

Evidence-based strategies for doctoral students¹

Introduction

Much has changed on the Canadian doctoral landscape since Elgar (2003) wrote about the serious problems in doctoral programs. As in other national jurisdictions, greater attention is now directed at ensuring doctoral students successfully complete their degrees in a timely fashion. Still, we know that problems remain: from financial difficulties through supervisory issues to lack of resources. While such problems will continue to emerge, we hope with less frequency, here we focus not on problems but on things that you as a doctoral student can do to advance your progress and enjoyment. This report is structured as follows:

- A brief introduction to our research to highlight the strong evidence base for our recommendations
- Pedagogical principles emerging from the evidence followed by questions to guide action

Our research²: The basis for our recommendations

Our longitudinal qualitative research program funded by the Social Sciences and Humanities Research Council of Canada (SSHRC) began in 2006. In 2007, a companion project in the UK began, funded by alternate sources. Our initial motivation was pragmatic: to address the substantial problem of PhD non-completion (Yeates 2003). We realized about a year into the research that our focus on non-completion was changing to a broader one, which highlighted learning to do academic work. (See Appendix 1 for more detail.) Initially data were collected from doctoral students in the social sciences. We followed over 50 individuals for at least one year and have followed twenty-two individuals for over five years as they have moved into both academic and non-academic careers. In 2010-11, we began collecting data in the sciences using the same longitudinal research design. Twenty are in their third year of participation and 13 in their second. As with those in the social sciences, individuals have moved from one role to another and from one institution to another.

Guiding principles (drawing on our research and the literature)

There is sufficient evidence in the literature to show that doctoral student progress is influenced by the total learning and research environment not just the relationship with the supervisor and committee. At the same time, our research findings provide clear evidence of students' efforts to be agentive, to set goals and to plan strategies to achieve them. Based on our research, several principles are apparent for which there is corroboration in the literature. (See Appendix 2 for rationales for each.) These are likely not completely 'new' to you but we think provide a broad and more conceptual understanding of your role as doctoral student.

1. Learning required at the doctoral level is substantially different from previous levels of education (e.g., greater autonomy, greater analytical skills, more substantive independent work, less structured course work).
 - In applying, have you thought through the following and made them evident in your application materials?

¹ This is one of four reports prepared for the CAGS website; the others address Deans of Graduate Studies, Graduate Program Directors, and supervisors.

² The research is represented in a substantial body of work referenced at <http://doc-work.mcgill.ca>.

- Why are you doing a PhD? Is a PhD the best way to achieve your intentions?
 - Is this program the best to meet your particular goals?
 - Have you considered your ability to do doctoral level work given the demands of the PhD are distinct from previous education (e.g., greater autonomy, increased in-depth analytic thinking, dealing with uncertainty)?
 - Have you considered the financial and other resources that will be necessary to complete the degree?
- In considering who to request as a supervisor, to what extent have you been able to find out the following?
 - Are your interests closely enough related to your supervisor's area of expertise?
 - Are your expectations of the relationship likely to be met with this person?
 - Would this person be open to helping you explore the requirements of the career options of interest to you?
2. Supervision should **not** be viewed as only the supervisor's responsibility since many others play a role in your progress, including you.
- Do your supervisor and committee know your hopes ... so that they can help you choose the learning activities that will move you in the direction you would like to go?
 - To what extent do you know the opportunity structures (academic as well as non-academic) related to your intentions?
 - Have you discussed with your supervisor and committee members their and your expectations of each person's roles and responsibilities? Clarifying expectations helps to avoid misunderstandings and conflicts.
 - If you find that your supervisor's practices are different from other supervisors, would you consider discussing this and asking for the rationale?
 - Have you identified other faculty members in or beyond your program to whom you can bring questions/ problems/ challenges?
 - What methods do you use to track your progress and keep your supervisor informed?
 - Do you ask your supervisor to make clear his/her availability? Absence and unavailability can be a source of concern and disruption.
3. In the relatively unstructured curriculum of doctoral studies, you have the responsibility of setting learning goals and ways to achieve them.
- Do you from the very beginning set yourself regular reading and writing tasks?
 - Do you seek opportunities to discuss day-to-day ethical practices in research and teaching (e.g., plagiarism, authorship)?
 - How do you ensure that the feedback you receive is concrete, constructive and timely? Students progress better when they have regular structured meetings with their supervisors at least once a month and come with an agenda.

NB Useful resources that draw on our research are at <http://www.learning.ox.ac.uk/supervision> and <http://www.mcgill.ca/gradsupervision>.

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Appendix 1. The scope of the research

Our longitudinal qualitative research program began in 2006. Volunteer participants were recruited (email, snowballing) from universities in large cities, two universities in Canada and two in the UK. In all universities, tenure-track and tenured faculty have responsibilities for research, teaching and service.

Initially data were collected in the social sciences (2006-2007) from approximately 50 doctoral students. They were in sociology and social policy, teacher education, environmental studies, management studies, human geography, kinesiology, information sciences, and counseling psychology. A subset agreed to continue and 22 have remained into the sixth annual cycle of data collection; they have now taken up a range of careers in different locations.

In 2010-11, we recruited in the same manner over 40 doctoral students, post-PhD researchers and new lecturers, again in two UK and two Canadian universities in math, zoology, engineering, computing science, chemistry, and the biosciences. They have engaged in the same cycle of data collection. At this point, 20 are in their third year of participation and 13 in their second. Like the social scientists, over time, individuals in the roles of doctoral student, postdoc and pre-tenure faculty have moved from one role to another and from one institution to another or to non-academic contexts.

Demographically, the range is diverse. In terms of doctoral students, both in the social sciences and sciences, participants ranged in age from mid-20s to late 40s. A good number are international with English-as-another-language; similarly many had partners and children.

References to our work

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Appendix 2. Rationale for principles

1. Learning required at the doctoral level is substantially different from previous levels of education (e.g., greater autonomy, greater analytical skills, more substantive independent work, less structured course work). *Rationale:*
 - a. Reasons for lack of progress and attrition vary but often can be linked to admissions processes that do not indicate the scope of doctoral work, or the fit between a student's goals and the program, or the reality of the demands of doctoral work given other responsibilities.
 - b. Without regular tracking of progress, problems often only emerge when they are serious whereas 'nipped in the bud' they may be dealt with more straightforwardly.

2. Supervision should not be viewed as only the supervisor's responsibility since many others play a role in a student's progress, including the student. *Rationale:*
 - a. Supervisors cannot provide all the support that is necessary, but there are multiple individuals/units in the department/university that can support students (e.g., career services).
 - b. Other students are often important in supporting student progress.
 - c. Students want to be agentive yet often feel uncomfortable revealing difficulties to supervisors; still, there are university resources that are designed to provide support and should be called upon (e.g., counselling, graduate student society, international student office).

3. In the relatively unstructured curriculum of doctoral studies, the student has responsibility to set learning goals and ways to achieve them. *Rationale:*
 - a. Over the past 10 years' of research, students have consistently noted that they wanted to develop in the following areas that are not always formally addressed: i) career development, ii) day-to-day ethical practice, iii) academic communication beyond the doctoral genres, iv) management skills, v) teaching skills.
 - b. Particularly as regards career development, students have to take responsibility for developing the knowledge and capabilities necessary for careers outside of the sphere of their supervisor's knowledge.