

# Preparing for doctoral supervision at a distance: Lessons from experience

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**Abstract:** An aging academic workforce and increasing demand for tertiary education are combining to create an acute shortage of university teachers across almost every discipline. Distance education at the doctoral level has an increasing role to play in preparing a new generation of university teachers but brings new challenges for existing academics responsible for that preparation. This study collected data from doctoral students and associated staff in two faculties at a regional Australian university with a growing number of doctoral students studying at a distance. Analysis of the data has produced insights into what currently works well for students and academics and what changes might be desirable. The paper presents selected data and lessons that can be applied to improve distance doctoral education.

Australia faces an impending crisis in its academic workforce. Within the next decade almost 50% of senior academics are expected to retire and the current numbers of young academics are unlikely to be sufficient to replace them. The effect of an aging academic workforce has been exacerbated by an increase of 107% in student numbers between 1989 and 2007 accompanied by only a 28% increase in staff numbers over the same period (University of Melbourne, 2009). Another recent report (Hugo & Morris, 2010) has confirmed that the projected shortage exists across the range of academic disciplines, driven by the combination of aging in a workforce that has not been steadily renewed over recent decades, increasing enrolments following government policy aimed at increasing participation, and decreasing job satisfaction among current academics related to a perceived decline in academic working conditions. Education, perhaps because of the career trajectories followed through teaching and then to academia, appears to be the worst affected of the professional areas, with upwards of 60% of education academics aged over 50.

Hugo and Morris (2010) noted that Australia has been recruiting academics internationally, with 40.5% of the academic workforce being born outside Australia compared to 25.7% of the total workforce and 23.9% of total population. However, they also noted that the aging of baby boomers in western countries is likely to reduce the available supply of international academics. Hence, there is an immediate need for expansion of the potential academic workforce in Australia through preparation of increased numbers of doctoral graduates. The scope of the task is increased by the observation that less than a quarter of Australians with a PhD work in universities (Hugo & Morris, 2010).

In some disciplines, such as those in Arts and Science faculties, it is reasonably common for students to progress through undergraduate study and an honors degree or masters to doctoral study. However, in the professions, such as teaching, it is more common for graduates to spend some years in practice before returning, often by way of a masters degree, to further study and a doctorate. Although this may be seen as a positive by the profession, because of the value placed upon field experience for grounding in reality, it does result in doctoral students from these disciplines being typically older than those in the 'pure' disciplines and more likely to have ongoing family and other commitments that impede transition to full-time study. Such students often prefer to enroll part-time in a doctorate in order to maintain employment because they need the income and to avoid career interruptions that may reduce opportunities for advancement. Moreover, where their employment is some distance from the university, as is often the case in sparsely populated Australia, they will prefer to study at a distance. As is the case with undergraduate students who are increasingly likely to have substantial employment commitments (James, Bexley,

Devlin, & Marginson, 2007), even those students who are within commuting distance of the university may prefer the flexibility offered by online study. That trend has been evident for more than a decade. Pearson (1999) noted the rapid increase in student numbers, increasing diversity, and the need for increased flexibility in study arrangements to accommodate the continuing commitments of more mature students to family and employment. Hence there is a need to consider how best to provide for more flexible doctoral education, including at a distance.

## **Doctoral studies, interaction and attrition**

The structures and process of doctoral education vary internationally. In Australia they are typically based on the British model in which a PhD is undertaken without coursework and entirely by research with the guidance of a supervisor. Professional doctorates, such as the Doctor of Education (EdD), typically include about one-third course work, equivalent to a year of full-time study, and a smaller research project but are otherwise very similar to the PhD. In all cases, principal supervisors will be experienced researchers with doctorates and some prior experience of supervising doctoral students, usually as an associate supervisor or co-supervisor working alongside a principal supervisor who is responsible for the progress of a student. Students entering the PhD program are expected to have any necessary background in content and research methodology or be capable of learning without formal coursework. Students studying related topics in such a program may provide each other with a degree of mutual support in what might be described as a community of practice (Lave & Wenger, 1991) formed around a team of supervisors. However, it is possible for doctoral students to be isolated from peers even when they are studying on campus if there are not other students working on similar topics or if other factors limit interaction. For distance students, without the benefit of working in common spaces, the problem of isolation is likely to be more common.

If doctoral education were viewed as solely or primarily about guiding students through an individual process of developing capacity for independent research, then the value of interaction among students might be limited. However, a broader view of doctoral education is as a process of initiation into a scholarly community in which the interaction with supervisors and other students is an important contributor to building links among members (Upham, 2003). The frequent interactions among students and academics in a traditional on-campus doctoral program offer frequent opportunities to build those links but students working at a distance are unlikely to benefit from the same incidental and informal interactions. Hence, if initiation into the scholarly community is a significant goal of doctoral education, special provision will be needed to provide the opportunities for that to occur.

Induction and support for doctoral students has been acknowledged as an important issue (Asmar & Peseta, 2001; Neumann, 2003). Although commencing doctoral students have prior successful experience of university study, doctoral study is a new, and potentially challenging, experience. Asmar and Peseta compared beginning doctoral students to school leavers entering university for the first time. They found that only 50% of 9000 graduate students “felt part of a group of staff and students committed to learning” (¶ 7) and argued that there was a “demonstrated need for enhanced academic and personal interactions” (¶ 12), for which systematic provision should be made. Issues of socialization and feelings of isolation and depersonalization have been listed among the causes of high attrition from doctoral programs (Terrell, Snyder, & Dringus, 2009). Traditional doctoral programs have attrition rates of 40% to 50% and the rates for distance programs are typically 10% to 20% higher (Terrell, et al., 2009). Distance doctoral programs will need to attend to induction and support if they are to retain and graduate students.

High levels of attrition reported for doctoral programs represent a significant cost to students, universities, and the wider community. They would be a concern at any time but are especially so in the face of anticipated demand for more doctoral graduates. Hence, if the provision of doctoral education at a distance is to be expanded to meet that demand it is important to consider how attrition rates might be minimized. Golde (2005) argues that poor social and academic integration is a significant contributor to attrition among doctoral students in traditional programs and it seems reasonable to assume that the challenges for integration in distance programs would be greater. Terrell et al. (2009) developed an instrument, the Doctoral Student Connectedness Scale, specifically to study feelings of connectedness to each other and faculty among distance doctoral students., and found evidence that low feelings of connectedness might be predictive of departure from the doctoral program. They recommended a variety of initiatives that might be implemented to improve support for students by promoting increased interaction in online communities thus leading to increased feelings of connectedness and reduced attrition.

The interpersonal interactions that may reduce attrition by increasing feelings of connectedness are also necessary if doctoral education is to provide induction into an academic community alongside development of research

capabilities. However, such interactions are becoming more difficult to manage as the student population expands and includes more part-time and distance students with personal commitments that reduce the time they have available for study and associated activity. These challenges facing doctoral education in Australia were recognized in a national report (McWilliam, et al., 2002), which recommended that intensive or flexible teaching be used to “maximise networking, and to introduce participants to senior/international peers and/or researchers” and that universities develop and maintain “online resources and communication technologies in support of participants who are work-based” (p. xi).

To meet the projected demand for academics in Australia it will be necessary to recruit more doctoral students and to minimize attrition during doctoral programs in order to produce more graduates. The associated increase in the number of doctoral students at any time will require more supervisors who, given the trend toward part-time and distance study, will need to be skilled in providing supervision at a distance. Many academics, even those who have been successful supervisors of doctoral students in traditional programs, will require support in developing the range of skills appropriate to supervising doctoral students at a distance.

Thus it is important to increase our understanding of effective practices for doctoral supervision at a distance to develop ways of sharing that understanding with academics who are required to supervise doctoral students at a distance. The goals of this study included informing the design of materials that might be used to advise and support academics in the process of developing new skills for supervision at a distance. To underpin that goal the study was designed to investigate the experiences of doctoral students and supervisors with a view to increasing understanding of how distance supervision is experienced and the variety of approaches that are being used by supervisors. It was guided by the following broad research questions:

1. How do doctoral students experience the processes of supervision, especially those involved in distance education?
2. What approaches are currently used by doctoral supervisors working at a distance and with what degrees of success?

## Method

The study was funded through an internal grant and was conducted within the contexts of the Faculties, Education and Business, within which the authors work. Data were collected from current doctoral students and supervisors in the faculties using a combination of questionnaires (students) and interviews (staff).

The student questionnaire included items about expectations regarding various forms of support in doctoral study, communication challenges of distance study and use of various technologies, issues experienced in relation to progress, the *Doctoral Student Connectedness Scale* (Terrell, et al., 2009), satisfaction with supervision, suggestions for improvement in the programs, and demographics. Development of the student questionnaire included two rounds of consultation with experienced supervisors. Some adjustments were made to the *Doctoral Student Connectedness Scale* to reflect differences in context between the USA, where the scale was developed, and Australia. The complete questionnaire was administered online using *QuestionPro*. Data were downloaded and subsequently analyzed using SPSS.

Supervisor interviews were conducted using a protocol that began by presenting the interviewee with a series of five brief scenarios in which they were asked to imagine that another supervisor asked their advice about how to respond to some difficulty with supervision at a distance and suggest the advice that they might offer. For example, the first scenario was presented as:

*Another supervisor mentions that she has a student in another country with a time zone difference that makes direct communication during working hours impossible. She has sent several email messages to the student but has not had a response for several weeks. What advice would you offer?*

Subsequent sections of the interview protocol included general questions about difficulties that might be experienced by doctoral students and supervisors working at a distance, services offered by university sections that assisted with supervision, satisfaction with arrangements for allocation and training of supervisors, experiences with use of various technologies for supervision, and general suggestions for improvement in doctoral programs. Interviews were conducted by one or other of the authors or an experienced research assistant, recorded using digital recorders, transcribed verbatim, and then analyzed thematically.

## Results

### Students

Doctoral students from the two faculties were invited by direct email to respond to the questionnaire and 42 complete responses were received from 150 invitees, a response rate of 28%. The respondents were representative of the doctoral students from the two faculties, comprising 60% from Business and 40% from Education with 58% being male and 42% female. The majority (75%) were studying at a distance and slightly more than half (56%) were international students. The predominant age groups were 40 to 49 years (40%) and 30 to 39 years (36%) with a further 18% in the 50 to 59 years range but just one younger than 30 and one older than 60 years. They were spread across different stages in their study from first year (32%), through those confirmed in candidature after presenting a formal research proposal at the end of their first year (43%) to the final stages of writing their dissertation (25%).

Factor analysis of the items on the *Doctoral Student Connectedness Scale* (Erwee, Albion, & van der Laan, in press) revealed three factors compared to the two found in the original study (Terrell, et al., 2009). The common factor comprised 9 items identified as indicating student-to-student connectedness. Similar to students in the original study, students in this study scored highest on the items reflecting feelings of care and trust among students but indicated a lack of communication with other students and the absence of a sense of community. One possible interpretation of this apparent contradiction is that students may have a close connection to a small research group but do not feel part of a broader university research community.

Where the original study found a second factor comprising 9 items indicating faculty-to-student connectedness, the current study found that 5 of the same items loaded on a second factor (Erwee, et al., in press). Two items in which the reference to 'faculty' had been changed to 'supervisor' to reflect the different context loaded on a third factor. The remaining 2 items about students believing they received timely feedback and trusting faculty did not load on any factor. The three-factor solution explained 76% of the variance. Considered together the data from these two factors indicate that links from students to supervisors and to faculty, understood in the Australian context as the organizational section of the university, are relatively stronger than links to other students. This is consistent with the centrality of the supervisor role in the Australian doctoral model but probably not conducive to development of strong links to a broader scholarly community as an outcome of doctoral education (Upham, 2003).

Responses to other items on the questionnaire indicated that expectations for support among doctoral students were centered on access to library resources and to regular feedback from supervisors. Where they experienced difficulties those were mostly associated with lack of resources or employment related issues. They mostly communicated with their supervisors by email, with telephone calls or teleconferences being among the next most common methods, and were satisfied or very satisfied with their communication with supervisors at frequencies of once every two weeks or monthly.

### Supervisors

Fourteen supervisors, seven from Faculty of Business and seven from Faculty of Education, with experience of distance supervision agreed to participate in an interview. They comprised six females and eight males, mostly in the age range of 40 to 59 years. Although not constituted by a formal sampling process the interviewees seemed to be broadly representative of the supervisors across the two faculties and the number was manageable for data collection and analysis.

The supervisors who were interviewed mostly had some successful experience of supervising students face-to-face and, because almost 75% of all students at the university study at a distance, had some experience of teaching courses at a distance as a basis for their distance supervision. Consistent with the data reported for the students, they indicated that their most common methods for communicating with students were email and telephone. They placed high value on finding opportunities for face-to-face interaction with doctoral students at significant phases in the doctoral process, noting that such direct interaction made it possible to clarify matters and speed progress on such steps as planning a research project.

Most supervisory activity tended to involve one-to-one interaction between the supervisor and student, whether by email, telephone or other means. However, some involved a second supervisor in the conversation, at least some of

the time, and some engaged a group of doctoral students in discussions about topics of mutual interest. Both of these strategies were presumed to have benefits for developing broader connectedness for doctoral students as well as making more efficient use of supervisors' time by avoiding the need to deal with the same or similar issues separately with multiple students.

Overall the interview data revealed a group of supervisors who were mostly comfortable working with students at a distance using some combination of telephone and email. However, they also considered that face-to-face meetings between supervisor and student at one or more critical points during the doctoral program were highly desirable or even essential. Those meetings could be accomplished by having the student visit for a period of campus residence or by the supervisor travelling to meet with students in their home location, often in association with offering a workshop for a group of doctoral students in that locality.

## **Summary**

In summary, there was broad consistency between the data from students and supervisors both in reports about aspects of the current experience and the desirability of different forms of communication. Both students and supervisors reported being comfortable with telephone and email as primary modes of communication but both also recognized occasional difficulties with communication and a limited sense of connectedness to a scholarly community around the doctoral programs. This consistency between students and supervisors tends to confirm the reliability of the findings and provides a platform for addressing the issues.

## **Informing development of supervisors**

The data collected in the study were used to inform the preparation of resources for use in a development seminar offered to current and prospective doctoral supervisors. Organization of the materials was based on the scenarios used in the interviews and major themes that emerged. In this paper we report some of the key themes that emerged in the interviews and are represented in the resources developed for supervisors. Much of the advice that emerged amounted to 'common sense' that would be equally applicable in a variety of working relationships but is particularly apposite in the context of distance doctoral supervision because of the challenges that arise in building understanding between busy people who may not have the advantage of an initial face-to-face meeting as a basis for their ongoing working relationship.

### **The non-responsive doctoral student**

The first scenario presented to interviewees asked about advice they might offer to a colleague with a non-responsive student:

*Another supervisor mentions that she has a student in another country with a time zone difference that makes direct communication during working hours impossible. She has sent several email messages to the student but has not had a response for several weeks. What advice would you offer?*

Much of the advice offered by the experienced supervisors centered on the need to clarify expectations from the outset. This included expectations around the communication media to be used, and the expected times and frequency of contact. Supervisors noted the importance of stressing to students that it is their doctorate and that they need to take responsibility for ensuring that they achieve the levels of communication necessary to support their progress and should not expect the supervisor to be responsible for their motivation.

Experienced supervisors were sensitive to the variety of issues that might affect communication with students. They mentioned personal and work-related issues that might necessitate a period of leave from study and issues related to student locality, especially for students in other countries where access to email and other Internet services may be subject to restrictions. One or more of these factors might prevent the student from receiving or attending to the supervisor's messages. They cautioned against appearing to badger the student, counseling that approaches to the student by whatever means should be couched in forms that the student would be most likely to understand as supportive rather than demanding.

The practical advice offered about communication techniques reflected a combination of supervisors' aggregated experience and creative thinking about alternative strategies. It included the use of devices such as priority settings

to draw attention to email messages, sending traditional letters to a registered address, and making a telephone call to establish contact at an appropriate time in the student's time zone. Other suggestions included using SMS messages to set up a time to call and exchanging recorded audio messages by email if a student might find that more suitable than text in an email message.

### **Student reactions to new technology**

Another of the scenarios presented to interviewees probed their experience of using newer technologies to support supervision of doctoral students:

*A supervisor who has been successful with both face-to-face and distance students for some years has been trying new technologies (Skype and Wimba) to supplement email communication with her external doctoral students. However, the students are not responding as positively as she had anticipated and she is wondering how to encourage them to engage in communication methods that she expects to make their experience more comparable to face-to-face supervision.*

The advice offered was arranged in broad thematic groupings.

Clarifying ownership of the issue and student expectations were among the most common approaches mentioned as important. Students enrolling in distance education programs have often made a considered choice of a mode that offers them flexibility that may not be available in a face-to-face program. Such students tend to be independent and are focused on completing a project and graduating rather than on the program experience. By its nature doctoral study is independent and, if students are progressing satisfactorily, there is little point to insisting that they adopt new modes of communication. Moreover, too frequent contact from a supervisor may even prove counterproductive by inducing unnecessary anxiety about progress.

Sensitivity to the differing circumstances of students emerged as a significant component of the advice from experienced supervisors. Students have different personal and employment circumstances that affect availability of time and technology that may be needed for communication. It is important to ascertain student capabilities and preferences and work with those. Where there may be a specific benefit to be gained by introducing a different technology it is good to begin with familiar technology and introduce the new tools in parallel to allow time for learning.

Just as students differ in their capabilities and communication needs, so technologies offer different affordances. It is important to ensure that students know what options are available and can make informed choices based on knowledge of the relative benefits. Text-based asynchronous communication, such as email, provides for thinking time and is likely to promote considered exchanges with precise language and convenient record keeping. Synchronous communication, such as telephone, Skype, or Wimba, support rapid informal exchange of ideas for brainstorming or clarifying issues. It is most helpful for supervisors and students to agree on a limited selection of tools that offer different functionality and then work to develop any necessary skills and patterns of use that suit the needs of the student. Reaching this agreement may be facilitated by beginning with familiar tools to build a working relationship and then trialing alternatives to see if they add something of value to the mix.

### **Higher presence communication technologies for doctoral supervision**

Compared to more traditional forms of correspondence, email and other formats carried on the Internet have substantially shortened the time required for exchange of text-based messages. However, text-based communication lacks many of the cues, such as tone of voice and body language, that are available in face-to-face interaction (Lin, Cranton, & Bridglall, 2005) and some people find this 'disembodied communication' disconcerting. Hence there is interest in the educational use of technologies that provide for a greater sense of presence. Supervisors have often used the telephone for communication with students because of the benefits it provides for more spontaneous interaction as well as the increased sense of human presence it makes available. The interviews explored supervisors experience of, and interest in, using additional higher presence technologies such as Skype (voice and video), Wimba (voice, video and application sharing), and Second Life (3D spaces, avatars and voice).

The responses from the supervisors included some statements of general principles that should apply to the selection of technologies for use in supervision. First among those was that pedagogy should drive the use of technology rather than the reverse. Supervisors recognized the dangers in being seduced by technology in an attempt to see to

be up to date when the research topic should be of much more interest than the tools supporting communication about it. There were questions about whether the levels of presence available in face-to-face supervision should be the measure for distance supervision when the student may have consciously opted for the latter.

Skype has been used successfully as a substitute for telephone communication at lower cost. Using video in addition to audio adds a further dimension of presence that supports reading of facial expressions that may convey useful information about responses in a conversation. Video does require better connectivity and should be dropped if the signal degrades to the point where it is a distraction from the conversation.

Wimba and similar tools such as Elluminate or Adobe connect add tools such as shared electronic whiteboards and application sharing to the audio and video available with Skype. Depending on the activity in which a supervisor and one or more students may be engaged these systems may be preferable for the additional facilities they add at the price of a little more complexity. Supervisors and students should be aware of the alternatives available to them and select the tool that is most appropriate to the task and with which they feel comfortable.

Few of the supervisors had any direct experience of Second Life or similar systems and none had used it for supervision. Although they recognized the potential benefit of a sense of physical presence by participants and the sense of place that might be afforded by such systems they expressed concern about the possibility of disguised identity inherent in the use of avatars. They were also sensitive to the issues it might present for students with poor connectivity to the Internet.

## **Conclusion**

There were few surprises in the data obtained from either students or supervisors. Both groups of participants reported being comfortable with the use of familiar technologies but there was willingness to consider the possible benefits of alternatives.

Students reported that they did not experience a strong sense of connection to a scholarly community beyond their supervisor and perhaps a small group of peers working in closely related areas. While initiation into a broader scholarly community is part of the function of doctoral education (Upham, 2003) and is likely to be significant for any doctoral student as a basis for later work in the field, it is arguably even more important for doctoral students who will find positions among the next generation of university teachers. If the current arrangements for distance doctoral programs are not succeeding in developing these connections and, as is argued previously, such programs are likely to be important for meeting the anticipated demand for an academic workforce (Hugo & Morris, 2010), then it will be important to find means of promoting a greater sense of community within distance doctoral programs. Previous work has demonstrated some of the potential in online communities for doctoral studies (Albion, 2006), but further work will be required to extend the benefits of such efforts in time and breadth of coverage.

Although generally comfortable working with familiar technologies, several supervisors expressed a strong desire, even a necessity, for face-to-face interaction with students at critical stages in the doctoral journey. They find the currently available technologies, mostly email and telephone, limiting for development of relationships and for certain kinds of work. Few have much experience of working with newer technologies that might address the issues through offering a stronger sense of presence but there was willingness to consider such alternatives. Professional development for supervisors should include opportunities to explore relevant technologies through hands-on training with opportunities to practice in a supportive environment.

There is ample evidence based on graduations over the past decade or more that doctoral supervision at a distance can be successful and a rewarding experience for both students and supervisors. However, it is also evident that there is more that can be done to facilitate the process and increase the likelihood of successful completion. This study has contributed to our understanding of what students and supervisors might find most helpful for improving their experiences of the process.

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