This research explores the facilitating factors and barriers to supervision as viewed by academics in the Faculty of Medical and Health Sciences, The University of Auckland. The research was carried out via face-to-face semi-structured interviews with academics eligible to supervise doctoral candidates. Four themes were identified from the interview data, namely workload agreements, time pressures, quality of students and recognition of the supervisor's contribution. The results provide a platform for more research into this area as well as identify possible ways to enhance the facilitators and alleviate the barriers.

Introduction

Universities are seeing increasing enrolment in higher degrees and so there is a need for academic staff to supervise the growing number of PhD students (Murphy, Bain & Conrad, 2007). With this expansion, supervision is increasingly becoming a significant part of a university teacher's workload. However, there is limited availability of academics willing to undertake supervision (Thompson, Kirkman, Watson & Stewart, 2005). The literature identifies five main factors influencing whether academics undertake doctoral supervision. These are the internal factors of motivation and experience of the supervisor (Boehe, 2016; Buttery, Richter & Filho, 2005; Lindén, Ohlin & Brodin, 2013; Sadowski, Schneider & Thaller, 2008; Vilkinas, 2008), and the external factors of workload, resources and training (Buttery et al., 2005; Sadowski et al., 2008; Vilkinas, 2008). These factors may interact, particularly when supervision style conflicts with external factors (Boehe, 2016).

The external factors are those which act upon the supervisor from an outside source to influence their decision about doctoral supervision (Leder, 1995). These can come from the institutions, the students via the workload they entail, the training offered to both supervisors and students and the resources provided for supervision. The external resource available to a supervisor and their student, is an important factor in influencing possible future involvement or continuation of current supervision (Thompson et al., 2005; Vilkinas, 2002). Academic research is essential to the promotion of societies' knowledge and it plays a vital role for the future of our academic institutions (Leder, 1995; Murphy et al., 2007). In spite of this, doctoral supervision is often perceived as giving little

value and recognition by the host University via workload relief or resource support (Vilkinas, 2002). This places the supervisory role at risk of being avoided and only being undertaken by very devoted academics (Shannon, 1995). Those devoted academics possess the intrinsic motivation and often experience for supporting development of students and furthering of research in their field of choice (Sadowski et al., 2008). Resources that have been shown to be of importance to supervisors include access to personal support resources such as child care, opportunity to travel to attend relevant conferences and do field work, and also research support resources for example library resources, adequate office and lab space, phone, internet and database resources (Buttery et al., 2005).

Factors internal to supervisors may affect their decision about undertaking doctoral supervision (Kandiko, Kinchin & Hay, 2008). Supervisor motivation is a significant internal factor (Whitelock, Faulkner & Miell, 2008). This motivation can take a short or long term view such as interest in the research of the student or possible publications that may come out of the research (Craswell, 1996). The past experiences of supervisors can be influential in taking on more students or encouraging other academics to participate. Furthermore, supervisors use their own experiences of being supervised to shape the way they supervise their students (Shannon, 1995). Overall, doctoral supervision is a complex teaching, learning and research experience which engages interactions with students, project management skills and content knowledge (Maxwell & Smyth, 2011). It can be undertaken in different environments and hence at times, requires non-traditional skills such as familiarity with advanced online technologies (Maor, Ensor & Fraser, 2016; Nasiri & Mafakheri, 2015). All these factors may impact supervisors' motivation to supervise doctoral projects.

Shannon (1995) also suggests that supervision, like any other form of teaching, can be used as a form of learning whereby supervisors become aware of their own pitfalls and what works well and use this to develop best practice in supervision. Vilkinas (2002) points out that it would be useful if future research explored more about how supervisors reflect on and or learn from their experiences. In particular, further investigation into the impact previous supervision experiences can have on decisions relating to future engagement in and motivation to supervise. It is noted that in recent years more students undertake doctoral studies via distance learning (i.e. study is undertaken off campus). For some supervisors such a learning style may be a challenge, particularly raising concerns related to lack of control and/or continuous communication with the students (Nasiri & Mafakheri, 2015).

The purpose of this study is to identify barriers and facilitators to doctoral supervision among qualified academics. Understanding these factors can enable a consideration of ways to enhance the facilitators and alleviate the barriers. The study took place at the Faculty of Medical and Health Sciences (FMHS) at The University of Auckland.

Methods

Sample

A purposeful sampling method was used to select academic staff eligible to supervise PhD students. Based on their supervision experience, participants were categorised in three groups: Group 1, those who supervise regularly as primary supervisor; Group 2, those who co-supervise or those who are keen to supervise but only do so occasionally; Group 3, those who are eligible to supervise but currently do not. Interviews were conducted with 14 participants. The distribution of the sample is shown in Table 1.

Table 1: Distribution of the sample

Department	Group 1	Group 2	Group 3	Total
Population health	2	1	1	4
Nursing	1	1	1	3
Liggins*	0	0	1	1
Medicine	1	0	1	2
Medical science	2	0	0	2
Pharmacy	1	0	1	2
Total				14

* Liggins Institute, a University of Auckland health research institute

Procedure

Ethics approval to conduct the study was granted by the University of Auckland Human Subjects Ethics Committee.

Possible interviewees were identified by post graduate coordinators or heads of department in each of the faculty schools. Potential participants were contacted by either email or phone and once verbal or written approval was gained, the lead researcher arranged a time and place to conduct the interview. Prior to the interviews commencing, all participants signed the consent form and the lead researcher discussed the participant information sheet with them. Semi-structured interviews were conducted by the first author. The interviewer asked participants about their supervision experience, what factors they found made supervision harder or easier and what ideas they had about what could be changed to make it easier to carry out supervision or make it more attractive to undertake. Prompting was used to encourage participants to expand on their comments where appropriate. All interviews were digitally recorded with the permission of the participants and transcribed verbatim by the first author.

Data analysis

A general inductive approach (Thomas, 2003) was used to analyse the transcripts. This involved the transcripts of the interviews being read multiples times order to identify common themes in responses to key questions. These were then compared across the three groups in order to identify commonalities and differences. Member checking

(Creswell & Miller, 2000), whereby each participant was emailed a summary of the key findings from their interview, was undertaken in order to establish the trustworthiness of the analysis. Three participants emailed back for clarification of wording of points but all were in agreement that the summary accurately represented the interview.

Results

Four themes were identified from the interview data, namely workload agreements, time pressures, quality of students and recognition of the supervisor's contribution. The themes were compared across those who regularly supervised 'many' students, (M) and those who although eligible to supervise, have supervised only a 'few' students (F).

Workload agreements

The workload placed on academics who are eligible to supervise PhDs is usually very high. This may include their own research, the supervision of other postgraduate students such as masters or honours students as well as undergraduate teaching and clinical work. In many cases academics felt under pressure to take on PhD students. Apart from one participant who reported there had been a 'pay off' from increasing his supervision load in that he did not do any undergraduate teaching anymore, all participants believed that supervision was additional to their current workload. Those who were significantly unhappy with the workload were largely those who supervised a 'few' students with only two of those supervising 'many' raising concerns about workload.

Workload is not equitable and there is no formula on to how that would be so if I was to get a doctoral student it would be on top of everything else (F).

It appeared that the majority of people wanted to see a workload agreement put into place. It was believed that this would result in more equitable workloads and ensure supervision was appropriately acknowledged.

There should be accountability and clarity about who is doing what and there should be clear records of that and they should be made available because the workloads are incredible and some people get away with not really doing much at all ... a workload formula (F).

One of the things that bothers me about it is my teaching load is the same as that of my peers and I have a lot more students than them and I don't feel there is recognition for that, such as I have more students, I should have less teaching [lecturing] (M).

Some participants suggested that provision of administrative support could be a way to assist with workload. They believed that form filling, and other administrative tasks, associated with supervising a PhD student was something that could be done by an administrator.

Time pressures

The time pressure placed on the supervisors and students by the university, to ensure the students are completing on time is significant, but interestingly supervisors across the board were happy with this pressure and felt it had many benefits. Some of these benefits included helping to keep the student on track and hurrying them along if necessary. It was also seen as advantageous for increasing research momentum and outputs.

The students as well they know they are expected to complete in 3-4 yrs ... but to get that momentum going with the research I need them to be done in 4 yrs so I apply that pressure myself (M).

On the downside it was identified that pressure to complete on time meant that the scope of the research was sometimes restricted meaning there was less opportunity to be able to explore interesting and potentially important side issues. One interviewee felt this led to “very output driven safe science focused research” (M).

Student factors

It appeared that student’s skills and ability to be able to handle the work involved in a PhD was of paramount importance to the supervisor, in that if the student was lacking the skills and knowledge required it added to the supervisor’s already heavy workload.

Depending on the PhD student – the calibre of the student – they can either be a huge asset or a bloody liability (M).

A number of academics who supervised ‘many’ students felt that there was not enough emphasis put on the academic writing skills required to write a thesis and papers, and that this problem was most prevalent for those whose English is a second language. Alongside that was the concern that consequently the supervisor then becomes the student’s editor which adds to workload. One academic said that the work associated with the supervision of his two international students was equal to that required by his other 8 students put together.

Another common issue, identified by both groups of supervisors, was the diversity of student expectations with regards to the work they have to do and how much help they will get. For some this was seen as problematic while others embraced the diversity.

My main problem is the expectations of the student of the supervisor. Some of them expect you to do their analysis and write their thesis and some of them expect enormous amounts of supervision which is just not possible. Others are much more self-directed (M).

The students I have are very different and that’s wonderful – wouldn’t want students that all agreed. I like that diversity that’s part of the richness of this (F).

Recognition of the supervisors

The matter of recognition for supervisors is a complex one. On the one hand, participants emphasised the importance of personal passion for teaching and research and on the other hand, they identified the issue of the lack of incentives for PhD supervisors.

Some participants gained pleasure by watching and assisting a scientist and researcher grow and develop skills.

Really being able to see a scientist grow ... being able to share your ideas ... that's how science grows (M).

However, a lack of official recognition for the supervisor negatively affected academics' motivation to undertake PhD supervision. When it came to promotion a number of people felt that their teaching achievements were not valued as much their ability to produce research outputs and this was a disincentive to some to increase supervision loads.

The university needs to recognise the value of it ... when I sit on promotional criteria and committees and when you look at it there is an expectation to have 1-2 PhD students for say associate professor level but if someone has had 5-6 that is not given a huge amount of credit. They may have the PhD students but they may not have publications to go with them (M).

Discussion

The data from the interviews undertaken in this study reflect the complexity of doctoral supervision. The findings are similar to those, particularly in terms of project and workload management, identified in previous research (Vilkinas, 2002). As reported in previous research (Craswell, 1996) many academics felt that their workloads were extremely high and this impacted on their capacity to take on supervision. Similarly appropriate recognition of student contact time has been recognised as being a factor in academics' willingness to supervise (e.g. Thompson et al, 2005). This may indicate a need for institutions to ensure that workload policies are transparent and equitably applied.

Interestingly, student factors such as their preparedness to undertake the work appear to have a greater influence on decisions to take on doctoral supervision than the personal qualities of the student. Consistent with previous findings (Craswell, 1996; Harman, 2003), findings from the current study indicated that resources to support students need to be available to make supervision easier for both the student and the supervisor, especially those relating to English acquisition and assistance with academic writing. The results of the study further highlight the need for open and honest communication between supervisor and student so as to ensure roles and expectations are understood by both parties in the supervision relationship. As Murphy et al. (2007) contend, in the absence of clear expectations and understanding of roles problems with supervision occur. Distance learning, despite its challenges, may appeal to some potential supervisors as it may be

perceived as less time and workload demanding (Maor et al., 2016; Nasiri & Mafakheri, 2015). In the literature some researchers have argued that the main part of supervision is the teaching and not the project or its publications (Murphy et al., 2007). Conversely others suggested that the opportunity to be involved in joint publication with the student serves as motivation to supervise (Buttery et al., 2005).

The responses seen in this study suggest that teaching and supervision, as an aspect of teaching, is not as valued or recognised to the extent that outputs associated with research are. In particular some participants, especially those who had supervised a significant number of students felt that this may have disadvantaged them in terms of promotion. On the other hand there was a small number of participants who felt there was no lack of recognition. It is possible that these were the more experienced supervisors who had adjusted over time to the amount of recognition, or got intrinsic satisfaction from the process. This remains to be explored further. Recent literature suggests that student-supervisor match, particularly, supervision style, the type of tasks negotiated between supervisors and students and level of experience/expertise of both, may impact on the nature of the supervision (Boehe, 2016; Orellana, Darder, Pérez & Salinas, 2016). Taking this into account raises a question not addressed in this study: how the first interaction with a new doctoral student, or applicant at that stage impacts supervisors' motivation to undertake the supervision role and what can be done about that. Research into this topic may disentangle some of the complexities of supervisor's perceptions and motivations to supervise doctoral students, which were not addressed in the current study.

Consequently it is suggested that promoting doctoral supervision requires a theory and evidence based systematic approach, which provides supervisors with effective supervision tools, manageable workload (time) and a trustful environment where supervisors feel supported as well as accounted for their supervision responsibilities (Emilsson & Johnsson, 2007). In summary, internationally there is a push to increase the numbers of students completing doctoral studies. As a result some institutions or faculties experience difficulties in meeting demands for supervision. The current study has explored issues that may influence potential supervisors' willingness or ability to take on doctoral students and as a result offers possible points for intervening.

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Please cite as: Askew, C., Dixon, R., McCormick, R., Callaghan, K., Wang, G. & Shulruf, B. (2016). Facilitators and barriers to doctoral supervision: A case study in health sciences. *Issues in Educational Research*, 26(1), 1-9. <http://www.iier.org.au/iier26/askew.pdf>