Lynn McAlpine
Cheryl Amundsen *Editors*

Doctoral Education: Research-Based Strategies for Doctoral Students, Supervisors and Administrators

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Lynn McAlpine and Cheryl Amundsen

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About the Authors

Cheryl Amundsen I am an Associate Professor in the Faculty of Education at Simon Fraser University. I also spent ten years as a faculty member at McGill University. I have a long-standing interest in academic development and my research has focused on how academics develop pedagogical knowledge in relationship to their subject matter and the thinking underlying instructional decisions. More recently, I have ventured beyond the focus on classroom teaching to look at the role of doctoral supervisor with its fascinating interplay of pedagogy and identity construction for both student and supervisor.

Shuhua Chen I am a PhD candidate in the Department of Integrated Studies in Education at McGill University. My research interests include the policies and practices surrounding the doctoral defense, doctoral learning experiences, and doctoral students' researcher/academic identity development. Before entering the doctoral program, I completed a master's thesis that reported how Chinese doctoral students adapted to doctoral study in Canada. Currently, I am conducting my doctoral dissertation research on doctoral students' experiences of defending their dissertations.

Lynn McAlpine I am Professor of Higher Education Development at the University of Oxford and Professor Emerita at McGill University. My academic career has always been linked to academic development, and my research interests were originally directed at understanding how academics develop the knowledge and principles underlying their pedagogical actions. More recently, my interest has broadened so that now I am researching how academics, particularly those early in their careers (doctoral students, research staff, and pre-tenure academics), make sense of and engage in all aspects of academic work.

Anthony Paré I am a Professor in the Department of Integrated Studies in Education at McGill University, and editor of the *McGill Journal of Education*. My research examines academic and workplace writing, situated learning, school-to-work transitions, and the development of professional literacies. I teach graduate courses in literacy, discourse theory, writing theory, research, and practice. My publications include books, chapters, and articles on topics related to the study and practice of academic and professional communication.

Doreen Starke-Meyerring I am an Associate Professor of rhetoric and writing studies in the Department of Integrated Studies in Education at McGill University. Focused on discourse studies and writing development in higher education, my research has examined changes in writing practices in increasingly digital, globalizing, and knowledge-intensive settings. At present, I am conducting a multi-year cross-institutional research project examining current demands on doctoral student writing and publishing; the challenges these demands present for doctoral students, supervisors, and administrators at Canadian research-intensive universities, and ways of addressing current demands.

Larissa Yousoubova I am working on a doctorate at McGill University. I have over 15 years experience in translation, teaching, and compliance management in several countries, and have always been fascinated by the cross-cultural aspects of communication. My research interests centre on pragmatics of discourse, especially written communication in academic and professional settings. In my dissertation research I focus on how new non-English academics adjust to the pressures and challenges of the North American system of grant funding and grant writing.

Marian Jazvac-Martek My PhD dissertation inquiry into academic identity construction closely followed a group of individuals who explicitly desired cultivating academic careers. I am continuing my research interests in academic identity, doctoral education, and higher education pedagogy as a post-doctoral research fellow, while also applying some of my findings to post-doctoral research work for the Dean of Graduate and Post-Doctoral Studies at McGill University. I have also been a lecturer at McGill University for over eight years and am currently on maternity leave.

Allison Gonsalves I completed my PhD at McGill University where I focussed on the gendering of physics discourses and the implications this has for students' engagement and identity construction in the practices of the various disciplinary sub-fields of physics. My post-doctoral work at the Université de Montréal explores the potential of afterschool science programs to offer youth of colour from low-income families opportunities to begin to see themselves as insiders to science.

Chapter 1
To Be or Not to Be? The Challenges of Learning Academic Work

Lynn McAlpine and Cheryl Amundsen

Doctoral Student Questioning Isolation and Lack of Clarity of Expectations

> You know how it is when you are doing your PhD, where you are in your bubble and you just stay reading and writing a lot on your own, and it is just kind of a strange feeling. It's isolating. I think I don't know what's going on. I mean I think it's not very clear, I think, in terms of expectations—maybe not expectations, but—I hear so many different things in the details of what you are supposed to be doing.

Doctoral Student Questioning Scholarly Contribution

> Sometimes you wonder: what you are doing? You wonder if it is important enough, you wonder if you will be taken seriously—all of these things. Like when you are trying to publish and get rejected you think, "Oh, can I really? Am I saying anything new?"

New Academic Questioning Lack of Support and Lack of Clarity of Expectations

> The frustration for me is that I didn't want to work with this student from the beginning. She [was having difficulties and] ended up with me because no one else in the program wanted to work with her…it came down to "whose research like fits best…so it was me." There was little paper work on earlier problems, as departmental processes to direct the student out of the program had not been followed. Further, there were no guidelines on workload, for instance, how supervision "fit" with other responsibilities: "I don't know what a reasonable amount is…the workload that I should carry…there's no clear cut ways of evaluating that…I don't think it's reflected in the merit system."

Supervisor–Student Conversation about Someone Else's Challenge of the Student's Doctoral Work

> Student: [Dr. Brown] said that if she were the external [examiner] she would fail it
> Supervisor: Really?

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> Student: Yeah…and…I'm concerned…
> Supervisor: Well, I don't feel it would fail…the thing is…you've got to be careful about who you choose to be external examiners. Someone like [Jane Black] might fail this because…there's a bunch of people, of which [Mary Brown] is part…and…she'd have huge problems with this, okay? There are other people who wouldn't and who would read it in the same way that say, me and [Jim Smith] would read it, you know. And I think that's who we'll send it to…we'll put them down as examiners. There's, if you like, a politics to it, right?

Do any of these experiences and feelings resonate with you? Do you recall some similar experiences or feelings? Why do these feelings matter?

These excerpts emerged in our four-year study of doctoral education, principally in Education, but also in Engineering, Physics, and English. In this book, we draw on these varied doctoral student and new supervisor[1] experiences in order to provide a richer understanding of the interplay of personal understandings, feelings, intentions, and interactions that collectively create the experiences of being and becoming an academic.

Regardless of your country of origin, you have likely heard concerns being expressed about doctoral education. This may include questions about time to completion, international competition for students, lack of student funding, student dissatisfaction, or accountability agendas. Yet, while national policy contexts vary, the experience of doctoral education is very much locally situated through day-to-day interactions amongst doctoral students, supervisors, other academics, and academic-related staff, each with different roles, intentions, and perhaps hopes. Our research was conducted in Canada, situated in two universities, and focuses on the day-to-day constraints and affordances of academic work, thus we view it as relevant to universities in other countries. (As well, parallel studies in the social sciences conducted in two universities in the UK by McAlpine and a research team there show similar patterns, e.g., Hopwood and McAlpine in press; McAlpine in press.)

What is this Book About? Who is the Book For?

This book draws on and integrates the findings from a range of studies that made up our research program, all have added substantially to the growing body of international knowledge on the doctoral process. We explored this process in a range of ways, for instance, through focus groups, interviews, weekly logs, academic documents written by participants, and participant observation. These different ways of documenting experience provided insight into the invisible activities students engaged in and how these influenced their feelings of being or becoming an academic and belonging to an academic community. Traditionally, the assumption has been that doctoral education is preparation for an academic career and while this assumption is being questioned today, nearly all the doctoral students in our research

[1] In the United States, the supervisor is often referred to as the advisor.

imagined academic careers. The research also offered opportunities to understand new supervisor experiences, situating this role within their broader academic work and their hopes of becoming tenured.[2] Further, we were able to portray the limitations but also benefits of conversations between supervisors and students about student's dissertation writing, and open up a window on the oral defense that comes at the end of the doctorate.

While a large number of the studies were in Education, studies from other fields are also included. Thus, also revealed are the difficulties for an Engineering pre-tenure non-Western academic in making sense of Western research culture in grant writing, and doctoral students negotiating their identities in Physics labs, as well as in a department of English. These studies introduce some contrastive material and shed light on the disciplinary situatedness, yet academic sameness of the doctoral process. In other words, the contrast makes evident that while the notion of discipline is historic and shifting, in the doctoral process it is also situated and embodied in particular departmental and institutional locations. Such locations are influenced by external (as well as internal) forces, but these may not be obvious to doctoral students and perhaps pre-tenure academics.

We hold as central the value that our work must have practice-based implications and be useful, in our case, to new supervisors, academic developers, and graduate program directors. In some instances, our research and the resulting implications are somewhat distinct from other research on doctoral education. For instance, the emphasis students reported placing on a range of individuals aside from the supervisor as regards feeling like an academic highlights a perspective somewhat at odds with the assumed centrality of the supervisor, and suggests the need for departments to think more carefully about how to help students develop relationships with others beyond the supervisor. Further, the importance students placed on reading and writing in their day-to-day activities suggested to us the need for a range of concrete strategies for departments, supervisors, and development units to better prepare both supervisors and doctoral students.

Given that we, the authors of the chapters in this book, are academics—ranging from doctoral student through to nearly retired—the research and the results had personal resonance for us. First, we found that the results led us to challenge some of the taken-for-granted assumptions of our own academic work (as in the examples in the previous paragraph) and we wanted to share these ideas with others. Second, we also wanted to demonstrate how we have used the results to inform doctoral pedagogies and support pre-tenure academics.

For all these reasons, we undertook to write this book. While it draws on our research and is situated in the research literature in this area, we include citations less frequently than is often the case in scholarly writing. We wanted to write the book

[2] In North America, individuals may seek pre-tenure positions, i.e., potentially permanent. For this period of 5–6 years, individuals hold the title of Assistant Professor, conduct teaching and research, and may apply for tenure (permanence). If awarded they are generally promoted simultaneously to the rank of Associate Professor. If not awarded, they typically lose their employment.

in a way that does not expect knowledge of the field,[3] so citations seemed less relevant. Our goal is to provide research-based guidance in an accessible manner. We believe the findings and our interpretations will be particularly meaningful and useful to new academics, academic developers, graduate program directors, and other administrators involved with doctoral education or the mentoring of pre-tenure academics. At the same time, we see it also offering insight to more advanced doctoral students and researchers, such as post-docs, who imagine academic careers.

In the remainder of this chapter, we first describe why we need collectively to be aware of and responsive to the challenges facing those who imagine academic careers. Then, in order to make clear what is distinct as well as similar in the Canadian and other doctoral contexts, we shift to doctoral education "at the chalkface" as it were, noting the differences in terminology and programs in English-speaking countries, and the ways in which national structures influence the day-to-day academic work. Then, after introducing the diversity of the perspectives we as editors and authors bring to our work, we overview the linkages amongst the parts and the chapters of the book. Our intention however is that it is possible to read chapters alone or in any order.

The Tipping Point? …Impact on Doctoral Students and Pre-tenure Academics

> The future life-blood of academia may be at stake as promising young scholars seek alternative career paths with better work–life balance. (Mason et al. 2009, p. 11)

Increasingly, higher education policies are conceived by nations as vehicles to develop social and economic growth and international competitiveness. For example, the Canadian government set an objective to rank among the top five countries for research and development by 2010, obliging increases in enrolments to both master's and doctoral programs. It is likely you know of similar goals in your own context. Combined with such policies are growing demands for accountability, particularly in the UK. For instance, the bar for success for academics includes higher rates of research productivity and doctoral student completion, and the demonstration that research has an impact internationally. At the same time, there is a trend toward declining academic salaries, and an increase in the number of contract or contingent positions. These shifts have been cumulative over the past 20 years, and it has been suggested that we may be at a tipping point (Menzies and Newson 2007). In other words, wherever one looks in today's higher education world, global competitiveness and public oversight are fundamentally altering the context and practices of academic work.

[3] We reference some of our own publications as a way to access the literature we were drawing on, and some chapters include a list of "Additional References" for those who are interested in how our work draws on the field.

Changes such as these have profound implications for doctoral students wishing to build academic careers, and new appointees extending theirs. While these individuals have reported difficulties for some time, their concerns are becoming exacerbated in what has been portrayed as an increasingly entrepreneurial environment. As such, doctoral students and pre-tenure academics "constitute the most vulnerable group…and are therefore the first to suffer from the stress that has befallen this system" (Laudel and Glaser 2008, p. 388). Not surprisingly perhaps, doctoral students report tensions and challenges due to a sense of isolation. They also experience, a lack of clarity about expectations around the doctorate and incomplete understandings of academic life. Further they express uncertainty as to whether their own values can be aligned with those of the academy.

The experiences of those able to find academic posts leading to tenure report similar perceptions. They report frequent isolation, high stress, and low satisfaction (for example, Reybold 2005). They express a lack of role definition and tension between the intrinsic motivators in the vocation of the work itself and extrinsic motivators in the conditions under which the work is done. A growing concern, expressed powerfully in the two quotes above (Mason et al. 2009; Laudel and Glaser 2008), is that too many experiences of conflict or dilemma within the academy may contribute to de-motivation. Further, conflict or dilemma between personal and academic values may also lead to disillusionment with academic work, particularly given that by its nature as a vocation, academic work spills into one's unpaid personal time.

The potentially negative experiences of both doctoral students and pre-tenure academics[4] represent a compelling problem since these individuals are the cultural and knowledge capital of the future, and are making a huge personal investment in the process. The extent to which they are prepared to invest and feel successful in addressing the challenges and tensions they perceive in academic work will influence whether and under what personal conditions they are prepared to consider academia as a career. Thus, it is essential to understand how they journey through doctoral and then new appointee experiences if they are to be able to engage in satisfying ways in academic careers, and ultimately influence academia for years to come.

The Nature of Doctoral Education: Similarities and Differences

The Local Departmental Disciplinary Context

When we talk of doctoral education, we often focus on what is shared (the daily interactions) and there is much in common. At the same time, there are important

[4] While our research has been on doctoral students and pre-tenure academics only, what literature exists suggests research-only staff and teaching-only staff experience similar difficulties to pre-tenure academics.

differences. (In what follows, we will only characterize the English-speaking world of the doctorate.) First of all, in Canada there are usually, but not always, a series of course requirements, just as in the United States.

This contrasts with Australia and the UK where there are often minimal course requirements, although there are now in the UK some courses required by the research funding councils. In our research program, this shift from course work to individual inquiry was quite evident as students found themselves without the external structures that had been a constant in their post-secondary education and had to structure their own learning much more significantly.

Also of note in Canada, as in the United States, there are different benchmarks of progress in the doctorate than there are in the UK and Australia. The comprehensive exam is, in North America, the first important benchmark after coursework. The nature and purpose of these exams vary, but they tend to focus on either or both depth of knowledge and breadth of knowledge in the field. After the "comps", as they are known, are completed, the next benchmark is the writing and defense of the dissertation proposal (called the thesis in the UK and Australia); successful completion marks the transition from doctoral student to doctoral candidate. The experience is in some ways an opportunity to rehearse for the dissertation oral defense since the proposal defense is often done before one's committee. This raises another important feature of the North American model of the doctorate, that of a committee overseeing the dissertation. The requirements for the committee vary but usually involve three or more individuals. Co-supervision is also possible within this model with one supervisor taking principal responsibility. Although traditionally in the UK, there has been a single supervisor, this appears in transition, with co-supervision becoming more common. In Australia, a supervisory panel is the norm with panel members more at a distance than is often the case in North America with the committee. In our research, we have examined the role of the supervisor, but have not yet considered the role of the committee.

And, finally, there is the defense of the dissertation, which in North America is generally a semi-public or public event before committee members, an academic Chair (from outside the discipline), possibly other interested graduate students, the internal/external examiner (external to the committee, but not the university) and the external reviewer either there in person, by video-link, or through a written document presented by the supervisor. This is an area which we explore in some detail since it is the culmination of the doctoral experience and is largely un-researched in North America. Understanding it better could not only inform North American policies and practices, but could be useful for those involved in the final defense or the viva as it is referred to in the UK. In Australia, an oral defense is extremely rare with the examiners' reports alone being the basis for the mark of pass or not pass.

In examining doctoral experience, one of the aspects that we have attended to particularly is the role played in communicating with others in the student's chosen field through writing, reading, and speaking. And, we have been attentive to how the doctoral inquiry is situated amongst the many other academic activities students engage in, for instance, teaching, job seeking, service (e.g., organizing a conference) and administration (e.g., dealing with getting office space). Our goal has been

to understand how students respond to and reconcile these competing demands. Similarly, in examining supervisory experience, our goal has been to understand how this particular work is experienced in relation to other academics demands and in the context of building an academic career.

The Societal-National-International Context[5]

Given the multiple features of the doctorate as described above, it is perhaps not surprising that in Canada as in the United States, time to degree completion for doctoral students is 5–7 years (depending on the discipline), much longer than in the UK or Australia where there are national policies that ensure institutional attention to shorter times to completion. There has been recent growing concern about times to completion in Canada, not just in terms of financial and human resources, but also as regards international competitiveness. However, this concern has not resulted in national policies since Canada, as a federation, is extremely decentralized. Higher education in Canada is largely the responsibility of the provinces or territories; thus, the federal (national) government is limited in how it can influence higher education policy. This makes it similar to the United States but distinct in comparison with the UK and Australia. The principal means by which the Canadian government is able to influence doctoral education is through national policies and strategies related to research, and particularly research funding, a vitally important aspect of academic life.

More generally, globalization and emerging digital network technologies have fundamentally altered the context and practices of academic communication (Starke-Meyerring 2005), raising the bar for success by requiring a higher rate of research productivity and increasingly the demonstration that research has an impact internationally. A further difficulty is that outside of the natural and medical sciences, most students in Canada do not have assured funding. Through various competitions, the national government provides funding for (a) a small number of graduate student scholarships, (b) research grants for professors (with weight given to goals which address student financial and educational support within the grant), and (c) research chairs (funding to institutions to invest heavily in internationally renowned researchers; this allows some university funds to be redirected to other

[5] In 2005, there were 36,702 doctoral students and 4,302 graduates (Gluszynski and Peters 2005). Overall, 70% of graduates reported their primary funding source as fellowships, scholarships, research or teaching assistantships with only 22% reporting debt; 70% had firm plans in the first-year post-graduation (2/3 of whom expected annual earnings above $55,000 CDN). Like other English-speaking countries, a small number of universities, six out of 50 (Alberta, Laval, McGill, Montreal, Toronto, UBC), grant over 50% of PhD degrees (Maheu 2006). Males represent slightly over 50% and females slightly under 50%, with greater variation in some disciplines. As in other English-speaking countries, international student numbers have been increasing; in 2004, there were 7,422 at the doctoral level, with 3,702 studying at the six universities mentioned above; 552 (27.5%) graduated in that year (Canadian Association for Graduate Studies 2006).

tasks). Students who have access to academic funding are generally working as a research assistant on a researcher's grant (the researcher may not be the supervisor), or as a teaching assistant (funded through departments). Generally, part-time work is essential for students in order to avoid overwhelming debt.

Given these trends, we have a situation ripe for tension. While the examples we have provided above are Canadian, the same forces are evident internationally. On the one hand is the call to reduce completion time, and at some universities, a simultaneous call to admit more doctoral candidates. This situation further disperses the time a supervisor can devote to each student—a particular concern for new academics as they position supervisory work amongst their other work directed towards gaining tenure. At the same time, there is increasing pressure on doctoral students to be well published before graduation, and to show promise as an internationally recognized scholar. These opposing pressures are felt by students, professors[6], and post-secondary institutions and in our research, both students and professors expressed the various effects, both personal and professional, of living in such a highly charged environment. Thus, the personal stories that unfold in this book include negative emotion as well as passion. These stories hold out challenges for us as well as those experiencing them, yet we see emerging from our research some avenues or directions for institutional change which could lead to better support for both doctoral students and newly appointed academics.

What Makes Our Research Distinct?

This book brings together a team of researchers who collectively represent richly diverse conceptual approaches. That our approaches are rooted in distinct epistemologies and inquiry traditions (writing studies and specifically genre studies, higher education pedagogy, faculty development, gender studies) adds richness to our examination of doctoral processes. While we draw on distinct epistemologies, we share a common interest in identity construction and community, how one learns from and contributes to academic practice. We are interested in how experiences of workplace learning engender pleasures and pain which contribute to feelings of allegiance or alternately, alienation.

Academic work inherently structures the processes of doctoral education, both from an internal perspective (e.g., academic writing, supervisory relationships, student interactions with peers) as well as an external perspective (e.g., responses to students pursuing non-academic career goals or pressure to reduce time to degree completion). Thus, in the construction of a scholarly identity, one can experience a loss of self as well as the constraining influences of academic work (e.g., expectation to publish, conflicting priorities); yet there are also affordances (e.g., relative flexibility in organizing one's work, choices about one's area of research). We sug-

[6] In North America, professor is a generic term that describes any academic staff member; elsewhere it designates what in North America is called "full professor".

gest that the notion of identity as a construct for thinking about learning provides a fundamentally different discourse to the accountability discourse around training and skills that has developed in the UK and Australia and may be gradually appearing in North America.

Our studies of doctoral education have encompassed the collection of data from more than 50 doctoral students (most imagining academic careers) and around 30 supervisors in the time period 2006–2009. Most were in two faculties of Education in Canada. Given the diversity of Education as a field, their experiences spanned distinct doctoral programs some with much more course work than others (e.g., counselling psychology, educational psychology, library and information sciences, curriculum studies, art education, mathematics education). One of the universities, Simon Fraser University, is located in western Canada and is a university without the professional schools usually contained in traditional research-intensive universities and the other, McGill University, is a research-intensive university, that is, a substantial contributor to the number of doctoral-level graduates, in eastern Canada. Collecting data from the two sites meant we could explore the extent to which institutional type influenced doctoral student experience. We perceived this as useful since studies of doctoral students are often conducted in internationally recognized institutions, yet other less internationally recognized universities are also making substantial contributions to doctoral education (Gardner in press). Interestingly, the results across the two universities were remarkably similar. As well as the studies in Education at the two universities, other studies of doctoral students took place at McGill in English, Physics, and with groups of students representing a range of disciplines. As for pre-tenure professors, while most of the work was done in Education, one study was conducted in Engineering.

How is the Book Structured?

The book has four parts; each part begins with an overview of the chapters that follow. The chapters each provide a conceptual framing, and then draw on excerpts from the research to re-see the experiences of engaging in doctoral education in ways that may challenge our assumptions. Given our interest in the practice-based value of our work, each chapter ends with reference to practical implications. The research studies themselves are not described in detail, but simply cited since they can be read about elsewhere.

Being…Becoming Academics

This first part examines the perceptions and experiences of doctoral students and new supervisors. The intent is to represent the nature of the day-to-day interactions,

intentions, and related emotions, both positive and negative, that influence how these individuals situate themselves amongst their colleagues as they undertake academic work and through this work develop their identities. The focus is particularly on the fact that both the doctoral students and new supervisors are trying to make sense of what is in effect a new workplace in which they want to and are expected to contribute but often find the expectations opaque or disputed.

Chapter 2 explores the doctoral journey. What is of note is the breadth of the network of relationships that individuals report beyond the supervisor, as well as the multiple often relatively informal academic activities they engage in—which can be understood as workplace learning. Institutional inattention to these aspects of doctoral experience ignores the ways in which students are developing webs of intellectual and personal relationships of value for their futures. Chapter 3 looks at the experiences of new supervisors. The challenge is trying to devote adequate time to the students while still moving forward with their own careers since moving to the "other side of the table". They report a largely solitary experience since there appears to be little structured guidance, and colleagueship is not easy to come by—all of which speak to a lack of institutional oversight.

The two chapters provide a broad context in which to situate the parts that follow addressing particular aspects of academic work.

Writing and Speaking—Learning the Disciplinary Language, Talking the Talk

In the second part, we delve into the academic work of writing and communicating with one's colleagues. The goal is to make visible the ways in which learning and understanding emerge through writing and receiving responses from others in various forms (written but often spoken).

Chapter 4 presents the supervisor's view. It demonstrates that supervisors may often be inarticulate when providing feedback; this in turn reduces the potential of the advice they provide students. In other words, while academics may have successfully completed their dissertations, one cannot assume this experience makes it possible to help others. Chapter 5 takes up the student's perspective and reports their struggles related to both a lack of feedback and getting useful feedback. These experiences contribute to feelings of inadequacy and lack of confidence. Students report that some supervisors do not see writing support as their responsibility but as the responsibility of those in writing centres since, in the view of many supervisors, writing is a generic skill rather than rooted in academic exchanges within each field. It is our view that this stance needs challenging. Chapter 6 provides a window into the oral defense through the eyes of doctoral students; the defense is the occasion for students to respond publically to challenges and questions about their dissertation. What is evident in this analysis is that while each oral is unique, there is a meta-structure underlying the process, one likely unknown to most students and

supervisors. Attention to this meta-structure, we argue, could provide useful guidance and support for students and supervisors beginning much before the actual defense takes place.

Gender, Genre, and Disciplinary Identity—Negotiating Borders

In the third part, we move outside the field of education to Engineering, Physics, and English and consider boundaries or borders in the academic world that can create exclusion and that need negotiating. Chapter 7 takes up the gendered nature of academic work. Through examining Physics, a traditionally male-dominated field, we are led to question how fields are characterized as male- or female-dominated and how doctoral students make sense of reified masculinities and femininities in situating their own gendered identities. For those in fields, such as Education, which is predominantly female, it raises questions as to how welcoming and open we are to males and masculinities. Chapter 8 examines a different academic genre to the dissertation, yet one central to academic success, that of grant writing. The difficulties of learning this genre, which many doctoral students have little opportunity to experience, is heightened through examining the experiences of a pre-tenure engineer from a non-English-speaking country. Given the cultural and linguistic differences, the taken-for-granted assumptions of grant writing are even harder to come by. We are reminded that the academic world is increasingly internationalized, and many doctoral students as well as academics will struggle with these kinds of issues. Chapter 9 examines doctoral education through the eyes of administrators and doctoral students in English. What is highlighted in this chapter is the ways that disciplines, as represented institutionally in departments, may find themselves challenging institutional norms which treat all doctoral programs similarly, for instance, in considering expected times to completion. We also see represented how disciplines are not stable entities; they are often riven with challenges and arguments that aren't evident to the outsider. Yet, these arguments influence the kinds of doctoral programs that are created and thus the kinds of learning opportunities that doctoral students have.

Supporting the Doctoral Process Through Research-Based Strategies

In the last part, we explore what this research program has taught us about doctoral education and how the results have been and can be used to enhance the experiences of doctoral students and supervisors. Two levels of learning and change are considered: that of the individual and secondly the institution.

Chapter 10 sets out to demonstrate how the findings emerging from the research can be re-conceived in a way that provides an analytic and reflective tool particularly useful for early career academics themselves, both doctoral students and pre-tenure academics. The goal is to provide a means for individuals to examine their past intentions, emotions, and experiences in relation to the present, and from this draw out personal goals for future learning. Chapter 11 is particularly relevant for policy makers such as Graduate Program Directors, Chairs, and Deans of Graduate Studies. It re-examines the results of the research program with a view to demonstrating how the emerging evidence provides interpretations that challenge taken-for-granted assumptions about both policy and practice for doctoral students and pre-tenure academics (some of which have been referred to above). Chapter 12 builds on the two previous chapters and is particularly pertinent for anyone responsible for providing support or training (e.g., academic developers, program directors, chairs). Here we articulate the ways in which we have engaged administrators such as Associate Deans and Program Directors, as well as doctoral students and supervisors in rethinking their practices.

Overall, the message of this book is that higher education is changing and challenging traditional values. While there are aspects of the present that were described as less than inviting by those who participated in our research, individuals still found places and opportunities for passion. However, there appeared to be a lack of awareness of the trends and pressures which are contributing to day-to-day experience. If these early career academics are to influence the future direction of academic work, we need to support them in developing a robust understanding of the drivers and constraints of the academic landscape, in learning to negotiate with others their intentions, and in taking on collective responsibility for action.

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Part I
Being…Becoming Academics

We conceptualize the journey of becoming an academic as a continuum beginning with doctoral studies, moving through the years spent as a non-tenured academic and on to becoming an established academic. Essential to our thinking is the construction of identity, the idea that identity-formation is critical in understanding learning in the doctorate and beyond. Core to this part of the book is exploring experiences of seeking, belonging to (or feeling excluded from) a community of like-minded individuals and the range of emotions that such experiences can engender. All the studies drawn on in this part were conducted in two Faculties of Education at two Canadian universities, McGill and Simon Fraser.

Chapter 2 (Jazvac-Martek, Chen and McAlpine) directs our gaze to the day-to-day experiences of doctoral students. It focuses particularly on two aspects that concern them: pursuing and completing the degree while at the same time coming to understand what it means to be a scholar in a chosen field. These two features of doctoral experience are situated in the fullness of individual personal lives. The accounts document how students learn, often informally, about the pleasures and tensions of academic work, and how significant events and individuals contribute to a sense of being or becoming an academic. In particular, the importance of developing and maintaining a network of relationships that can offer varying kinds of support is emphasized. At the same time, a personal sense of intention is evident and questions are raised as to the importance of working relatively independently as opposed to negotiating intentions and support with others.

In Chapter 3 (Amundsen and McAlpine) we tap into the journey of becoming an academic by peeking in on the world of the pre-tenure academic, specifically in the role of graduate thesis supervisor. In this role, non-tenured academics are quite suddenly in some cases, on the "other side of the table" with responsibility for someone else's future career. Often, based on the research that underpins this chapter, they report feeling wholly unprepared for this role with only their own experiences as a doctoral student to draw upon. Further, they experience tensions in reconciling this role with the multiple other expectations related to seeking promotion and tenure and generally building an academic career. Tension is often reported due to unclear expectations about supervision and about academic work more generally. What is particularly striking is the lack of institutional as well as collegial support to help them in this journey.

Chapter 2
Tracking the Doctoral Student Experience over Time: Cultivating Agency in Diverse Spaces

Marian Jazvac-Martek, Shuhua Chen and Lynn McAlpine

> *I have 2 days during the workweek which are dedicated to my PhD work. Right now, I'm focusing on my comps knowing I am writing them from March 16–30. I'm reading, searching for articles and books, talking with my committee members and my supervisor to narrow my focus, and asking other students about their comps process. On the weekend I spent time on my PhD work while the rest of my family did other activities. I also worked part-time on research for my supervisor (not related to my PhD); worked part-time as an instructor; contributed to a volunteer organization I'm involved in, and went out with friends. Looking back, I should have done a better inventory of the information and knowledge I was accumulating for my comps to see where the holes were and to ask some further questions of my committee.*
>
> Cathy

Context

Cathy's story, one collected during our research into doctoral education, demonstrates the day-to-day reality of the doctoral journey. Much research related to the doctorate has been fuelled by reports of attrition rates as high as 60% in some disciplines in North America (Nettles and Millet 2006), in the UK and Australia by policies to reduce times to completion (Wright and Cochrane 2000), and more generally around the goals and purposes of doctoral education (e.g. Walker et al. 2008; Leonard et al. 2006). Such research has focused primarily on global issues or finite events, often sought in a single interview or questionnaire. There exists little inquiry into the variations in daily events and routines during the doctorate; thus, a major

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recommendation common across the earlier work is a call for more research into the specific experiences of doctoral students. This chapter responds to this call and demonstrates that accessing student experiences at a deeper level can provide a better contextualization of inherent processes that support and/or hinder movement toward degree completion and student satisfaction. In documenting everyday experiences, we employed a longitudinal lens to place particular focus on the multiple and diverse activities doctoral students engage in, daily and cumulatively over time.

This chapter particularly highlights students' negotiated agency, a feature of doctoral experience emerging from a number of different studies in our program. Throughout the chapter, we describe how student agency emerges strongly in negotiating with others in order to achieve intentions, with these negotiations often accompanied by ranges of emotions, from positive to negative (Jazvac-Martek 2009a; McAlpine and Amundsen 2009). Experiences that are linked to negative emotions may be implicated in reasons for premature departure, or when positive, may act as motivators underlying perseverance and sustained efforts (Jazvac-Martek 2009b). In this chapter, we explore how negotiated agency is expressed in daily (and often mundane) activities and interactions. The cumulative experience of students negotiating their intentions in activities and interactions, and in navigating difficulties contributes to the complex process of developing an academic identity and establishing oneself as an academic.

Our studies of doctoral experience encompassed the collection of data from more than 40 doctoral students (most imagining academic careers) in the time period 2006–2009. As noted in Chap. 1, these individuals were situated in two faculties of Education, a very diverse field. Thus, participants were in programs that are quite distinct and range from those that are highly structured with required course work to others that are focused primarily on independent completion of the PhD dissertation research (Counselling Psychology, Educational Psychology, Library and Information Sciences, Curriculum Studies, Learning Sciences and subject-specific programs such as Mathematics Education). One university, Simon Fraser University, is without the professional schools (e.g. law, medicine) usually contained in traditional research-intensive universities and the other, McGill University, a research-intensive university, is a substantial contributor to the number of doctoral graduates in Canada. The results across the two universities were remarkably similar, with the few differences that surfaced noted in what follows.

Data were collected through in-situ progress logs (both open-ended and multiple-choice items) collected from doctoral students monthly over a two-and-a-half-year period, recorded conversations between students and supervisors, electronic surveys, interviews, and focus groups. For this chapter, we draw principally on our longitudinal collection of the progress logs, while also referring to some of the related interview data to support our interpretations. The logs enabled students to capture concurrently their day-to-day activities, interactions, challenges, and difficulties—practices that cumulatively influence the development of agency and academic identities. Thus, this chapter draws from the nearly 300 collected logs to generate a sense of the richness and complexity of day-to-day doctoral experience across our participants rather than focusing on variations between individuals (for this, see Jazvac-Martek 2009b).

Day-to-Day Doctoral Student Experience

We represent doctoral experience from four different perspectives each linked by the notion of student agency: who the participants were, what activities they engaged in, the range of individuals they interacted with, and everyday difficulties and responses.

Who Are They: The Academic and the Personal

> We pretend that the academic work that we do is out there, and that we are in here, but it is so tied up with who we are and our personal values, right? And so when someone said "Oh yeah, [your work is] really interesting" not only did that give me value as an academic, but personally as Holly: "Oh, that's something that is interesting and worthwhile." (Holly)

Holly describes a feeling that was common across participants. While personal lives may rarely be referred to in research on doctoral students, and students in this research sometimes downplayed personal issues, the personal cannot be separated from the academic. This was true across the doctoral students and candidates who completed logs. The majority of students at McGill imagined seeking academic positions upon completion (at the time of writing this chapter, seven held tenure-track academic faculty positions within a university), and 80% were designated and described themselves as full-time, though a large majority engaged in varied part-time employment within the university such as teaching or research assistantships in addition to their studies. At Simon Fraser, more than half imagined academic careers, with the other half in the process of considering if academia was an appropriate route. While participants at this University were all enrolled full-time in their studies, most maintained their previous full-time employment while pursuing their doctoral studies and only came to the campus for required classes or pre-arranged meetings. On the whole, individuals at this University were earlier in their programs, so were still engaged in course work in contrast with those at McGill who had mostly completed any course requirements. Regardless of university, about half of all students referred to working full-time at different points in their logs and at least one third noted needing to work because they were not otherwise funded.

Collectively, regardless of university, many had extensive work experience, were in their thirties, and one quarter had family responsibilities. In terms of family responsibilities, individuals referred to caring for sick children and dealing with elderly parents, and there were at least two participants in our research who were single parents with several children. As well, we know of four participants (two male and two female) that became parents during the PhD: Percilla in one log refers to "my son…just born [and] that implies readjustment of time for the PhD". As well, we know of four participants who have partners or spouses that were on similar academic paths. In some cases this personal as well as "academic partnership" lead to

time-intensive sharing or collaborating with one another on academic tasks. In one log, Nancy refers to:

> Spending a lot of time helping my husband write an application [for funding for a research conference from a major Canadian granting agency]…While at some point I might have felt it was a waste of time in terms of my own progress to work on my husband's application, it was a valuable experience beyond supporting my husband in his endeavours.

As Hall and Burns (2009) have noted of social science students generally, students at this highest level of education are already situated in a set of personal and professional relationships from the past as well as those of the present; each individual brings to the doctorate life circumstances, intentions, hopes, and emotions which can provide resources but can also impose constraints. As noted above, many were listed as full-time students yet the full-time jobs of a number are a reminder of how little official full and part-time status may actually represent the reality of doctoral student life. In fact, programs often require full-time status regardless of student circumstance. As Deem and Brehony (2000) have noted, this kind of variation in ability to be on-campus raises important questions about the differential access to research cultures experienced by students if they are part-time or with family responsibilities in comparison with those who are full-time or without family responsibilities.

What Are the Activities They Engaged in?

> I don't see work/study/home as separate things. …so when I go to work I love that but I don't call it going to work…I'm making contributions…[and] I work with the teachers in my research so everything is kind of interconnected and so it all starts to blend together very nicely and that is how I live my life. I don't see it very compartmentalized, but then what can happen sometimes is that one thing kind of gets a lot of my attention because it is working well, [as] I get a lot of positive feedback. You know, it is enriching. The people I am working with are enjoying it and so I start spending more time in that, whereas, the part of my life—whatever it may be even if it is repairing a car and delaying it…because it is of not an immediate concern I just can wait so some of those things get pushed back. So, with the dissertation too…there is not that immediate push that I need to get it done. (Mary)

Mary, one of the doctoral students in our research program, demonstrates the intermingling of different kinds of activities, including the personal (car repair) and the academic (collecting data in the field) and how these often emotionally laden activities may compete one with the other.

The doctoral students reported engaging in an amazing array of academic-related activities. Some were particular to doctoral work, others to more general academic work. Doctoral-related activities included:

- Submitting a dissertation or thesis (proposal, chapters, or the entire thesis document)
- Submitting funding applications, teaching as a TA, completing coursework

- Finishing comprehensive examinations (at both sites, these exams varied from program to program. In some cases, the exam was related specifically to the dissertation research and in others, the exam was intended to demonstrate a broad knowledge of the field)
- Being interviewed for a graduate position/award
- Student committee meeting
- Non-conference presentations (e.g. to other students, to fulfil a class requirement, or as part of informal within-faculty student focused research seminars/meetings)
- Attending workshops (e.g. preparing external funding applications)
- Research-related meetings (e.g. meeting committee members or other professors, working as an RA, attending research meetings)
- Attending someone else's oral defense of the PhD
- Meeting with supervisor(s) (e.g. approval of research or dissertation ideas)
- Dissertation writing
- Other doctoral-specific writing (e.g. proposal paper)
- Conversations with student peers
- Comprehensive examination-related tasks
- Reading and knowing the literature (e.g. required course reading)
- Reviewing work (e.g. dissertation)
- Supervisor
- Research-related issues (e.g. measurement in dissertation design)

Students also participated in activities that more senior academics would engage in. In some instances, these were similar to doctoral work but focused beyond the dissertation inquiry, (e.g. reading and knowing the literature) or were related to the doctoral work but encompassed a broader range, e.g. writing (and submitting) in a range of different academic genres, such as manuscript reviews, journal and conference papers, research funding applications, collaborative book editing. Other activities included, for instance:

- Acting as a consultant (and being invited to engage in other kinds of activities)
- Conference organization
- Attending meetings of different kinds to further intellectual work (e.g. meeting academics to discuss joint writing, book editing)
- Institutional tasks (e.g. teaching at the undergraduate or Masters level, participating in a departmental review) and, of course
- Job application activities (e.g. writing letters, submitting applications, preparing for interviews, responding to job offers)

In Regina's description below, we get a sense of the range of activities she engaged in during a week that were not necessarily formally incorporated into her doctoral program. Nevertheless, it could be argued that these activities are essential in coming to experience and understand the nature of academic work:

> Writing, creating two posters, meetings (many!), attending our research centre knowledge fair, lab dinners, guest speakers, reading, meeting new people, attending a PhD defense dry run, also-instructed M.Ed. class and supervised students' projects.

This engagement in a range of activities was consistent across doctoral students at both universities, and involvement in them was often described as motivating and fulfilling. For instance, Barbara described an important event in one week:

> I was invited to a meeting in the department to discuss the undergraduate courses in the program I teach. The professors and the Director didn't need to invite me as I was only a course lecturer, but inviting me shows me that they value my input.

And Ginger noted the value of "my work assisting in editing an academic book, and corresponding with authors. I felt connected with a research community".

Overall, we would characterize the work that students reported as principally focused around two activities—writing and reading. In fact, both writing and reading were reported in 1/3 of all logs (reports of writing were somewhat lower at Simon Fraser University likely since students there were earlier in their programs). And reading and writing were often conceived as intimately intertwined as Corinne explains:

> In writing—working on the comprehensive questions…I was using material that I had been reading over the last three years. I was practically writing about it every day either in doing discovery writing, maybe trying to, you know, build a concept map of what I was reading and then, of course, I was doing the writing and then I have several people that I talk with about what I'm learning and just like we are now on the telephone, just phone and have a conversation about it. So I felt that all of those things in combination I was adding to my own expertise in the topic area.

In characterizing the activities that students reported in the logs, we found 75% of recorded activities represented informal learning, learning as a by-product of experiences that are not designed as educational (Eraut 2007). Not surprisingly, in looking across the logs, reviewing and reflecting on experience represented 14% of the descriptions of what students did that could be characterized as informal. Here are two examples of this type of informal reflection:

> I have to take risks and find my way in this process in order to learn from it…nobody is going to tell you what to do, which is what is really appealing about it, but is what's really hard about it. (Beatrice)

> Take things that you kind of took for granted about yourself and re-order and re-learn and, you know, re-shape them. (Corinne)

These individuals were doing many things beyond the doctorate often intentionally that were essential to establishing an understanding of the nature of academic work and to developing and extending the intellectual and networking strands of their identity-trajectories (McAlpine et al. 2010; see Chap. 10 for more about identity-trajectory). The minutiae of varied daily activities and the role of diverse interactions are integral to students' cumulative experience and developing understanding of the doctorate and academic life. It is the repetitive and cumulative nature of these activities that contributes to learning, and thus, personal development of academic identity. In other words, our identities are experienced and socially constructed through action and interaction. As active agents, we contribute and respond to the dynamics of social life; agency is an evocation of identity as it represents our desire and capacity to engage in and also influence the activities and individuals with whom we interact.

Who Are the Individuals They Interact With?

> Part of what I see being a professional and an academic…is networking, knowing what people are doing, collaborating, sharing resources and it's that stimulating conversation that you get once in a while—that really is why I'm here…The nature of the interaction is engaging—I don't know if it is high level questions, or questions that are unique, it's being open and sharing ideas that really have a basis in something and with people who know things that you don't know about. (Regina)

Regina captures here the exhilaration that doctoral students sometimes experienced in their interactions with others; of course, more negative interactions also occurred. In the logs, we asked individuals to identify those individuals they had drawn upon for support in the particular time period. Interestingly, the supervisor was identified in only 20% of all logs with family members and friends referred to with equal frequency. In addition, peers were cited in 15% of all logs, followed by other professors and student teams/groups at about 10% each. In other words, on a day-to-day basis, students drew on a range of individuals in a relatively distributed fashion. This information enabled us to capture the range of types of individuals that formed the constellation of networks that were ongoing parts of students' lives—individuals that could provide resources and support, but could also place demands and constraints.

In addition, an open-ended item asked students to identify the most important person influencing a sense of progress in the time period reflected in the log form. Here, the supervisor was named in 32% of all instances. While this is an increase in the frequency cited above, it did not reduce the range of types of individuals students viewed as most important in any one week or month. The others identified as most important were again distributed among peers (17%), other faculty members (13%), family and friends (22%), or others (5%). Strikingly, students named themselves as most important in 10% of all logs and we return to this point later. These combined findings overall represent the plenitude of interactions occurring with individuals beyond what is often viewed as the primary relationship with the supervisor. As such, it raises the issue that a focus on the student–supervisor relationship alone is not sufficient to encompass and do justice to either the complexity of networks that doctoral students establish or the range of academic work undertaken.

A further analysis of why the individuals named were important demonstrates that different types of individuals provided different kinds of support. It appears the supervisor is important as an institutional gatekeeper. Many of the interactions with supervisors documented in the logs and interviews (Jazvac-Martek 2009b) and the analysis of student–supervisor conversations (Pare et al. 2009) suggest the supervisor interactions are often directive; in other words, they were important in providing information related to successful completion of the dissertation or institutional requirements. For instance, one student commented that in a meeting her supervisor "gave constructive feedback on my proposal (+) but tried to convince me to delay my internship [a program requirement], thus delaying my graduation (−)". In the following excerpt, a supervisor explains to a student the strategy behind choosing the external dissertation examiners:

> You've got to be careful about who you choose to be external examiners. Someone like [Prof. X], for example, might fail this [dissertation] because…she'd have huge problems with this, okay? There are other people who wouldn't. …And I think that's who we'll send it to. We'll put them down as the examiners. There's, if you like, a politics to it, right?

In contrast with supervisory relationships representing more directive interactions, interactions with other academics (often sought out) demonstrated collaboration, belonging, and affirmation. Such interactions potentially established networks for students' academic futures. Beatrice describes a research meeting she had with professors she was working with:

> We had a very productive meeting and were all able to help each other clarify our ideas about the project we are working on. We are still in the exploratory stages of this project, but at this meeting, the project's future began to take shape.

And, Nancy describes the effect of interacting with more senior academics at a conference:

> The fact that I had confirmation from well-known experts in my field that the literature I had identified so far for my topics was pretty complete…gave me confidence in my research skills and knowledge that I've acquired so far.

In addition, these interactions with senior academics, in Wendy's case at a conference, could provide contrastive and positive responses to that apparently received from the supervisor or committee she was working with:

> While I have been ever so slightly considering the idea of dropping out, I very much enjoyed the interactions with the other profs at the conference. Also, I received very good feedback on my presentation skills (something I am not very confident about). This feedback has made me think that maybe I can handle (and excel at) teaching. (Wendy)

Peers offered another kind of relationship; they seemed important in being motivating and giving and receiving feedback in dialogic exchanges. Here, Regina talks about why her lab mates are important: "They are friends and a source of stress relief during the day, and also because we give each other feedback and remind each other about deadlines etc. that are coming up."

While these exchanges were often reciprocal and sometimes involved collective effort to achieve goals (e.g. organizing a support group), students also expressed pleasure in offering expertise to peers:

> [I had] a meeting with a prof and another student about figuring out how to analyze a data set and helping the student use the program and interpret the results. (Regina)

Family and friends offered a different kind of relationship again; this could be facilitative, for instance, Jane comments: "My sisters took care of my sick parents so I could continue to work on my PhD", and also emotionally supportive, as with Regina receiving support from her fiancé:

> I have been anxious about finishing this part of my literature review and I find it challenging. He is emotional support for me, and gives me pep talks. He also helps me manage my time between work and my lit review (I often work for my RA position far more than I am supposed to).

While supervisors were reported by students as being important, students were also particularly respectful of supervisors; they recognized that supervisors were busy people as Donna comments: "My supervisor is very busy and I don't have the same contact with her [but] there isn't much I can do about the load she is expected to take on." Further, they might not be willing to reveal the extent of any difficulties, as students were concerned that they might be perceived as not being able to do what seemed to be expected of them. Mary commented: "I respect [my supervisors]…I only will go to them if I feel I've got something valid or…if we've got meetings, I will prepare for them…so I hope I don't over-familiarise." While others were explicitly dismayed when their expectations of how much time their supervisor would spend with them were not adequately satisfied:

> [I wanted help with] deciding on how to deal with some of the requested changes from my committee…For some of these issues I feel [my supervisor] has the final say, for others I don't think she would know what the best answer would be…but I didn't get that help because I have the impression that she is too busy to help me this week and I mainly plan to just make the decisions on my own and leave it at that. (Wendy)

Lastly, the fact that 10% of progress logs named the student, him- or herself, as the most important individual in the time period in advancing doctoral work demonstrates an awareness by the individual of his/her own resourcefulness and agency. Here, Regina describes being quite strategic in establishing a relationship with an academic elsewhere:

> I read a few papers written by [xx] to learn about his work and set up a meeting to meet when I am in [a particular city] in June. This is very important because my ultimate goal is to work (as a professor preferably) in that city [my home town].

In the North American model of doctoral education, the supervisor is the main point of contact for the student and is often conceived in the literature as the most important person in a students' experience, and critical to progress and completion of the degree (Wright 2003). Yet, the findings above point to a plenitude of supportive and critical interactions occurring beyond the primary relationship with the supervisor. Students in our research were on the whole well networked and depended on these relationships for different kinds of support. But at the same time they needed to negotiate their intentions and reciprocate in different ways with different individuals.

What Were the Kinds of Difficulties They Experienced and Their Responses to Them?

> Getting a grasp on time management, there are only so many hours in a day, and that the number of activities that are part of a doctoral degree are almost impossible to do given time constraints. (Charles, time difficulty: overwhelming number of tasks/activities)

> Not enough social opportunities with peers in the Department, so feeling a little isolated. (Barbara, isolation difficulty: general negative affect)

> Brain drain, exhaustion, frustration—all mental challenges associated with being overwhelmed and anxious. (Holly, fatigue & anxiety difficulties: general negative affect)
>
> I did feel at an intellectual dead-end. I knew I had to write more for my paper, but I had no more energy or ideas. (Helga, no energy, fatigue related to writing)
>
> Usual writing block, actually managed to write past that, so that was encouraging. (Aileen, success in overcoming expected difficulty with writing)
>
> An important book I had at the library was recalled and I had to return it. (Barbara, loss of resource)
>
> Practically no written information provided by my program about […] internship sites. (Diane, difficulty getting resources)

In the logs, students were asked to identify any difficulties experienced. A wide range of difficulties was reported. In order of frequency of occurrence these included:

- Lack of time to complete the tasks that the student hoped to complete
- Negative affect that were permeated experience (e.g. lack of motivation, intellectually lonely or not belonging, discouraged, fearful)
- Intellectual or writing block (e.g. inability to write, having too many ideas, needing to refine or make work more focused)
- Resource constraints (e.g. lack of office space, difficulty accessing research population, not being able to obtain a needed book or data analysis software)
- An unclassified cluster related to either personal life issues, or logistical issues that were delaying further actions

A very small number of logs responses reported a lack of support by the supervisor or committee members, and this is taken up in the next section. Importantly, in about 40% of the logs, students either cited having no difficulty, or did not complete the item. In other words, students were not necessarily experiencing difficulties on an ongoing basis but rather different kinds of difficulties came and went, or students may not have felt comfortable or able to name any difficulties they may have encountered. How did students respond to the difficulties reported?

> No matter what people may say about "the system" being unsupportive, or plagued with biases and power differentials, I…believe each student needs to acknowledge these barriers and move ahead…as best as possible. This means focusing energy and getting things done, which is ultimately an individual effort. (Charles)

Charles articulates a sense of personal responsibility that others also demonstrated for advancing progress despite any difficulties faced. Corrine echoes this sentiment:

> I do not like to work from the deficit model and complain that I do not have enough time, which like everyone else is the case. From the asset model I consider myself lucky to have a living work experience that adds value to me personally and to my research and practices. [For example], this week I woke up every morning at 4 and wrote till 5:30 then walked with a friend where we talked about education. She is at the level of the inquirers I will research. Talking with her about issues she faces helps me clarify my thinking and adds motivation to continuing my studies.

Students also reported how they reacted to or acted upon the difficulties that were named. In 69% of the instances of difficulty, students were able to articulate some

type of action that they personally took to address the difficulty; in the remainder of the instances they did not take any action or reported that it was not possible to take any actions.

In the vast majority of actions taken to address difficulties, students overwhelmingly placed the sole responsibility for addressing the difficulty on their own shoulders. In their elaborations each considered outsider aid unwarranted, such as, for example, in experiences of anxiety or writer's block, the view was that they were the only ones who could change the situation. Responses to how time issues and experiences of negative affect were dealt with included items such as: better planning, better prioritizing, getting more sleep, and reviewing other previous work. Other interesting, yet elusive responses included:

> Be more proactive and organized, and more relaxed, mindful; just learn to live with this reality; staying up late and getting up extremely early; the fear of writing a mediocre essay I overcame by postponing the writing of that essay; compartmentalize!

Interestingly, in the very few instances when students approached other individuals to help manage a particular difficulty, those whom each approached was equally distributed across supervisor, other professors, peers, family, and others (e.g. librarian, a counsellor). Hence, students were actively trying to address perceived difficulties, each focusing foremost on resolving the difficulty by changing something within themselves, and only secondarily demonstrating a willingness to address difficulties by using networks they had cultivated within and outside of the formal academic environment.

Overall, what is apparent in the students' responses is that experiencing difficulties is a common experience though not necessarily constant, nor debilitating. In fact, we were struck by how all participants in our program remained in their programs despite the difficulties they reported both academic and personal. Wright (2003) reported that two thirds of those who completed in four years—what would be institutionally considered a timely fashion—experienced difficulties. Interestingly, they also reported more extensive networks of relationships than those taking considerably longer. In two other studies (Rennie and Brewer 1987; Maher et al. 2004), students who reported fewer difficulties consistently reported drawing on networks of relationships, in some cases strategically, in other cases emotionally. In other words, it appears that difficulties can contribute to delaying completion but not necessarily. Further, being able to draw on a range of relationships for support may be critical in progressing.

Ongoing Cumulative Difficulties: Those Less Heard

> Well to be honest, I have no support/pressure/encouragement from my committee to actually do anything on my thesis. I am not sure they would notice before the end of the semester, or even the academic year, if I made no progress on my thesis at all. No one really checks in on me (the meeting with my advisor today was about her research not mine—we just happened to chat about mine—because I brought it up). (Wendy)

Wendy was unusual among the participants in describing quite bumpy experiences during her doctoral studies—primarily because of an ongoing sense of isolation within the department. Overall, we were struck that participants continued to feel they were making progress despite naming varied difficulties and multiple demands on their time. We wondered if we were missing important stories and decided to seek out those who characterized themselves as experiencing sustained difficulty. We interviewed individuals who were "successful" on paper because they were all going to finish their PhDs (and some have since the interviews), but who perceived their road to completion to be particularly bumpy, with extreme challenges or conditions that were emotionally invasive and draining. In the following, we draw on interviews with eight of these students who were in the same faculty at McGill University as those described earlier.

As noted in the previous section, generally students were actively developing networks, a set of personal supports, which were largely not programmatic and institutional. Further, when difficulties did arise the vast majority took on responsibility for the difficulty instead of seeing it as a structural difficulty or an issue within the system of their program. When they did seek help, they each engaged many kinds of individuals (peers, friends, supervisor, other professors, support staff, etc.) but rarely reported contacting the Chair of the department or the Program Director, individuals who might conceivably bring about structural changes. These earlier findings influenced our interest in seeing the extent and nature of the networks that this smaller group of individuals had and drew upon.

Complexity of Experienced Difficulties

A number had experienced health and family issues, such as broken bones, stress, and financial strains (taking on multiple jobs, working full-time, needing to finish quickly). All had personal networks of family and friends (sometimes geographically distant, e.g. elsewhere because student moved to do the doctorate), and often with related responsibilities (e.g. child care). We present three profiles so it is possible to get a sense of the intertwining and cumulative complexity of the challenges these individuals reported experiencing.

Theresa is in the third year of her doctorate. She works several additional jobs despite being relatively well funded (she has an SSHRC) since she is carrying a debt of about $90,000. She began her PhD because she had difficulty finding work with an MA in Education and realized that unless she were to teach in schools, she needed to go back to graduate school to make her MA worthwhile. She has two sons who until quite recently were financially dependent on her, and she finds the workload (4–5 part-time jobs) a challenge. She also has had some difficulty finding support networks that are established in the Department, so started one in her first year but no longer has time to attend. She describes her program to be not as theoretically rigorous as she had hoped.

Sylvia, in her fourth year, is part of a visible minority and came to McGill at the beginning of the second year of her PhD, transferring from another university to maintain her supervisory relationship. This decision meant she and her partner were separated by distance. During the second year of her doctoral studies, her supervisory relationship broke down and she switched to a different supervisor. At the end of her second year, her new supervisor left the university, and she switched again to a different supervisor, who she was working with at the time of our research. She has moved back to live with her partner, a far distance from the University, and she is currently finishing up her analysis and writing her dissertation!

Arnold, in his third year, has just completed his comprehensive exams. He is commuting to the University from the United States (about a six-hour drive, and is also undergoing a significant change in his family structure, grappling with the emotional and logistical effects of divorce and custody issues). He changed his supervisor because he felt he had not been receiving feedback on his writing or other support from his supervisor in a timely manner, and had also experienced a conflict with his supervisor when attempting to collaborate on a paper with a committee member.

Changing Supervisor

Sylvia and Arnold, like others in the group who had changed supervisors, reported these experiences as traumatic.

> During my second year, my supervisor's partner [who is also an academic] and I completely went off track. I have no idea what happened…but [it]…poisoned the relationship with my supervisor. I also felt that I was not in charge of my PhD. [After I e-mailed potential committee members for advice,] I got an email from the supervisor…It was the nastiest email I've ever gotten in my life. [So,] I changed in February and then by summer I realized that the current supervisor was probably going to leave [the University], and so switched to the third supervisor I am currently with. (Sylvia)

Sometimes, concern about not "hurting" others overrode looking after personal needs.

> [In changing supervisors] I was really caught up with not wanting to…hurt anybody's feelings…in many ways that was more of a concern to me than what I needed for my PhD… so I was really scared and so that was more my focus—I'll move to this person and then try to do it in such a way as not to hurt the other person. So whether or not it was a fit, it was almost a sense of "I have to get away from this other person." And it seemed like a fit but I don't think that I looked into it as closely as I should have even though people might have said I should have. (Clare)

It was evident that students did not realize that supervisory change was a relatively regular feature of academic life.

> Leading up to the switch, it is so opaque that process, that I felt that trauma that this is the most horrible thing that I could possibly decide to do and I'm so nervous about the retribution that I might feel after doing this and nobody has told me what a normal process it is, right. So if I knew that it was normal then I would have probably switched a lot sooner and saved myself maybe a year. (Arnold)

Supervisory "Absence"

However, supervisor change was only one feature of their experiences; supervisors were also reported as absent, not intellectually supportive, and not providing guidance.

> He is a very good person but as far as any kind of [direction]—like that just doesn't happen at all. …Like all of that has been completely self-directed I would say. …I had written a paper for a journal…I told him that I had written a paper, but he hadn't read it or anything like that—but they sent it to him for review because they didn't know that he was my supervisor. (Theresa; on experiencing a lack of direction)

> The recognition of my supervisor is that her students are brilliant because they don't need help, and we don't need help. (Sandra; on feeling unsupported)

As well, the supervisor and the committee were not always perceived as intellectual colleagues, part of the developing networks the students might maintain. In fact, they sometimes appeared to constrain a student's intellectual development:

> I feel that I'm working with a committee that comes from very different research traditions and very different theoretical backgrounds and I kind of feel in some ways caught between trying to write a thesis that is emerging out of my experience in the field, my personal experience of the teacher, you know, the theories that I'm working with, and then there are all these [committee] people. (Ann)

Avoiding Retribution

Fear of becoming known and of retribution emerged early in this study. A number of students who had agreed to participate ultimately withdrew because of such concerns. And, many participating did not want to fully describe the events and requested details to be substantially changed to preserve their anonymity. Arnold articulated the impact of having raised the issue of changing supervisors on his relationship to his department, given the hierarchy of power:

> It felt like I set in motion a group of people not liking me and therefore I didn't know how far those dominos fell…I walked in this building for about four or five months like this [motions here] worried about who I might see in the hall, worried about what somebody might say about me, worried about how sort of my self was being reflected in conversations.

Disillusionment

A number reported having come to the degree with what they now characterized as idealistic expectations of the PhD and academia. They now reported being either disenchanted with academia as a possible future (Arnold below) or rethinking the kind of life they would want, for instance, because of work–life balance (Clare below).

> After what I have experienced these last few years—I'm completely jaded and sickened by what I saw and experienced and still see and I don't want to be a part of that. (Arnold)

> I'm maybe a little disenchanted by the whole academic scene…I don't see having an academic job right now as being such a glorious end point. When you are working more closely with faculty…you see a lot of the games that go on in the background and…that it is kind of a cutthroat business in a lot of ways, which is not what I was looking for…[so] I'm very comfortable with my position of not being willing to sacrifice my family to get a PhD… that would be stupid…I don't want to make [the degree] sound like it is not important…I do want to have an academic job and I want to do good work—but I see it as just a part of the rest of my life now. (Clare)

The cumulative result of these experiences sometimes challenged their sense of agency and ability to negotiate support within the academic arena, even if temporarily. Insofar as agency was being exerted, it was often done through distal and informal channels comprised of networks of family, friends, or previous colleagues. Many did not know how to, or were uncomfortable, exerting agency within their immediate academic networks of supervisor, other professors, department leaders, etc. Sylvia noted: "I was in a position of no power here. No allies. Not even in the graduate school at the student level."

Overall, we would characterize what students described as a combination of the following: they often brought with them strong earlier networks that they wished to maintain (family support and responsibilities) and possibly disrupted earlier networks (through having moved). They were also experiencing disrupted present networks (through illness or maintaining past networks) and finally sometimes a lack of new and growing networks (heavy external workload to handle financial difficulties resulting in a lack of presence in department, changes in committee members and supervisors followed by a perceived alienation). This contrasted somewhat with the larger group of students who had not reported the complexity of difficulties these students did—the reader may recall that the other students reported an extensive network of relationships both within and outside of their immediate academic environments.

In the case of this smaller group of students, while supervisory relations were sometimes the source of difficulty, it was much more than this. Departments and academics generally were seen to be lacking in awareness of the complexity of students' past and present lives beyond the academy. To the students, there appeared to be no institutional oversight of practices and structures to support them, leaving them feeling relatively without power in the department. Yet, despite the problems these individuals experienced, these students were still persisting, just as the larger group of students who reported relatively fewer tensions and challenges. In doing so, they were mindful of not revealing their difficulties to those in the institution (and sometimes even to their peers), and instead presumably called on those beyond the institution (i.e. family members and friends) to support them emotionally, academically, and socially. They were thus unfortunately leaving undisturbed the cultural narrative in which supervisors often characterize difficulties faced by doctoral students as a result of student weakness, or they blame students themselves for difficulties they may encounter (Manathunga 2005; Gardner 2009).

Sylvia is very aware of this: "If I leave [the university] and don't say anything and don't do anything, then it just keeps going to inertia…supervisors, the departmental program itself." Unless students such as these feel able to make their experiences public (and are supported in this), it is likely that student deficiencies will continue to be the cultural narrative to explain slow progress, and programmatic and institutional responsibility to review departmental or research practices will not be undertaken. While we are mindful that these few stories were not common, the stories nevertheless highlight the fact that without an impetus for structural change, students such as these will continue to experience the same cultural practices of neglect.

Negotiated Agency

In examining how students engaged in interactions with others, we saw emerging what we have termed negotiated agency. Students in our research were negotiating their intentions as they called on different kinds of individuals for different kinds of support with more directive roles linked to the supervisor and other academics and more supportive roles to other students and family/friends. Recall the three ways in which Regina acted, i.e., helping and being helped in the study group, facilitating someone else's agency when helping the student and professor, being helped by her fiancé. We also saw Wendy initiating an activity (i.e. preparing for and contacting a professor) and responding to an emerging experience (i.e. positive response to interaction with professors at a conference). Sometimes, individuals had to modify or balance their own intentions to achieve a larger outcome. Here, Holly describes changing her thesis structure to comply with institutional demands in order to complete her degree:

> I had started writing my dissertation with a…more narrative…focus and [in] the department…you get a lot of support for doing things that are…creative…but…when it came down to it, that kind of…creativity was not matched with…the institutional demands of…a dissertation. …there was…inherent conflict [so]…I ended up changing the way I was writing.

Sometimes they sought help but this was not perceived as appropriate, so they had to fall back on their own resources. Mike, for instance, tried to advance his proposal writing (a goal set by his supervisor) by asking his supervisor if he could join the supervisor's research team, but the supervisor felt this inappropriate:

> Right now the onus is on me to do the legwork. To figure out—like you can't tell me what I'm going to research. I tried to get him to [let me join the research team] but…his belief is [it's for me to decide]…which is true. Like, I agree with him but I just think it would have been really easy to get into the research team.

And, individuals sometimes challenged their own intentions. Here, Holly questions her teaching:

> [My] research…has really…made the way that I teach much more difficult and challenging because basically…I've reached this point where I don't really think you can teach writ-

> ing…yet I'm still…expected to teach writing and so…I had my students yesterday writing an essay and there was this huge conflict within myself…I tried to create…some meaningful reason for writing an essay about African elephants which…there's not! But that's in the curriculum…so I really struggled…with bringing what I've learned in my research into my classroom and meeting the demands of the institution.

However, we saw hardly any instances of students challenging others about a perceived situation. This lack of challenge may emerge from a sense that they alone are responsible for handling the difficulty (maintaining the culture of blame). It may be partly due to an unwillingness to challenge more powerful others (as noted in the previous section). It may also result from an inability to see the ways in which structural constraints are influencing behaviour, or a lack of knowledge about where to go to challenge the problem. We believe it is helpful for students to value being responsive to the expectations and demands of others given the peer-review culture of academia (Enders 2007); to attend to the opinions of others is necessary to advance thinking and contribution to the discipline. However, it is also important for students to recognize and value that it is possible to find ways to create new social practices as well as ignore old ones (Billett 2009).

A Different View of Doctoral Experience

The varied contexts in which similar results were obtained across the two universities and the different time frames of the log questionnaires support the robustness of these findings. First of all, the analyses underlying this chapter remind us of the diversity in the past and present experiences, emotions, relationships, and resources of doctoral students. Many of these individuals were undertaking their doctorates in the midst of busy lives and many responsibilities. A focus on their academic experience alone will overlook both the resources and demands that they each bring with them to the endeavour. In addition, what we documented provides a distinct view of the ways in which students spend their time. Many are taking the opportunity to engage in the range of activities and tasks that represent academic work; this is fortunate for those who want academic careers. We noted particularly the importance of reading and writing as fundamental features of day-to-day life.

Collectively, the patterns related to positive interactions with others highlight student engagement with a number of individuals in diverse ways that move beyond the primary relationship with the supervisor. These "other" interactions are often hidden from the view of the supervisor, likely unacknowledged, and are not designed or necessarily perceived as activities that aid progress. However, as our findings indicate, these interactions can have an impact on the sense of forward movement and of learning as a probable by-product. The students reported engaging with family and friends, peers and supervisors as resources on a regular basis and cited these groups as "most important" for varied reasons. This finding raises questions about the assumed centrality and singularity of the supervisory relationship. While the supervisory relationship is important, our results suggest that students

are actively cultivating many other important relationships beyond the supervisor. Nevertheless, neglect by the supervisor can have detrimental effects.

In terms of difficulties, the findings reported here are again distinct when compared to previous research work on student experiences. Previous work has tended to focus on singular events, or data collected in retrospect. In reviewing the ongoing nature of the doctoral journey reported here, we can see that some of the common issues named in the literature such as funding or problematic relationships with supervisors or committees were not named with any large or recognizable frequency—one of the reasons for our further study of the few individuals where both these emerged more strongly. Overall, the difficulties named represented smaller difficulties that reflect the daily stumbling blocks on the path to completion. Students cycled between positive interactions with others and trying to get a better grasp on planning, creating reasonable expectations on their time and quality of work, finding the appropriate resources and dealing with the negative affect that arose when goals could not be met.

In terms of agency in dealing with difficulties, when a possible resolution was entertained, it was conceived of as involving the individual alone, through, for example, engaging in better planning or preparation or undergoing some abstract internal changes. One might interpret this finding as suggestive of students being unable to see the connection between the importance of interactions with others to help motivate a sense of progress (which they reported doing) and using these same interactions to begin to address or work through difficulties. An alternate explanation could be that their reliance on the self in addressing the difficulties was possibly a form of self-isolation, one built around a cultural narrative of academic individualism (Deem and Brehony 2000) picked up through interactions with academics in their departments, in conjunction with the cultural narrative of student deficiencies as the core of lack of progress (Gardner 2009). It is possible that this same internal personal focus on bearing responsibility may help explain the more extended difficulties of those who identified themselves as experiencing a particularly bumpy doctoral journey as well as contribute to the widely cited “imposter syndrome” experienced by doctoral students.

It is also important to address the ongoing diminished presence of the supervisor in these log reports with respect to reported difficulties. The supervisor was rarely sought out for help with these difficulties, and was not frequently named as an important person influencing progress. As noted, in the previous section and similar to earlier reports (Manathunga 2005), students do not want to share certain types of difficulties with supervisors viewing such difficulties as evidence of lack of ability. Expressing these concerns to those to whom they may already feel inferior (through the unequal student–teacher power relationship) may expose their own vulnerabilities to other.

All these findings require us to re-examine the overwhelming importance that is placed on ameliorating the student–supervisor relationship. A large number of “how-to” books, institutional workshops, and advice articles in the journals of scholarly societies are aimed at either the student or supervisor around the theme of improving aspects of this relationship. We argue that it is equally important to begin

to focus on cultivating student-negotiated agency in addition to these. Our findings show students as demonstrating agency in seeking out interactions that positively influence a sense of progress, but also restrict their agency in response to difficulties and tensions that may hinder a sense of progress. More work needs to be done to explore this variation in agency as well as how this negotiated agency can be better fostered.

Overall, we would argue that while the doctoral journey is often characterized as one from dependence to independence (e.g. Sweitzer 2009), we are not sure this is the most appropriate characterization. In the academic world today, there are increasing calls for knowledge creation to be collaborative (Henkel 2000) and reports demonstrating a growing international pattern of co-publication in nearly all fields (Gingras 2002). Thus, we believe supporting doctoral students in developing their ability to negotiate intentions and extend and maintain a network of relationships may serve them better in their academic futures.

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Chapter 3
New Academics as Supervisors: A Steep Learning Curve with Challenges, Tensions and Pleasures

Cheryl Amundsen and Lynn McAlpine

> *Pretenured professors are supervisors the minute they come in the door, which is a huge responsibility before they have learned the game, learned how to manage their own career.*
> Pre-tenure academic[1]

Perhaps in no other role do the three areas of academic work (teaching, research and service) come together as they do in the role of doctoral supervisor. In this role, the academic is a teacher and mentor, a researcher, and fulfils a service obligation to the discipline to support new researchers and their contribution to knowledge. At the local level, there is also the service to one's institution in terms of research recognition and the financial benefits related to the successful and timely completion of students. This is a critical and complex role and for the supervisor, there is much "riding" on doing it successfully, and thus great satisfaction once accomplished. One new supervisor describes the feeling of success with the completion of his first doctoral student:

> To see him through to completion as my first student and for it [the defense] to go as smoothly as it did—and I don't expect all of them to go nearly this smoothly—was a real sense of fulfilment and completion. (Howard)

And another communicates the importance and emotion involved in looking forward to the completion of her first doctoral student: "I mean the first successful defense as supervisor—I think that will be a huge ruler [of my competence and scholarship]. I mean I will be as nervous as the student, I'm sure." (April)

[1] In Canada, and more generally in North America, full-time academics are often hired into "tenure-track" positions as assistant professors; these positions are secured 5–6 years later if the individual is deemed worthy of "tenured" status. However, the tenure system is coming into question and has been discontinued at some institutions in the United States.

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Yet as vital as supervision is to the individual academic and student, to the discipline and to the institution, most academics receive no formal or systematic preparation for this complex role. And, as the quote at the beginning of our chapter communicates—even informal mentoring and modelling by others or simply having time to observe once in a new academic position are often not possible in the rush to have pre-tenure academics take on their share of supervision. The findings of our research investigating the experiences of 17 pre-tenure academics at two universities in Canada indicates that all of them relied, at least initially, almost entirely on their own experiences as a doctoral student to guide them in the role of supervisor. We have conceptualized this as simply "moving to the other side of the table" (Amundsen et al. 2009). Some are fortunate to have had productive and constructive relationships with their PhD supervisor and committee members to draw upon, while others have only mixed or negative experiences against which to position themselves. Yet, even the challenging experiences can prove useful.

This situation is compounded in many institutions, our two institutions included, with what pre-tenure faculty perceive of as a lack of guidance and clarity about procedures, rules and norms regarding supervision. One new supervisor explained:

> Same thing with the PhD supervising. So I sort of started asking around like is there a handbook or are there guidelines? I mean I based it on my experience. Obviously that's the only sample—one—that I know of. (Kate)

It is not only drawing upon one's own experience to figure out what to do as a supervisor—the procedures and the strategies that a supervisor employs—but it is drawing on one's experience in coming to grips with "What kind of a supervisor do I want to be?" (Manathunga and Goozée 2007; Manathunga 2005). In fact, we would argue that given the confluence of all three academic roles in the work of supervision (i.e. teaching, research and service), the question actually is "What kind of an academic do I want to be…and to be known as?" For as the majority of the new academics in our research explained, the supervisory role is not just about helping the student complete the dissertation, it is also about supporting a doctoral student, a new scholar, to become a confident and contributing member of the discipline which in turn can help further one's own career.

Yet supervision is not a solitary pursuit. Collaboration is a requirement, not an option. The supervisory role requires collaboration with the student, of course, but also with other colleagues within one's own institution (for example, as committee members and internal examiners[2]) and perhaps beyond. Archer (2000) contends that roles provide an important contact between individual agency, social interactions and social structures. In the case of supervision, we suggest that this role is important in bringing about contact between individual concerns and values—What kind of a supervisor/academic do I want to be?—and the concerns and values of the local institution and wider scholarly community. Thus work as a supervisor, as with other collaborative work in academia (Walsh and Kahn 2010) has the potential

[2] In many institutions in Canada, the thesis examination committee includes two examiners who are not members of the supervisory committee; one is an internal/external examiner from the same Faculty/Institution as the student and the other is external to the institution.

to legitimize individual capacities and values and can therefore serve as a place of identity development for new academics.

We are aligned with Clegg's (2008) explanation of academic identity as relatively fluid:

> Not as a fixed property, but as part of the lived complexity of a person's project and their ways of being in those sites which are constituted as being part of the academic. …Moreover, in so far as individuals conceptualize themselves as having an identity as an academic, this multiple and shifting term exists alongside other aspects of how people understand their personhood and ways of being in the world. (p. 329)

We have suggested that as an individual it is possible to conceive of one's developing academic identity as a trajectory through time though not necessarily as straightforward as one had hoped or intended (McAlpine et al. 2010). The experience may include setbacks, curves, unexpected detours. Like others (Colbeck 2008; Reybold and Alamia 2008), we see academic identity as constantly under construction, emerging through and embodied in cumulative experiences of varied and complex intentions, actions and interactions with others. The trajectory begins with years spent as a doctoral student (and perhaps even earlier) through the time as a new academic and on to more established academic status. The idea of identity-trajectory suggests the extent to which as individuals we tend to link past-present-future experiences, intentions and emotions in some fashion. We can see this being played out in the work of new supervisors who draw heavily from their past experiences (both positive and negative) and integrate those with learning in the present while projecting forward as they craft the role of supervisor in a way that has meaning for them. Our research points to new supervisors as strongly committed to their work as a supervisor, perhaps akin to Clegg's (2008) notion of a "personal project" (p. 336), in that as Sikes (2006) notes this work is strongly rooted in personal ways of working, in research traditions and philosophical values about ways of being in academia and in the world.

We turn now to the experiences of new academics doing the work of supervision. How do they go about this work given they feel relatively unprepared—they have just come from "the other side of the table". In the remainder of the chapter, we first discuss how the individuals in our research were getting the job of supervision done as best they could with the knowledge and resources available to them. We then consider the policies, procedures and expectations relevant to supervision as perceived by those we interviewed. This is followed by a discussion of local social structures and power issues with which our research participants came face to face. In all of these aspects, tensions and challenges were omnipresent and there was clear evidence of the resulting anxiety and frustration and the interplay between the individual values and concerns of new academics with those of more senior colleagues and with the social and institutional structures in place. But there were also pleasures reported by our research participants and we relate their celebration of successes—small and large. In the end, the reader may well agree with us in asking the question—"Why does this have to be so difficult, so challenging—what can the institution and the broader scholarly community do to better support pre-tenure academics as they take on the role of graduate supervisor?" We take this up at the

end of the chapter and conclude with a consideration of our work on supervision within the broader context of becoming an established academic.

Getting the Job Done

A successfully defended dissertation is the most concrete outcome of supervision work. Nearly all new academics can readily "sink their teeth" into this aspect of the work. After all they have recently, some very recently, accomplished the successful defense of their own dissertation. They know how they went about it and whether they had effective support from their supervisor and committee or not, they got it done. Halse and Malfroy (2010) describe this knowledge as "techne or craft knowledge" in relationship to supervision, "The creative, productive use of expert knowledge to bring something into existence or accomplish a particular objective, and to give an account of what has been produced" (p. 87). So we saw that those we interviewed came to the techne or craft knowledge aspect of their work with some confidence (Eraut 2007). Developing processes or procedures for breaking down the task for students was common to nearly everyone we interviewed. Typical of this was the following explanation:

> Now with all of the students I am working with—right away I sit them down and say, "Okay, this is the big picture and what we are going to do is we are going to chunk it out so you are not overwhelmed and anxious about it so that it is manageable." (Simone)

However, those we interviewed also explained how it became quickly apparent to them that supporting the dissertation work is not straightforward and that there can be real difficulties in accomplishing the work itself, that not all students are like oneself, and that a good part of the work involves the negotiation of the relationship between student and supervisor (Murphy et al. 2007; Manathunga 2005; Delamont et al. 1998). In our research, this became especially apparent for those who had worked successfully with one student and then tried to generalize that experience with other students. One new supervisor echoes what others also expressed:

> I think my learning experience was with [student X]—like it or not—she was a guinea pig. …I mean there were not too many problems with her. And she is very similar to myself so I think it wasn't too much of a stretch for me. I got her you know what I mean? The others are not at all like me. …So I think I was lucky in the sense that I was kind of in my comfort zone [with my first student] and I could try out these methods and cognitive tools. So it was easier with subsequent students and I found I repeated what had worked well with my first student. What I'm finding though is that I can't extrapolate from my first student. (Kate)

New supervisors we interviewed sometimes became involved with a student's negative emotion around doctoral work, the feelings of not being able to progress, of being stuck. For example, one new supervisor explains how he addressed one student's writing block while realizing it may not work for others. He relates:

> She was really stumbling to actually make the link between the reading and the synthesis of the ideas and getting stuff on paper and so I gave her my PhD and I said, "You've psycho-

> logically got to get started. You've got to get something on paper so you can believe that you can do it." So I said to her I said, "Look, read the introduction to my PhD and write one. …Actually get something on paper for a psychological boost." I think that worked really well in her case. It might not work well in the other student's case. (Richard)

So we see new supervisors learning from experience, learning as they go along, reflecting on what seems to be successful in a particular situation, trying to draw some general ways of working but also realizing that each situation may present different challenges in making progress toward a completed dissertation. The following quote is characteristic of the rhythm of this work:

> I feel like the fact that I was able to work with the [first] student and get the student to defend—I feel like it was an accomplishment. So I feel like by dealing with some of the pitfalls that can happen, I think I feel better equipped for dealing with potential future pitfalls. (Marc)

But for those who had not yet graduated a student, it is all hypothetical until one experiences the actual success of completion: "I don't know how…[my way of doing] supervision is going to pay off because I haven't graduated anyone yet but I've got my fingers crossed" (June).

A less tangible purpose of supervision, but noted by almost all of the new supervisors we interviewed, was supporting the student to become a member of and engage with the scholarly community. While this purpose overlaps with the completion of the thesis, there was a difference in the way new supervisors in our research spoke of this aspect. With thesis completion, the language used was much more specific, procedural and strategic since they had experienced recent personal success. But when they spoke of supporting students to engage with the scholarly field, much of what they spoke of was "wished for" and not a current reality although some described steps they were taking toward this. Often this was prompted based on their own PhD experience. In fact, interestingly, stories and recollections from their own PhD experience focused only a little on the completion of the thesis per se and more on their induction into or sense of belonging in the scholarly community. One new supervisor spoke passionately about what her experience had meant to her and the guidance it provided for her own work as a supervisor:

> I had a mentor [not my supervisor]…He invested in me as a person—invested in me, nurtured me as a thoughtful person, and it made the whole difference. And in my experience I was one of a very few if not the only in my cohort who had that experience. …What he was trying to honour in me and in my work was not understood by my senior supervisor. So what I noticed was that if you don't have a person who sees you, you cannot do the work. So I vowed to work to the ethic of my mentor. …So I keep going back to this experience and what was the value in it for myself and that experience was the only guidelines that I have in what I'm trying to understand and develop [with my students]. (Karen)

Another had a distinctly different experience, against which he positioned his work as a new supervisor:

> I often reflect on my own experiences as a PhD student. It's an institution which has quite a big ego so a lot of the people who worked there are quite pleased that they are working in a place of that repute. …There was no mentorship. We [with supervisor and committee member] never even had a coffee together over six years the three of us. My senior supervi-

> sor didn't let me know which conferences he was presenting at so I could go and he could introduce me to people. It was very much old school in a sink or swim—"You are here, when you produce the work, we will talk about it but we won't talk about helping you to produce the work." …So it's just sometimes, students have no one to talk to. (Richard)

The longing for a sense of community and the personal validation that can come from being part of a scholarly community as expressed by these two individuals is something we found was intentionally and specifically supported by many of the new supervisors we interviewed.

> So people who have in mind wanting an academic career then I take very seriously my job as supervisor to introduce them to members in the community, get them joining up, co-present, co-author—Yeah, having them join associations and starting to just do things alongside. …And just sort of hanging out together, mentoring someone into the field. (April)

However as some noted, there were challenges with this aspect. Traditionally doctoral students headed for academic careers were able to pursue their PhD studies as full-time students, with necessary income coming from fellowships, research assistantships and teaching assistantships—much like the experience of those new academics in our research. Yet an increasing number of PhD students in the social sciences today who have aspirations to have an academic career, are working in jobs unrelated to their PhD studies either part or full time and this fact provides an additional challenge for supervisors in creating community locally as well as engaging students in the wider scholarly community (Deem and Brehony 2000).

This situation leaves many doctoral students with little time to become immersed in the academic environment; this combined with the heavy workloads described by supervisors we interviewed creates a challenge. Yet, keenly aware of how important this aspect had been to them, many of the new supervisors we interviewed described their efforts in trying to build relationships with and among those they supervised. One new supervisor commented:

> I've tried [getting students together]…I would like to have more informal meetings with them too like just kind of a lunch thing or something but that has been my problem. Like I haven't had the time to do it. In the science model everyone in the lab—everyone goes out to lunch now and again. Which is something we don't have that's true. And that is something we don't have because they are working on their individual theses. (Kate)

Another addressed the challenge of student work schedules and his own lack of time by developing a course in which the goal was to mentor students into the broader scholarly field. Another noted the intentionality necessary and was clear that her own values pushed her to pursue this.

> Modelling the building of a research community demands intentionality and sometimes it is clumsy and awkward…And so I feel an obligation to model the kind of perspective taking and inclusive practice that I expect them to be able to take up. …It allows me to get to know them in different ways so that also has been an advantage is that it's a bit of relationship-building both within the group in the sense that working on a project together—builds community I think. (Belle)

Naturally most of the new supervisors we interviewed felt most comfortable working with those students who have academic career goals, since this was a path they

well understand. Over time they were fashioning ways to work with these students. Yet, increasingly today PhD students are turning away from becoming an academic (Mason et al. 2009) or they are prompted to look outside of academia due to a lack of jobs (Nerad et al. 2006). One new supervisor explained:

> I think that is one of the challenges [for academics] is that if you have only been an academic and someone doesn't imagine themselves being an academic then it means how do you imagine a different future that you haven't experienced? (Valerie)

Another, who had had very little contact with the scholarly community through his doctoral supervisor, knew the value of co-publishing with students but at the same time worried about its value in the context of his own career goals, a topic we take up later in the chapter.

> I think it [co-publishing with students] is a real advantage to the student [on an academic career path]. I don't see a lot of advantage in me doing it myself. I see more advantage in collaborative research publications with colleagues rather than with PhD students. It [co-publishing] was something that was lacking for me [in my PhD program]…but it is a dilemma because I'll inevitably be doing more of the work. I'm thinking of the old tenure and promotions committee as well. I'll put it forward [to the Promotions and Tenure Committee] in this way that I think this is an essential part of our job and it is extra work for me but at the end of the day I think it is beneficial all around. (Richard)

We also found evidence that new supervisors were taking the time to try and accommodate students with career goals outside of academia in meaningful ways, again dealing with the situation "dealt to them". One new supervisor describes what she is trying to do:

> Like for instance, one student her goal—she wants to go and teach in Asia. And once I realized that I got her involved in doing some like teaching guest lecturing in my classes and things like that. …But it also made me tailor somewhat her research slightly differently. It just changed it. …In fact she does as much research if not more than some of the other students—it's just sort of tailored—I thought of conferences that are more relevant. …So I really found early on asking them what their goals were…And, of course, sometimes that is hard for them to answer but at least getting an idea—it's good for two reasons. One it means that I can do a better job of essentially mentoring them because I can give them things that are helpful to them but two, it also means that I'm not working against the grain. (Valerie)

Two things struck us in the accounts of day-to-day supervisory practice. The first we have already mentioned—the resourceful problem-solving orientation to learning from experience. The second is the curious emphasis on working on one's own, supervision as a sort of solitary pursuit. Even when students were mentioned, it was more about solving the student's problems without reference to colleagues and finding ways to move the student forward. Several mentioned wanting to be a mentor—they were working toward that "style" of supervision, but accounts of what they considered to be mentorship often focused on what they were doing *for* the student, not *with* the student. We realize that this may be a partial artefact of the conceptual framework we employed in our interviews, one in which we tried to see the system of supervision through the eyes of the new supervisor. Yet there may also be other explanations. One involves the assump-

tion that not only are new academics assumed to be effective supervisors at the uptake of this work (Manathunga 2007) but they are expected, in ways that go beyond supervision, to be independent. Our discussion in Chap. 10 of this book challenges the assumption of independence (also McAlpine and Amundsen, under review) contending that the task for doctoral students and pre-tenure academics is more one of negotiating agency with others to advance individual intentions; that this will serve them well in academic work and should be a focus for mentoring efforts. In addition, the research focusing on career satisfaction of new academics is unanimous in the finding that new academics are dissatisfied with the lack of collegial relationships and support (Schrodt et al. 2003; Austin and Rice 1998; Olsen and Sorcinelli 1992) which may provide some explanation of the depiction of supervision as solitary work by those we interviewed. One person we interviewed commented that she:

> Always has to do things the long-way, the hard way—you know—and on occasion I get somebody [a senior colleague] who really is very helpful and sort of consistently helpful, right. So I think that could be expanded—small groups—like a group of four or five with one mentor. (Simone)

One such mentoring group was set up at the initiative of one of our research participants and was found to be extremely helpful.

We do not mean to infer that we do not value individuals learning from experience and acting agentically to move their learning forward (Billett and Somerville 2004), but we think it is worth considering the possible downside of practice (in this case supervision) that is, at the onset anyway, almost completely influenced by a person's own experience and pursued as solitary work either through expectation or choice. One obvious consequence is the chance that traditional views of supervision will continue to dominate without regard to power and gendered issues that have been unveiled in the traditional arrangements of supervision (Manathunga 2007; Chapman and Sork 2001).

At this point the reader may say—"But wait—isn't supervision by its very definition a socially situated activity?" Of course, it also requires the negotiation of interactions and relationships between not only the supervisor and the student, but between the supervisor and potentially more powerful others in the local community (committee members and others in one's own institution) and with the broader academic community (expectations of scholarship; networking on behalf of the student) (McAlpine and Norton 2006). Successful supervisory work cannot be achieved without work that addresses each of these levels of relationship. As the supervisor (and we see echoes of this for students as well described in the previous chapter, Chap. 2) works to manage these expectations and relationships, we find that others, both local and external colleagues, provide support, but can also create barriers to the realization of individual values and to the accomplishment of the work at hand. Kahn and Walsh (2009) drawing on the work of Archer (2000), maintain that "A role can legitimate our initiative, or render it all but impossible" (p. 4). We turn in the next two sections to examining how new supervisors try to, learn to work with and learn from their colleagues to realize the purposes of supervision as they understand these to be.

Policies, Procedures and Expectations—Are There Any?

At the simplest level, new academics need to know how things work at their new institution, what the rules and norms are. Many academic contexts, our two institutions included, can be described as unstructured or at least not highly structured. We senior academics tend to like this arrangement as it allows us the utmost in flexibility and autonomy. For new academics however, this can be incredibly confusing and can produce anxiety as it seems to at times "toy" with their understanding about how best to proceed with their work and more broadly, their careers. As we noted in the previous section, new supervisors we interviewed feel quite confident of what Halse and Malfroy (2010) would describe as the "techne or craft knowledge" of supervision, but had difficulty gaining the "contextual expertise" (Halse and Malfroy 2010) or the knowledge of the institutional context of the doctorate because of lack of clarity and transparency surrounding different aspects of supervisory work. Those we interviewed used words like "confusing", "not black and white", "fluid and flexible" and "it depends on who you talk to". Considerable energy was often expended and angst experienced by the individuals we interviewed trying to figure this out. The lack of clarity and transparency applied to the smallest administrative details as well as to more substantive issues such as the role of a committee member and a reader of comprehensive exams and ultimately to expectations of thesis quality. One supervisor worried about finding basic clerical information:

> One of the things that I'm most nervous about is that one of my students will fall victim to my ignorance about something that needs to get done—and something really stupid that needs to get done like fill out a form. So one of the things that would be helpful…is to have a resource page for faculty…instead of each thing requiring a hunting expedition. (Belle)

Individual reading courses[3] are common between supervisor and doctoral student in our two universities and one new supervisor we interviewed relates with some exasperation how in her first year, she tried to figure out what the expectations were for such a course.

> And I'm trying to hold the line [on expectations about reading courses] but there is no [line]—Where am I going to learn the context of what the line is cause there isn't one. And we don't talk about it. So then you have to go ask stupid questions to a senior faculty member. And you ask this person and you get one answer, you go over here and you get another. And then you still have to develop what is your inner integrity you feel comfortable doing. (Karen)

Another new supervisor explains his confusion about the various roles involved in the supervisory process and the vagaries surrounding this. He explains that in his first two years he was asked to be a pro-tem[4] supervisor, a doctoral committee member

[3] Doctoral programs often require that students complete an individualized or reading course with their supervisor or another faculty member. In this case, the student and faculty member develop a reading list and assignments for the course.

[4] Students in this program are matched with a "pro-tem" supervisor upon admittance to the program based on mutual research interests. The "pro-tem" supervisor may formally become the senior supervisor (generally the case) or it may be decided (by the student) that another faculty member is a better fit with the student's interests.

and a reader of comprehensive exams and had little idea about what the responsibilities of these roles were; this was compounded by the fact that he did not come from a Canadian university and therefore could not draw on much of his own experience.

> I'm a pro-tem supervisor, which took me a bit of time to figure out what that meant here. Even when I asked colleagues, nobody seemed to really know or they knew what it meant but they couldn't really describe any sort of set policy or procedure for me to do. …I'm a committee member for one student and so I've asked colleagues what does a committee member do?—"It kind of really depends on who you are working with and who the student is." And I said, "Well, am I expected to read their work and give them feedback?"—"Well, it depends. Some senior supervisors would do it all themselves and then they will pass it on to you sort of a couple of times of year. Other supervisors will do everything together with the student in terms of marking but you won't have a meeting. With others you will meet together. With others you will meet separately." …It would be helpful if someone got a hold of this issue and actually just wrote down some clear guidelines, even if that means saying they are flexible and to be negotiated, you know, ambiguity breeds insecurity and it breeds confusion and it leads to difficult situations where people unintentionally trot on toes. (Richard)

Another noted his confusion about what he calls "degree creep" and here again this was an individual who did not come from a Canadian university.

> And there is a lot of confusion because I see degree creep within the faculty so talking to a master's student who is doing some reading research and she was doing a three-year longitudinal study on the implementation of a reading curriculum and I was thinking why is this a master's thesis? I don't understand why this would be a master's thesis and some other work that I read would count as a PhD thesis because this is a heck of a lot more intense. (Howard)

And finally, there was evidence of confusion about expectations of quality.

> But one of the things I know from serving on committees and I'm on quite a few committees actually and have read comps and this kind of thing is the wide range of expectations. Just quite astonishing. I mean the defense I have this afternoon—master's defense—beautiful, beautiful thesis. It is just quite astonishingly well-written, clear, coherent, takes up the theory—wonderful. And compared to another one [doctoral thesis] that I had served as internal/external examiner—just not as strong, not a strong thesis. (April)

We have a picture of the new supervisor trying to figure things out and how it all applies to the supervisory work they are undertaking, trying to be independent, but disadvantaged by the lack of clarity and transparency, even that which should be at a procedural level—we are reminded that this might be what Engeström (1999) would call an "inherent contradiction". Part of the context at the local institutional level that new academics must also work with concerns the prevailing social structures and power relationships that may be different from the institutional rules and norms and this is what we turn to next.

Coming Face to Face with Social Structures and Issues of Power in the Local Community

The lack of transparency of rules and norms and the informal handling of institutional procedures may offer senior academics flexibility and a certain degree of autonomy—but may be a "double-edged sword" for new academics. Being caught

or surprised by unexpected consequences or behaviours can erode a sense of belonging. As one of the individuals we interviewed found out, it doesn't always "depend"; she found this out when she apparently and unintentionally violated a norm (according to one person) about when to involve a second committee member outside of the Faculty.

> That really kind of confused me and I was also a little worried that he [my Chair] went directly to this committee member—and I didn't want to be doing something wrong. I honestly didn't know. I didn't know because I had never been in an ad hoc committee situation—when I did my doctorate I talked to all my committee members—too much probably! (Kate)

Some of those we interviewed described colleague behaviour that was unexpected in terms of their understanding of how things worked and added to their own anxiety of how things would go with their own supervisory work.

> I've attended some defenses where out of the blue this one who is a committee member just throws a spanner into the works. Yeah! Like where the heck did that come from and why not sooner? (April)

One strategy reported to us was to raise some of these issues of transparency in departmental meetings, but as was explained:

> There is some resistance to standardizing anything in terms of what we do with doctoral students. …People go back and entrench themselves in their usual way of being and their positions and I know there is a strong resistance to standardizing what we do with doctoral students. And people get very upset. (Kate)

The same new academic (and her "newbie" colleagues as she termed them) took it upon themselves to initiate a mentoring group, approaching a senior colleague to be the mentor. They meet regularly, keeping it very informal—"just kind of peer-to-peer". Having that group gave them the confidence to establish their own ways of working with students they supervised, even if that was different from more senior colleagues.

> So we [new faculty in the mentoring group] are slowly—For example, we find it helpful to meet more frequently [with students] and we find some of our older colleagues don't like meeting so frequently. And I find the students like to have a standing day and time that they know is reserved for them and if we don't need it then it is more of a "Hi, everything is great, wonderful" and I have my little candies and chocolates for visitors and they come by. But I find that in itself is reassuring for them—knowing that if they needed—that there is a slot reserved for them. Yes, it takes time. (Kate)

Archer (2008) notes from her findings that "younger academics were regularly compelled to engage in behaviours and practices which were unrelated to—or which could even counter—their own notions of authenticity and success" (p. 398). This type of action can shake one's very professional foundation; it can be a serious challenge to developing professional identity. We were discouraged to find not a lot, but some evidence of this in our research, especially around "shutting down" the voices of new faculty and also around shifting of unwanted workload to newer academics. However, we were encouraged to also find evidence of new supervisors challenging this behaviour, which we interpret as evidence of a strong instance of agency.

For example, one of the new supervisors we interviewed related her experience as an examiner for both a master's thesis and a doctoral thesis and how she situated the experience in what she was trying to accomplish on the students' behalf.

> For the master's thesis, I was asked to forgo recommendations for revision and with the doctoral thesis, I was the only one who raised questions, the student was unable to answer them. I felt somewhat uncomfortable—I mean I was very gentle. These [suggested revisions] were not outrageous. I felt it was kind of a foregone conclusion about what my role would be. I was trying to have integrity. I'm not judging it; I'm actually helping to facilitate what I think is the next step for her [the student]. (Karen)

Five of the participants in this study "inherited" students, in one case it was a positive experience and in the other cases, there were problems. One individual notes:

> An element of frustration for me is that I didn't want to work with this student from the beginning. She ended up with me because no one else in the program wanted to work with her…it came down to whose research like fits best…so it was me. (Janet)

Another inherited a student with doubtful prospects—her first supervisory experience. Further, the student was traumatized; she thought she had done everything except write the thesis and it turned out that there were serious problems with the data. She had to try and not alarm the student while at the same time substantially re-directing the thesis, "I didn't really want to fully tell her my fears because I didn't want to alarm her anymore than she already was" (Valerie). One new supervisor related his tension around accepting students who have already worked with another faculty member and for some reason were seeking a new supervisor—the problems are not always revealed nor is there any record to consult:

> I don't really want to take on students who are not good students. I don't want to invest all that time and energy although it turned out that the one I did take on as senior supervisor also had problems with her comps first time around. But I didn't get to find out until after I had signed the form. (Richard)

Showing maturity we think beyond her years, one of the individuals we interviewed reflected that:

> I don't mind trying to learn the culture, but the repercussions for your community involvement are big when you are trying to figure this all out. You are trying to navigate it but you understand that it is all connected to the so-called criteria for your employment. So then you can't enter into dialogues with people—Because if you question them when you are new, you get into that whole thing of kind of politic around issues. So I sense there is a politic as I'm trying to navigate and I try to be respectful of that. But, I'm also trying to develop an integrity—a kind of professional integrity where I have to make my decisions on my own, I think, and try to carefully develop that at the same time as I'm trying to navigate [the community]. (Karen)

The Inherent Pleasures of Supervision

In the above three sections we have focused on areas that often produced frustration and anxiety for the new supervisors we interviewed, but they also spoke of the inherent pleasures and the ways in which they were able to demonstrate their personal

and scholarly values through their supervisory work and the impact it could have for the broader scholarly community. We note the consistency of this with studies focusing on faculty satisfaction/dissatisfaction that report faculty being more satisfied with recognition from their disciplines than from the local institutional community and yet amidst this tension new academics are able to maintain an interest in and energy and passion for their work (Olsen and Sorcinelli 1992; Olsen 1993; Neumann 2009). We agree with those who want the emotional nature of work in higher education to be part of the scholarly discourse (Beard et al. 2007; Lethwood and Hey 2009; Neumann 2006) and we speculate that it is emotion about what we care deeply that can build resilience and resistance in the face of the kinds of challenges described by the new academics who were part of our research. Here are some of the ways this element was portrayed by the individuals participating in our research.

One acknowledged that she wanted to see reflected back to her from her supervisees the passion that she felt for her work—otherwise, what was the point?

> Well one thing that I can't do for them is find what their passion is. I can maybe ask some questions that will help them uncover it if it is not obvious, so I think the students need to take responsibility for discovering or articulating really what it is they want to know. …I think I expect a certain level of sincerity and that is just one of my personality things is that I'm not very tolerant of people who are just obviously jumping through the hoops because they want the credential. There are so many people who really have genuine questions and I don't really care what their career motive is. Especially in higher ed if we can help people wrestle with this stuff that wakes you up at night—that to me is more meaningful. (April)

And another describes what she thinks should be the main purpose of a thesis defense.

> That's why I find them [the thesis defense] so fascinating is because you actually have these real conversations and the student who is being examined is part of the conversation. It is a collegial experience when they become part of the community. I take that very seriously and I want it to be done with that kind of professionalism. …And they [student] have their first experiences as a new member of the community by entering into respectful dialogue about their work. (Karen)

Another reflected about a doctoral student who had moved on to an academic position.

> She got her degree and is now a professor in the States and building her career. So that was great. Accomplished in that the beauty of her work is out there and that she can continue to build on it. It is not simply a thesis that's forgotten. (Amelia)

Finally, one individual spoke of the experience of transformation and how she tries to support that among her students.

> When I think back to my own experiences as a student and the relationships, it really is a relationship around not simply being mentored into an academic culture. The students I'm working with now have talked about what a transformative experience being a grad student has been and I know that they are not simply talking about going to class and reading books. They are talking about something else. They are thinking in new ways or their pre-existing ideas have been challenged or they are seeing themselves or their work under a different spotlight. So I think the supervision relationship extends beyond the content and that was one of the things that I really appreciated about my own mentors. I do think there is something about that transformative piece that's worth attending to in some way. (Belle)

The role of supervisor cannot be considered alone, of course, and must instead be considered within the broader context of establishing one's academic career. We therefore conclude the chapter with a discussion of our research participants broader career concerns and consider this in relationship to the now widely and internationally documented changing context of higher education with particular focus on the need for the preparation of academics who can successfully function in this context and who can also challenge and resist the aspects that run counter to what they value.

Concluding Discussion

Consistent with what has been reported in the literature by several researchers (Reybold 2005; Schrodt et al. 2003; Austin and Rice 1998; Olsen 1993), the new academics we interviewed spoke of a lack of clarity in the tenure and promotion process, in general, noting that one is evaluated intensely in academia, but the criteria are vague and advice varies depending on who one asks. They questioned how supervision (along with other activities) was valued in the promotion and tenure process. They noted that the value seemed to be placed on the outcome—how many students one supervised to completion—rather than how one worked with those students, how one supported their experience to be meaningful and how the work contributed to knowledge and the scholarly field—let alone the recognition that one was contributing to the development and potential contribution of future academics.

All of the new academics we interviewed spoke of the overwhelming workload. One individual we interviewed expressed concern that some of her supervisees changed their mind about academic careers because of the life they saw her leading. Another individual explained her view:

> The workload is incredible. It just doesn't make sense. I mean I work fast and I am pretty result-oriented but when I came here I developed and taught four courses. You know, research applications—all the research projects coming in—and the PhD students—Oh, that's the other thing, people are saying, "You're supervising how many?—You shouldn't be—You should wait until you get tenure." Then they are saying, "You should be director next" and I'm like "I don't even have tenure!" Like whoa! You know. The workload is incredible…I'm telling you I've done a variety of jobs [outside academia] and this one is pretty relentless. It's a lot. (Kate)

Also, like the other new academics in the research cited at the beginning of this section, the new academics we interviewed wanted more local community, more collegiality and wanted, and had expected, more of the interactions that would foster their intellectual energy. One individual explained with disappointment and frustration that everything was so administratively focused—even in program areas—and that:

> When it's a faculty meeting or whether it is a faculty forum most of the time it is information-based and one-way and I think our programs kind of reflect that general outlook or attitude. And so what I would like to see happen is that not only our program area but also the Faculty move towards more substantive or content-oriented things. (Simone)

Another echoes the same frustration and longing, but as specific to supervision.

> You [the interviewer] are the first person I've talked to about supervision, which is interesting in itself. …but there aren't many conversations like this going on in the Faculty and it is quite a core thing. I remember our last Dean was constantly talking about numbers of students being produced per year but we never talked about the issues in-depth about why we are producing more or fewer PhD graduates and what the factors are that can actually do that. That is really why I offered to do this [interview] because I thought it would be really interesting to have a conversation about it. (Richard)

It is instructive and useful to try and consider our research findings and the literature we have cited that focuses on new academics, and in particular the role of supervision, in light of the broader context of the changing nature of higher education and the parallel preparation of doctoral students. As we have noted a fair-sized body of research, consistent with our findings, report the dissatisfaction, the frustrations and anxieties reported by pre-tenure academics.

Reybold and Alamia (2008) focus on the resources an individual can bring to bear on this situation in a developmental framework of professional identity that they place in contrast to the broader literature which they contend concentrates on "the product of identity development rather than the process of becoming" (p. 110). Our own focus on negotiated agency (McAlpine et al. 2010) suggests that an academic workplace ethic premised on individualism and independence thus leading to minimal support may not be appropriate. The pre-tenure academics in our research were being intentional in trying to negotiate the admittedly unstructured and often isolating world of academia while at the same time trying to create a safe place to realize and preserve the values and the goals that motivated them to be an academic in the first place. While seemingly successful, they did not experience an easy journey. We more senior academics must realize that it is healthy and constructive to provide mentoring that eases the steep learning curve for pre-tenure faculty, and that it is also healthy to expect that new academics will bring their ideas and expectations that will challenge and change the prevailing culture (Hakala 2009). Billett (2001, 2009) reminds us that learning through work is dependent on the institution's readiness to invest in human agency as well as the individual's readiness to engage. Some institutions are thinking this through as in the case study that Savage et al. (2004) report of a mentoring program that attends to career development issues, but also psychosocial issues to help mediate the transition of new academics from their vision of academic work to the reality of academic work.

In terms of the focus in this chapter on graduate supervision, a number of researchers are attempting to better understand this complex role and the implications of that for practice and professional learning initiatives. Halse and Malfroy (2010) propose a framework for theorizing doctoral supervision grounded in an investigation of the supervisory practices of experienced and effective supervisors and meant to provide a basis for the design of professional learning initiatives. They identified several facets in the work of effective doctoral supervisors that include care of the relationship between student and supervisor so that it is productive and collaborative and knowing how to address problems as they arise, the necessity of scholarly

expertise providing the opportunity for the knowledge advancement of both student and supervisor, and craft knowledge and contextual expertise to accomplish the work within a particular context. Interesting to us in this study, and against the background of our research participants' comments about little dialogue or discussion of supervisory practices or pedagogies, was the deconstruction of supervisory work by the experienced and effective supervisors that to us highlights the strong potential of mentoring programs designed by senior academics reflecting on their own practice.

At the same time researchers have offered an analysis or critique of existing supervisory practices. Two studies investigate, as we did, supervision from the perspective of the supervisor, but in these two studies it was from the perspective of experienced and effective supervisors rather than new supervisors. Murphy et al.'s (2007) study uncovered four orientations (each of which they maintain can be effective) to supervision that are closely related to beliefs about teaching and learning. They describe teaching and learning as the "thematic centre" (p. 228) of each orientation and this led them to conclude that supervision is fundamentally a form of teaching even though it is concerned with research. Implications for professional development suggest that pedagogy should be the focus. Barnes and Austin's (2009) study also concludes that the supervisory role is complex rather than formulaic and includes both an intellectual dimension and affective dimension as our research findings so strongly indicate.

Others have taken a finer lens to investigate specific aspects relevant to supervisory work such as scholarly writing (see Chap. 5), writing of the dissertation in particular (see Chap. 4) and responses to critical feedback (Vehviläinen 2009).

These calls also beg consideration of the intentional preparation of doctoral students for academic work, since studies continue to suggest there has not been nor is there now much systematic preparation for this work. Some aspiring academics, queried as doctoral students, reported expectations of academic work that did not match current realities (Bieber and Worley 2006), whereas others surveyed reported incomplete understandings of academic life, and uncertainty as to whether their own values can be aligned with those of the academy (Golde and Dore 2001; Austin 2002; Holley 2009; Mason et al. 2009).

Traditionally, the focus of doctoral programs has been to prepare researchers[5] and, in North America, often to prepare them to teach undergraduates. However, we see no evidence of preparing individuals for supervision or for academic career development more generally. While addressing the present needs of pre-tenure academics is essential, rethinking doctoral pedagogies would also appear important. Yet, internal and external constraints (e.g. expectation of reduced times to completion, reduced public funding, higher debt load) mitigate against a more comprehensive view of preparation for academic practice. In fact, Mitchell (2007) makes the point that some institutions, responding to financial situations, are not investing the

[5] In the UK and Australia, this has been expanded in recent years to include preparation for work outside the academy.

same level of resources in PhD programs in favour of income-generating programs like the MBA and the EdD making the resources needed to prepare a PhD student for an academic career even less likely than before.

Academia has long-held traditions, informal mentoring of new academics is one such tradition. Given the changing nature of higher education, and the accompanying stresses of increased and different academic work, a relatively unstructured approach to mentoring no longer appears feasible; we suggest it is time to think more systemically about how we prepare those who will follow us.

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Part II
Writing and Speaking—Learning the Disciplinary Language, Talking the Talk

Language, that most malleable of human tools is the main resource for academic work across all the academic disciplines. Moreover, each discipline draws on, adapts, and augments the widely available resources of everyday language to shape particular, discipline-specific languages. The differences among these disciplinary languages are not due to specialized vocabularies only. Biologists use language resources to craft quite different arguments from those created by historians. Not only does the nature of evidence vary substantially from one field to the next, but the methods of collecting and presenting evidence differ, as do the types and strengths of claims made on the basis of evidence. The rules for generalizability, the relationship between individual research contributions and the discipline's history and current status may also vary. Disciplines deploy their specialized languages and language practices to make the knowledge that they need in pursuit of their ever-evolving goals. Chapters 4 (Paré) and 6 (Chen) in this part of the book draw on research conducted in the Faculty of Education at McGill University. Chapter 5 (Stark-Meyerring) draws on research conducted at McGill University but in a range of disciplines outside of Education.

Disciplinary newcomers rarely learn these specialized language forms and practices through explicit instruction; rather, they learn to talk the talk of their fields in much the same way that children learn to speak their Mother tongues: by a gradual and increasingly complex process of using their specialized languages in the *doing* of biology, history, or whatever. As people move from being students of biology, for example, to becoming biologists, the language of biology increasingly serves as a key tool in their efforts to make sense of and communicate with the world. This under-studied phenomenon is the focus of this part of the book. These three chapters address different aspects of language in the doctorate.

Chapter 4 (Paré) considers supervision of the dissertation. Drawing on recorded sessions between doctoral students and their supervisors, the chapter considers what makes helpful and constructive feedback, why this is so hard for supervisors to provide and uses this explanation to suggest why this may both frustrate and hamper students. Chapter 5 (Starke-Meyerring) takes up the students' perspective,

particularly the difficulties that students experience in learning to write in ways that ultimately lead to a knowledge contribution—for instance, the dissertation—that others then examine. This challenge is explained by the idea of paradox—that the normalized writing practices of a discipline are invisible to "knowers", yet must be learned by students. Chapter 6 (Chen) addresses the consequences of academic writing by focusing on a critical experience in the doctoral journey: the oral defense of the dissertation (or viva as it is called in the UK). Chen's study, unique in North America, reveals much about the role of the public defense in the formation of new scholars from the student's perspective: what they expect, and what the experience means for them in terms of their academic identities.

Chapter 4
Speaking of Writing: Supervisory Feedback and the Dissertation

Anthony Paré

In academic writing you have to say this kind of thing in this kind of place.

Doctoral supervisor

I don't know where we decide how we do this.

Doctoral supervisor

Introduction

In a very real sense, doctoral supervisors are writing teachers. As they guide students through the dissertation process, they are introducing them to discipline-specific discourse practices. They advise on how and where certain things should be said, on what must and must not be mentioned, and on who should or should not be cited or criticized. Through feedback, questions, suggestions, and instruction, they help students locate their written contribution within the historical, intellectual, and rhetorical trends and traditions of their field. In addition, they are the arbiters of quality, and must determine if and when the student has achieved an acceptable level of specialized thought and expression. As Green (2005) notes, the doctoral supervisor "represents, or stands in for, the Discipline itself, and also the Academy" (p. 162).

In this high-stakes, intimate tutorial—possibly the most crucial educational relationship of a student's life—new scholars are initiated into the process of making disciplinary knowledge through writing. Each discipline and sub-discipline sets its research gaze on certain phenomena, uses community-approved methods to collect relevant data, draws on different kinds of evidence, and finally crafts particular types of argument that are deployed within the discipline's set of acceptable re-

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search genres. In large part, new scholars are initiated into this process by more experienced members of the disciplinary community—by teachers, by committee members, and most particularly by doctoral supervisors. Those who benefit from this apprenticeship are likely to become engaged participants in disciplinary life, while those who fail may find themselves struggling to secure grants, publications, and jobs (Hyland 2004).

Considering how critical this aspect of supervision is, it seems surprising that so little explicit attention has been paid to writing development in doctoral education (Kamler and Thomson 2006; Parry 1998; Rose and McClafferty 2001). In their 2006 article, Aitchison and Lee note the "absence of a systematic pedagogy for writing in most research degree programs" (p. 266), and commenting on the "relative scarcity of well-theorized material about doctoral supervision and writing" Kamler and Thomson (2006) suggest that "doctoral writing [is] a kind of present absence in the landscape of doctoral education" (p. x). Of course, the task of supervising the dissertation is not easy: linguists, discourse analysts, literacy theorists, rhetoricians, literary critics, and others spend whole careers striving to understand how texts work, how they influence readers, and how they can be made more effective. Teaching writing, particularly the highly specialized writing of advanced science and scholarship, requires a profound sensitivity to, first, the peculiarities of one's discipline and, second, the best ways of introducing newcomers to those peculiarities. As Bazerman (2009) notes, some people are more successful than others:

> In doing work in language across the curriculum and in the disciplines, I have found some accomplished colleagues who have become very thoughtful about writing in their field, have read a lot in language as well as the sociology and history of science—they are articulate about their writing and how they mentor their students in writing, and approach those tasks in a self-conscious professional way. On the other hand, I have found smart, accomplished colleagues in other disciplines who have little vocabulary for discussing writing beyond the corrective grammar they learned in high school. Although they have learned the genres of their profession and are successful in them, their reflective ability to manipulate them is limited because of a lack of linguistic and rhetorical vocabulary and analytical methods. Their fairly developed language practice has not been professionalized or transformed through internalizing those disciplinary knowledges which would provide them a more sophisticated stance. (p. 289)

In this chapter, I take a close look at some of the difficulties that supervisors face when they try to turn their procedural or practical knowledge of disciplinary writing into declarative or teachable knowledge so that students can benefit from it. This study, one focus of inquiry within the broader research project described in this book, sought to learn more about the supervisory dyad, particularly during discussions about writing. What advice is given? What strategies are employed? I draw on interviews, focus group discussions, and excerpts of recorded conversations between supervisors and students to consider what exactly is happening in moments of writing. I focus particularly on two challenges that seem of most concern to supervisors in the data I have collected: organization of the text and location of the dissertation in the discipline's field of inquiry.

The chapter is divided into five sections. First, I consider the problem Bazerman (2009) describes above: the struggle supervisors have to articulate their knowledge

of disciplinary discourse. Second, I analyze the dissertation as a complex rhetorical act that makes great demands on students and their tutors. Third, I take a close look at what supervisors say about textual organization: that is, how they talk about the sequence or progression of ideas in what might be thought of as the linear or horizontal dimension of the text, and what they say about the hierarchical or conceptual ranking of ideas in what might be thought of as the text's vertical dimension, or ladder of abstraction. Fourth, I look at supervisors' efforts to help students position themselves in their discipline's ongoing conversation. This is often referred to as concern for the writer's "audience," but a broader and more accurate term would be rhetorical situation: the student's position vis à vis others in the discipline's historical and contemporary debates, and his or her intentions or motives in taking up those debates. Finally, I consider some practices that supervisors and institutions might adopt to create an environment for writing.

Before continuing, I wish to acknowledge the dedicated work of the colleagues who have volunteered to help with my research. In what follows, I occasionally critique some of that work, and draw attention to its shortcomings, but my intention is not to denigrate the efforts of my colleagues. The struggle that sympathetic, articulate supervisors experience when trying to teach students how to write their dissertations indicates how difficult the task is. Like teaching generally, the teaching of writing is not something most faculty members were trained to do. In recent but not-yet published survey research (Starke-Meyerring et al. 2009), faculty members in Canada's top universities express near unanimous concern about doctoral student writing but, at the same time, report little institutional discussion of this concern and almost no institutional writing support either for students or supervisors. This is a dilemma that needs to be addressed, and this chapter seeks to contribute to that effort by providing a picture of what supervisors are struggling with as they strive to teach doctoral students how to write.

Searching for Words: The Struggle to Articulate Implicit Knowledge

Across contemporary fields of study concerned with human identity—including psychology, sociology, anthropology, and their myriad sub-disciplines and offspring—there is a widespread (if not universal) belief that identity, or subjectivity, is formed over time in a dialectical relationship between the individual and her or his social environment (e.g., Hall 1996). The gradual immersion in culture that characterizes both our personal and discipline-specific development renders those cultures invisible. Many of the practices, values, attitudes, relationships, and roles that give shape and meaning to our various communities—from our homes and neighbourhoods to our professions and disciplines—become simply the norm, the way things are. And it takes some effort to step back from those "webs of significance" as Geertz (1973, p. 5) calls them, to appreciate how cultures both broad and narrow differ on a near-infinite range of variables. Consider a simple example:

conventions governing face-to-face conversation vary across cultures in terms of appropriate distance between interlocutors, volume, intensity of expression, use of gesture, eye contact, forms of address, acceptable topics, and so on. Much of this is learned implicitly, by osmosis, through gradual immersion in social practices.

In addition to the invisibility of culture, there is the added problem of automaticity: as we become more and more expert at performing certain actions, we may have less and less ability to articulate the knowledge that allows us to act (Rosenbaum et al. 2006). In some cases, that knowledge may never have been explicit in the first place. Think about expertise in one's first language: native speakers employ complex grammatical, syntactic, semantic, and pragmatic systems in the expression of even relatively straightforward ideas, and yet most of them are unlikely to be able to explain much of what they are doing. The same lack of access to specialized knowledge may be the reason that supervising dissertation writing can sometimes be so difficult. The following excerpt comes from an interview with a doctoral supervisor:

> Supervisor: …it's a very formal exercise, undertaking research for a PhD, in presenting the work in the actual thesis, and so I need to sort of enforce certain conventions.
>
> Interviewer: Right, and whose conventions are those? Where do those conventions come from?
>
> Supervisor: Well I…that's an interesting question. I suppose they come to [student] filtered through me, so as a supervisor I suppose at the end of the day it's my view of what is a convention, and I suppose my view is formed partly by seeing other theses. But I'm not sure that's the answer. I'm not really sure where. …I'm not sure I can answer it. I have a view. Obviously it must come from somewhere. But I don't know where. I don't know where we decide how we do this.

The last sentence of this excerpt succinctly summarizes one of the main problems of dissertation supervision. As Bazerman (2009) suggests above, this veteran and well-published supervisor may not have the "reflective ability" to expose the tacit rules and standards of his disciplinary discourse because he lacks a "linguistic and rhetorical vocabulary". He can do the writing, but he can't talk about it. At its most extreme, this inability can lead to some pretty vague injunctions. Consider this supervisor's comments about a student's dissertation chapter:

> Supervisor: I've read what you've done and [can] tell you…my thoughts on how it might be somewhat strengthened, because I think the information is there but I have two main points about it. One is that it should be maybe a bit more focused. More focused on it being a chapter within a PhD thesis. …The other general comment is to, I don't know, firm it up, I suppose. Because it's a data collection chapter, I'd like more numbers, I suppose. …Kind of more strongly represent what you've done. So my general feeling is that the chapter itself… should be put within a slightly bigger box for the committee.

Again, I do not wish to belittle my colleagues' work, and this out-of-context excerpt represents only a fraction of the dialogue between this supervisor and her student; nonetheless, the transcripts of supervisory conversations that I have collected display many similarly fuzzy bits of advice. Most often, the supervisor seems to recognize that the text is not as it should be, but struggles to find the words that would help the student correct the problem. The division between the text-as-it-is

and the acceptable text must be described somehow, or the student cannot narrow the gap. But what is an "acceptable" text, and how might it be described? Before looking at examples of supervisors attempting to guide students toward that ideal text, it might be worthwhile to consider briefly what exactly the dissertation is and what it does.

The Dissertation as a Rhetorical Strategy: What Work Does it Do?

An over-simplified account of the writing process might assume that the writer invents or collects material for her argument, arranges that material in the most appropriate order, and finally polishes the whole into an acceptable and effective style.[1] More sophisticated accounts acknowledge the recursive nature of writing—the fact, for example, that arranging or revising ideas might lead to new ideas and thus back to invention—and posit a far more complex and less linear writing process. In addition, current descriptions of writing locate the writer within a discourse community (Bizzell 1992; Porter 1992; Swales 1990), in which the freedom to invent, organize, and experiment with style is limited by convention.

One strategy that discourse communities employ to stabilize conventions and ensure continuity in their activities, including their knowledge-making practices, is to develop and regulate text types, or genres. The traditional and easiest way to identify genres is by looking for the repetition of textual features across multiple texts. However, genre studies influenced by rhetoric (e.g., Coe et al. 2002; Artemeva and Freedman 2006) have demonstrated that generic repetition extends beyond the physical text into the production, distribution, and reception of texts. As a result, writers of a given text—dissertation writers, for example—have to operate within a conventional range in their invention, arrangement, and style choices. Moreover, each time they are deployed, genres respond to what community members agree is a recurring *need* (or exigence), they establish a recognizable set of *relations* between and among writers and readers, and they seek to repeat or at least regulate *consequences*. In other words, duplication occurs in text *and* context. Genres persist because they get something done that the discourse community needs or wants done. They are successful rhetorical strategies.

The dissertation is an example of a successful and robust genre in academic work, and that's because it does something the community feels needs doing.[2] Although there are important variations across disciplines, the dissertation genre

[1] The five canons of classical rhetoric are invention, arrangement, style, memorization, and delivery; the final two point to rhetoric's birth as an art of oral persuasion. In the reinvention of rhetoric that supports the contemporary study and teaching of writing (see, for example, Berlin 1987; Harris 1997a; Ede 2004), emphasis has been placed on the first three canons, particularly invention.

[2] In fact, as both a learning genre *and* a research genre, the dissertation responds to multiple needs, anticipates multiple readers and situations, and has multiple objectives (Paré et al. 2009).

remains remarkably durable across fields of study, national boundaries, and time. Doctoral students across the campus and across the world write a substantial paper (or papers) as their final display of student ability and, in many cases, as their initial display of professional scholarly work. The textual features vary, to be sure, but include tables of content, abstracts, acknowledgements, statements of the problem under investigation, research questions, literature reviews, descriptions of methodology, reports of findings, and concluding discussions. And within fields of inquiry, the students' choices regarding invention, arrangement, and style are governed by convention. To appreciate the textual object at the heart of this social action—the actual dissertation—it is necessary to consider the repeated activity that surrounds it; the entire repeated action, not just the document, is the genre.

While the book-like dissertation that is still common in the humanities and social sciences might seem quite different from the multi-paper manuscript dissertation seen in some of the sciences, medicine, and other fields, the production, distribution, and reception of the two documents—and variations on them—remain remarkably similar: students read widely, design inquiries, collect data, and write extended research reports; doctoral committees are formed, formal and informal mentorship occurs, and students are immersed in the writing and knowledge-making practices of their disciplines; some type of comprehensive exam or qualifying paper is expected, external examiners are enlisted, and oral defenses are held as the final act of assessment. In addition, although dissertations might resemble or, in some cases, include recognizable academic genres—the book, the journal article, the bibliographic essay—they are marked as different from each of those by the specific *needs* they respond to (which include the assessment of the student's readiness for professional life), the *relations* they establish between and among readers (some of whom read as teachers, colleagues, and judges, and some of whom may be judging the supervisor as well as the student), and the *consequences* they are shaped to produce (a newly minted member of the community). It might look like other genres, but the dissertation does something unique; and dissertations in different disciplines might look quite different, but they do something very similar.

Structuring Texts: You've Got to Provide a Map

With this overview of the rhetorical action of the dissertation in mind, we can return to samples of supervisory feedback, and consider how that commentary does or does not support students' mastery of the genre and, thus, their entry into their discourse community. As reported elsewhere (Paré et al. 2009), supervisory sessions range across a variety of topics—from institutional regulations to disciplinary gossip, and from the student's emotional state to the latest film. Like all complex human relationships, the supervisory dyad is multidimensional. When talk turns to the dissertation itself, the list of writing-related comments by supervisors is long

and varied, but falls roughly into the Classical rhetorical categories of invention, arrangement, and style: students are encouraged to think in new and creative ways about their data; to re-consider or re-conceive their analysis; to read more or more widely; to return to their sources; to add more background or context; to produce summaries, introductions, and conclusions; to revise for clarity or tone; to edit and polish their prose.

Although some talk appears to be about something other than writing—technical concerns with methodology, for example—the ultimate concern is about how to render ideas in the appropriate language. As Aitchison and Lee (2006) argue:

> For students, the problems of knowledge production, text production and self-formation are complexly intertwined at the point of articulation. Data analysis, principles of selection and focus, the structuring of the text, the performance and defense of an argument are all questions of writing. (p. 268)

As this comment suggests, a persistent topic in supervisory sessions is the structure of the text, both in its forward motion—one idea linked to another in a logical chain that includes transition points—and its conceptual structure—or what Giltrow (2002a) refers to as the "high altitudes of generality" and the "deep valleys of detail" in the "landscape of scholarly writing" (p. 77). Attention to these structural elements of text reveals supervisors' concerns about logic, cohesion, transitions, and levels of generalization.

Consider this supervisor's comments to a student about a chapter draft:

> Supervisor: Here you sort of rapidly converge on something, and I don't have enough justification for what led you there. And then you need some sort of conclusion here. So, what does this tell us? Research in this field is fragmented? Underdeveloped? …So, you want to give a kind of sum-up. "Here's where things stand. Here's where I see the strengths and weaknesses of each."[3]

Quite typically, advice is offered here without full explanation. Is it just the supervisor who needs "justification"? Why does a conclusion need to go in at this particular point? To whom does the "us" refer? Is the supervisor drawing on a general knowledge of texts—all texts—or is there some more specialized knowledge at play here? When shown this passage during a focus group discussion, some supervisors responded as follows:

> Interviewer: So who is the reader here? Who is the "us"?
> Supervisor 4: The supervisory committee.
> Supervisor 2: The committee.
> Supervisor 3: And the external examiner.
> Supervisor 1: Well, it's the supervisory committee, but it's potential article readers.
> Supervisor 2: …once it's published.
> Supervisor 4: The judges.
> Supervisor 1: The potential professional audience.
> Supervisor 3: Whoever's going to judge it, assess it.
> Supervisor 1: Yeah, but I think it goes beyond that. It's not just, "Okay, your committee is clueless and is not going to understand this." It's more like in academic writing you have to say this kind of thing in this kind of place.

[3] Quotation marks are used to indicate the supervisor speaking as the student writing.

The last comment here is a wonderfully succinct summary of genre knowledge. Those familiar with academic writing know what to say, and they know where, when, and how to say it. And expertise in specific areas gives a refined sense of the relevant and the appropriate. This supervisor knows that a conclusion goes "here" because she reads through the eyes of the discipline, the discourse community, and she knows that this textual moment requires a conclusion that does a certain thing: reports that research in the field is "fragmented" or "underdeveloped". What these experts don't seem to know, or at least don't articulate, is *why* "this kind of thing" must be said "in this kind of place".

That *why* knowledge is meta-knowledge: an understanding of how one came to know something; it is knowledge about knowledge. Lack of such knowledge is what the supervisor quoted above means when he says, "I don't know where we decide how we do this" and what Bazerman (2009) is referring to when he describes the limitation on academics' "reflective ability". Lacking that ability and the "linguistic and rhetorical vocabulary" it might provide, supervisors demonstrate some extremely creative uses of language designed to give students a visual image of the disciplinary conventions and etiquettes that determine the effectiveness of texts. Their comments rely heavily on figurative language rife with metaphors of design and movement. In the examples that follow, which come from several different supervisor–student conversations about chapter drafts, supervisors use images like "bridge", "zigzag", "mosaics", and "maps", to capture qualities of text, but their explanations rarely include more that a vague evocation of readers in some sort of need.

> Supervisor: And I think that the problem is that, if you go off on a wobble with this and sort of zigzag a bit, you're going to piss the reader off, okay?
> …
> Supervisor: So it's about a bridge. You've got to think about a reader and about how the reader is approaching this, you know?
> …
> Supervisor: It's rather like you are providing them with a map across a particular landscape. And you've got to keep reminding them where they've been, where they're at, and where they're going. And that's something that you've got to do throughout the whole damn enterprise. You just do it with a few sentences here, maybe a paragraph here at the end of a chapter, and so on.
> …
> Supervisor: I think at the moment there are too many details and distractions. I think it meanders and I think we need much more of a flow, a structure, a straight road here.
> …
> Supervisor: The thing is that the way you've thrown it together, it doesn't really flow. I mean, I think it's more of a mosaic, a mosaic which is kind of…when you look at it, it's not necessarily making any sense. You know those sort of pictures that psychologists use [Rorschach tests], and you have to keep looking at them really hard before you make sense of an image, right? It's a bit like that at the moment.

The comments hint at the relationship between structure and the reader's comprehension, and point to the writer's responsibility to guide the reader across the disciplinary "landscape" over the "high altitudes" and through the "deep valleys". But what a "map" should contain, how to straighten a "road", and why "flow" is

required are not made clear. The next two excerpts from sessions with two different supervisors offer more detail and justification, and reveal some of the information missing from many supervisors' comments:

> Supervisor: So start large: here is a general context; zoom in successively; "Here is what I'm [i.e., the student is] focusing on." Then look at it from a different angle. What do we know about this problem? What research has been done? That's where your literature review comes in. You say, "Here are all the pieces that are understood well by now." So obviously we're not going to do those because we know. "But here are the gaps, and here is the gap that I'm addressing." Then it becomes very obvious what your contribution is, to this whole, to the study of this whole problem.
> …
> Supervisor: What you're doing is allowing [the chronology of] the research process to organize the writing of the research. …So, you're allowing this to be driven by the process itself. Now, that's important and you've got to talk about it, but at the moment it's almost as though you're saying, "This happened, and this happened, and this happened, and this happened." I'm saying to you that what you've got to take is a global perspective on all of those events.

In the first of the excerpts above, the supervisor is using visual imagery to describe the gradual movement from a wide focus on some aspect of the discipline's work to the specific gap in knowledge that the student's research will address. Later in the same session, she says, "So you've scoped it down, if I draw it like a series of, like onions, you know with onion layers or successive boxes", again helping the student see that the text must gradually narrow down to locate the place of his research in a disciplinary context.[4] The same supervisor also draws on the student's likely familiarity with narrative to say this: "Think of it as telling a story. There's a certain sequence in telling a story. You have to introduce what the story is about, who the major actors are, what the plot is. So think of it as if you're telling a story."

In the second excerpt, the supervisor appears to be saying the opposite: avoid a narrative sequence of events ("this happened, and this happened, and this happened, and this happened"), and create a "global perspective", which might mean a conceptual arrangement—one not governed by chronology but, rather, by some other logic: a movement from abstract to concrete, perhaps, or generalizations to specifics. The same supervisor, speaking with a different student, said this:

> Supervisor: One thing that you need to show in this thesis is what I would call a guiding thread—a sort of conceptual, theoretical backbone that threads through the whole thesis, and that's *learning* in your case. …Again, you need…that guiding thread, the backbone of the thesis. Like a sentence or a short paragraph here and there to pull the reader back into the thesis and to make it clear to them that this is not just a series of essays you've slung together.

Both supervisors in these examples are speaking about two dimensions of text—the forward motion of ideas linked in some form of logical sequence (the "narrative", the "backbone", the "guiding thread")—and also the hierarchical structure of

[4] In accounting to the student for her use of images, the supervisor said this: "I'm very visual so I tend to draw these doodles, but you don't have to do it that way. But you have to think it through that way."

texts—the movement from generalities to specifics, from abstractions to concrete detail (the "onion layers", the "successive boxes", the "global perspective").

Topic control requires coordination of both dimensions of text, sometimes within the same passage, as one moves up the abstraction ladder toward generalizations or down toward greater specificity—for example, from *social justice* to *inclusive education* to *mainstreaming the physically handicapped*—and along a chain of logic toward conclusions—for example, in such syllogistic constructions as "everyone deserves an education, *including* atypical children; *therefore*, those with physical challenges need to be included".[5] As Giltrow (2002a) notes, the "scholarly practices of abstraction…are not just formalities: they have important cognitive functions as guides for readers and as directives to cognitive activities" (p. 182). The writer, then, is directing the readers' thinking by helping them build conceptual frameworks in which ideas are linked both logically and hierarchically, and the supervisor is helping the student erect that framework.

However, such frameworks are not universal. Giltrow (2002a) again:

> Abstractions are not purely cognitive operators. They also have a social aspect. For instance, in the humanities and social sciences, some abstractions simply enjoy more prestige than others, having a current career in the life of the discipline. And in the sciences and some social sciences, technical abstractions can have definitions which are the product of labour amongst researchers, as they collaborate on and corroborate the circumstances in which particular abstractions can be used. (p. 182)

In other words, abstractions are used differently across the disciplines. In the supervisor excerpt above that starts, "So start large: here is a general context; zoom in successively", the supervisor appears to be helping the student build a structure or framework that will allow him to "zoom in" on a specific area of inquiry. In the same session, she says, "So there's a gap in the research. We don't know enough about, let's say, the role of uncertainty in decision making, or something like that." Here she is guiding the student to a particular "technical abstraction", as Giltrow (2002a) above puts it—"uncertainty in decision making"—that needs greater definition through research.

This sort of argument, and the conceptual framework it requires, is favoured in the sciences and in quantitative research in the social sciences, where there is a sense of the gradual, incremental, and collaborative accumulation of knowledge toward shared (if temporary, and rarely universal) agreement about some phenomenon or another. In such work at the doctoral level, students are generally directed toward questions or a gap in knowledge that others in the discipline would agree needs closing. Researchers in the humanities and in qualitative traditions in the social sciences, however, are less concerned with establishing what might be considered a "gap" in knowledge by others in their community, although they would need to argue that the questions they were addressing deserved attention.

These variations in expectation are manifest in the structure and strategy of the dissertation. Different disciplines expect different types of argument, and those ar-

[5] Note that this sentence moves to conclusion down the abstraction ladder, from *everyone* to *atypical children* to the *physically challenged*.

guments are shaped in particular ways. A doctoral student in biology will not only draw on different types of data from an anthropology student, she will also rely on different higher-order abstractions and different supporting details, and she will then forge chains of logic that are specific to her discipline. The architecture of arguments—their appropriate materials, structural arrangements, and typical design features—is learned by supervisors during the long years of their own apprenticeship. It becomes recognizable and familiar through engagement as academics participate in their community's discourse. For the most part, they learn it without being taught explicitly, and one very difficult task in supervision is to reflect on the disciplinary conventions governing textual structure so they can be articulated for students.

The Rhetorical Real Estate of Academic Writing: Location, Location, Location

The concern with mastering discourse conventions goes to the heart of the supervisory task. It is here that veteran scholars are most clearly introducing their apprentices to the discipline's culture: its discursive practices, its ways of making knowledge, its history, its values and beliefs, its areas of consensus and conflict. Consider this supervisor's comment:

> Supervisor: It's good that you're thinking about your audience—it's really good that you're thinking of your audience—because ultimately if you want this PhD to do something, at the end of the day, you've got to think about who that audience is going to be and how is it going to be of use to them. And it seems to me that's where you want to position yourself.

Again, I want to note that this is more than mere audience awareness. The supervisor is suggesting here that the student "position" herself so as to "do something". This concern to help students locate themselves so that their work will "be of use", that is, make a contribution, is another key concern of supervisors. Doctoral students have spent years producing arhetorical texts—texts that are used to display knowledge but that don't actually lead to action, change minds, or inspire responses—and they need help to write texts that have an audience beyond their teachers. But "audience" here isn't simply a passive or single-minded crowd—"all those folks sitting out there in chairs", as Park (1982) says (see also, Paré 1991). Academic disciplines are complex communities with contested terrain, competing theories, historical rifts, methodological rivalries, and hostile factions. Statements must be supported, aligned with particular perspectives, accepted by reviewers, subjected to criticism. It's not all antagonistic, of course, and academic work is deeply collaborative even when it's agonistic, but research that doesn't find both supporters and critics is probably not very significant.

This reality is bluntly stated in the following excerpt, in which a supervisor discusses possible external examiners with a doctoral student:

> Supervisor: The thing is, with PhD theses, you've got to be careful about who you choose to be external examiners. Someone like [Prof. X], for example, might fail this [dissertation] because, you know, I mean, there's a bunch of people, of which [Prof. X] is part, and I think

> that she'd have huge problems with this, okay? There are other people who wouldn't. … And I think that's who we'll send it to. We'll put them down as the examiners. There's, if you like, a politics to it, right?

With a different student, this supervisor put the same concern just as directly when he said, "As for the reader, ultimately in this case you're thinking of—well, certainly, I'm thinking of—the external examiner." But more often, the data show supervisors expressing a more nuanced description of variation or consensus in community expectations. The following excerpt speaks volumes about the etiquette of disciplinary discourse:

> Supervisor: A lot of adult education theory goes back to them [Gramsci and Freire—two well-recognized authorities in the field]. So I think what you should do is figure out, when you read this again, just make sure that you've genuflected enough to them.

Failure to acknowledge Gramsci and Freire would mark the student as beyond the pale, as someone located outside the community's standards of behaviour; or, more accurately, it would identify her as outside a particular sub-group within that wider community, a sub-group that recognizes Gramsci and Freire as central figures in adult education theory. When a focus group of supervisors was shown this comment, one of them interpreted it as follows:

> Supervisor: So maybe it's a kind of sympathetic identification with the writer who just spent an hour telling you why they will not put Gramsci and Freire in there and why they absolutely disagree with them and why they are totally irrelevant, and you say, "look, you gotta bow to the gods, and just do it." … I think that's disciplinary. It's like socializing people into the rules of the discipline, like who can you criticize, who it's cool to criticize now, who it's not. Then sort of the tribal elders that you can disagree with and you can build on, but you're not allowed to totally dis them. …You have to acknowledge them. I think every discipline will have its people like that.

What to say, when to say it, who to cite, who to criticize—all of this helps students locate their contributions in the discipline's conversation. As in day-to-day conversation, a research contribution that is a *non sequitur*, that does not take up the field's ongoing discussion in some way and thus gets no response, will produce an uncomfortable silence, whereas the successful contribution will resonate and move the dialogue forward. The final excerpt below captures that notion of a successful insertion into the disciplinary conversation. In it, a supervisor tells her student to mention that some of her dissertation research has already entered the discussion:

> Supervisor: I think maybe what you should say is—have a footnote to say in that chapter—that some of this work has already been published in an international journal, or whatever, because that's gone through a peer review process, it's been published and [that] tells people that you've already got the seal of approval from your academic peers in an international journal.

There are subtleties in academic discourse that run deep. When is it permissible to stop citing a seminal article on a particular topic, or the original use of an abstraction that is "having a current career in the life of the discipline" as Giltrow (2002a, p. 182) puts it? What constitutes strong evidence, a sufficient review of the literature, a fair treatment of another's work? When should claims be made with certainty, and when should they be hedged? Whose research is considered solid, and

who's shaky? What are the possible positive and negative implications of citing a particular school of thought or methodological approach? How much background is required before narrowing down to the topic at hand? In the final section of this chapter, I offer suggestions for developing an environment for writing, both within the supervisory dyad and in the wider institutional setting.

Conclusion: Creating an Environment for Writing

Kenneth Burke (1966) says this: "The human animal, as we know it, *emerges into personality* [emphasis added] by first mastering whatever tribal speech happens to be its particular symbolic environment" (p. 53). Supervisors are a key resource for helping doctoral students participate in their symbolic environment and, as a result, emerge into their scholarly identity. Unfortunately, it appears that a significant majority of supervisors have received no formal preparation for this role, and very few report any sort of institutional support for the task (Amundsen and McAlpine 2009; Starke-Meyerring et al. 2009). As Aitchison et al. (2010) note, "Universities are often happy that their research students are publishing, but often not skilful in recognizing the pedagogical work involved in bringing students into productive relationship with the practices of publication" (pp. 2–3). And despite their good intentions and thoughtful efforts, the supervisors quoted in this chapter and others who took part in our study struggled to help students write their dissertations. How might individual supervisors and their institutions more effectively support this critical rite of passage?

One fairly easy thing that supervisors can do to improve their ability to speak about the dissertation is to look at some of the theory- and research-based books about academic writing. A broad perspective can be gained by reading some of the histories of writing in the academy (e.g., Berlin 1987; Prior 1998; Russell 1991), and a more detailed view is offered in books that are written for graduate or advanced writing courses (e.g., Giltrow 2002a, b; Hyland 2004). Those working in the sciences or the more quantitative social sciences might find books by Gross (1990, 2006) and Harris (1997b) useful. Some of the chapters in Bazerman and Prior's (2004) edited collection, *What writing does and how it does it*, offer good insight and an excellent starting point for reflecting on writing. Supervisors and their students might develop a common "linguistic and rhetorical vocabulary" (Bazerman 2009) if they read some of this work together. A shared meta-knowledge of textual conventions and an open discussion of the ways in which texts operate would enrich supervisory sessions immeasurably.

While there are many books that purport to offer advice on the writing of the dissertation, most are filled with bland, generic prescriptions. One notable exception is Kamler and Thomson's (2006) book, *Helping doctoral students write: Pedagogies for supervision*, which is particularly helpful for those working in the humanities and qualitative traditions within the social sciences, as is Giltrow's *Academic writing* (2002a); Hyland's (2004) book looks at writing across a broader range of disci-

plines. Although studies of dissertation writing are rare, some scholarship does exist (e.g., Aitchison et al. 2010; Aitchison and Lee 2006; Caffarella and Barnett 2000; Parry 1998; Rose and McClafferty 2001; Kamler and Thomson 2004; Lundell and Beach 2002), and studies of other types of specialized writing are legion. In fact, of course, there is a literature on rhetoric that goes back 2,500 years, and a contemporary field of research into writing called composition and rhetoric or, sometimes, writing studies. Academic journals such as *College Composition and Communication, Across the Disciplines*, and *Written Communication* in North America, and the *Journal of Writing Research* in Europe (http://www.jowr.org/current.html), regularly publish studies of academic and non-academic writing. The very fact that there is an extensive scholarship on writing points to the complexity of the phenomenon, and explains why supervisors with no training in the teaching of writing struggle to help their doctoral students.

Other literatures that might help are those concerned with Writing Across the Curriculum (WAC) and Writing in the Disciplines (WID), which provide both theoretical and practical support to those wishing to know more about the peculiarities of writing in different subject areas, and much of that can be accessed through web sites (e.g., http://wac.colostate.edu/index.cfm; http://owl.english.purdue.edu/handouts/WAC/). Although university-based WAC and WID initiatives have been aimed primarily at undergraduate education, there has been research into writing in some of the disciplines—mathematics and the some of the sciences, for example—that offers insight into the textual demands that students in those areas face.

Familiarizing themselves with some of this literature will benefit both supervisor and students, and make conversations about draft texts far more focused and productive. But it would help, as well, to have a more open discussion of writing within departments and other academic units. Student writers often struggle alone, feeling they are at fault for failing to craft clear, persuasive texts, but truth be told, we are all struggling writers. Organized writing groups, where students can share drafts and receive feedback, are good forums for students and potentially less threatening than sessions with their supervisors.

Such groups might schedule regular meetings at which one member's work—circulated in advance—receives critical attention from the other group members. More formal group arrangements might be made in conjunction with faculty members who serve as facilitators and coaches (see Aitchison 2003, 2009, 2010). Writing workshop during which faculty and graduate students present work-in-progress and talk about their own writing processes and problems creates a setting in which students can both improve their writing and become more articulate about writing itself.

The mere public acknowledgement of the central role writing plays in the making of disciplinary knowledge would go some way toward creating an environment in which both faculty and students might become more reflective, more analytical, and more critical about this vital academic activity. The research reported in this chapter attempts to reveal some of the effort that supervisors are making as they guide students toward successful dissertation; however, this sheds but a little light on a subject that requires much more study and much more discussion.

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Chapter 5
The Paradox of Writing in Doctoral Education: Student Experiences

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> *I never had any problems [writing]. Then finally coming here doing my PhD, I felt like I had all these problems; I didn't know how to write anymore! …So it was like suddenly I was just bad. Not a good student anymore, whereas before I never had any problems.*
>
> *I used to think it [supervisor feedback] was a little bit hopeless. Like anybody's ideas are better than mine. So whatever they want to do is fine. So if they want to cross out anything or write it, fine. Just fix it; it must be better than what I've done.*
>
> *It [handing in a draft to the supervisor]'s a little bit like spinning a roulette wheel as to where it will come back. We don't know. We always like to joke it depends on his mood. … You kind of dread it in a way.*
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> *I gave her (the supervisor) [a draft] the first time a few months ago. She was a little bit angry with me. …So this made me very afraid and not to show her [my writing] anymore. This was about four months ago and I'm still afraid.*

These excerpts, returned to later, from interviews with doctoral students from different disciplines about their experiences with writing raise a number of highly consequential questions about the role of writing and writing development in doctoral education: What experiences do students have with writing, that is, with learning how to participate in the discursive knowledge-making practices of their research fields? What current practices and perceptions of writing underlie these experiences? What are the consequences of these practices and perceptions for doctoral student learning? And in the spirit of this book, how can practices of writing development during doctoral education be informed and re-envisioned by research?

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This chapter addresses these questions from the perspectives of doctoral students by foregrounding their experiences with writing during their studies and by situating these experiences in a research base on questions of writing, discourse, disciplinarity, and knowledge production. In line with the goal of this book, the purpose of this chapter is to offer ways of re-seeing, indeed re-conceptualizing, doctoral student writing as a vital site for student inquiry into the knowledge-making practices developed by generations of participants in the research cultures in which the students are learning to participate.

In addressing these questions, the chapter contributes to emerging research into writing at the doctoral level, where questions of writing as a discursive knowledge-making practice have remained under examined (Kamler and Thomson 2006; Lee and Aitchison 2009; Rose and McClafferty 2001). As Lee and Aitchison (2009) explain, for example, attention to writing in doctoral education remains "in some senses reactive and often intellectually poorly resourced" with "questions of textuality and of rhetoric…submerged and marginal" (p. 87). Although much work has examined the specific challenges faced by doctoral students writing and publishing in English as an additional language (e.g. Casanave and Li 2008; Flowerdew and Li 2007; Hasrati and Street 2009; Paltridge and Starfield 2007; Turner 2003), a growing body of literature is now emerging to expand this work and to re-conceptualize the role of writing in doctoral education by developing research-based pedagogies for writing development in doctoral education (e.g. Aitchison et al. 2010; Lee and Kamler 2008). In working to understand doctoral student experiences with writing from the perspectives of students, this chapter contributes to these efforts by paying particularly close attention to the systemic institutional situatedness of doctoral student writing practices, that is, to the perceptions underlying those practices that have been inherited over generations. As the chapter will show, these play out in consequential ways in doctoral student experiences with writing.

For this purpose, the chapter draws on interviews with doctoral students from different disciplines[1] in different years of their doctoral studies. Conducted as a part of the larger research project presented in this book, the interviews had a rather open goal: I was primarily interested in understanding better how students experienced the role of writing in their doctoral studies. For example, I was interested in the interactions they had around their writing, what kind of feedback they had received on their writing, or how they had engaged that feedback. Within that focus, the interviews were held as open conversations to allow for student insights to take centre stage.

As the insights shared by the students in this chapter show, at the heart of their experiences surfaced what I will describe as the paradox of writing in doctoral education—a paradox that proves to be highly consequential for doctoral student

[1] The references to the disciplinary backgrounds of the students (and other aspects of their backgrounds) have been removed or altered in this chapter to protect the confidentiality of the participants; however, the larger disciplinary groups included the natural sciences, social sciences, and humanities. I realize and regret the loss of richness in the data resulting from this decision; however, the confidentiality of the participants is my primary commitment.

learning. To explore how the paradox of writing unfolds in doctoral education, the chapter begins by briefly sketching and situating the paradox in current theory and research in rhetoric and writing studies. The chapter then draws on the interviews with doctoral students to show how the paradox surfaces in their experiences with writing during their doctoral work. Finally, the chapter returns to the questions posed in the introduction in order to draw out the implications of the students' experiences for understanding doctoral student writing from a systemic perspective needed to address the paradox in doctoral education.

The Paradox of Writing in Doctoral Education: Between Normalized Disciplinary Traditions and New Ways of Seeing for Doctoral Students

The paradox that surfaced at the heart of the doctoral student experiences shared here consists of two sides, each with its own set of assumptions, perceptions, practices, and experiences. On one side of the paradox are the ways in which disciplinary and institutional traditions of producing knowledge through writing have become normalized to the point that they appear universal to long-time participants in research cultures, including supervisors. Yet, as writing sinks beneath a cloak of normalcy and universality, what disappears is the other side of the paradox: the situated nature of writing as a knowledge-making practice shaped in unique ways to meet the unique knowledge-making needs of a particular research culture. In other words, what is normalized and appears universal to long-time members of a research culture is deeply culturally specific to that culture and therefore new to doctoral students.

As writing studies researchers have shown, the normalization of knowledge production through writing is the result of the repeated, habitual unfolding of the routine and regularized patterns of interaction—or genres—that generations of participants in a particular research culture have developed over time to accomplish the knowledge work pursued in that research culture (e.g. Artemeva and Freedman 2005; Bawarshi and Reiff 2010; Bazerman 1988; Bazerman and Prior 2005; Bazerman et al. 2009; Coe et al. 2002; Devitt 2004; Dias and Paré 2000; Hyland 2004; Miller 1984; Paré 2002; Schryer 1993; Tardy 2009). These genres include, for example, the giving of conference presentations; the writing of experimental journal articles, critical essays, or systematic reviews of the literature; the editing of anthologies or contributing of chapters to those anthologies; the writing of grant proposals to secure funding for a research project; or the supervision of dissertations. To take only one example, that of peer review as the most common genre system regulating academic knowledge production, this practice has become regularized and normalized through its repeated unfolding over hundreds of years, harkening back to the censorship protocols of the monarchy and church authorities in sixteenth-century Europe, the time of the printing revolution. At the time, these protocols were handed to scholarly societies, such as the Royal Society, to censor themselves when the ex-

plosion of publishing made it difficult for Church and Monarchy-censoring bodies to keep up with the increase in their censoring work resulting from the new potential unleashed by the printing press for the distribution of possibly unorthodox and destabilizing messages (Biagoli 2002). Despite considerable change over the past 400 years and much variation across research cultures, remnants of its original cultural logics and underlying enlightenment epistemologies continue to be reproduced in the genre system of peer review and to shape knowledge production in academe on an almost daily basis today.

The example highlights this process of normalization through repetition over time nicely—a process captured particularly aptly by Paré (2002) as follows:

> The automatic, ritual unfolding of genres makes them appear normal, even inevitable; they are simply the way things are done. And their status as historical practice within institutions or disciplines makes them appear immutable and certainly beyond the influence of the transitory individuals who participate in them. (p. 59; see also Chap. 4)

As such, they disappear from view behind what Paré (2002) calls a "facade of normalcy" (p. 60). What is particularly important for doctoral education is that as a result of their repeated unfolding through institutional and disciplinary routines, genres become so normalized that they appear universal, "common sense" to long-term participants in these genres. That is, to supervisors, the ways in which writing works in their research culture can easily appear as simply "clear writing", surely the way everyone writes, with writing appearing as a universal skill—transparent, invisible, hidden in plain sight.

To be sure, this normalization of discursive practices within research cultures produces a certain stability, a range of shared expectations for interaction and interpretation among participants in a genre that makes the collective knowledge-making work of that research culture possible. However, as genres and writing are allowed to sink into the realm of invisibility and universality, what disappears from our view is the other side of the paradox: the situated, that is, the culturally shaped nature of writing, its deep rootedness in cultural, institutional, and disciplinary traditions of knowledge production. After all, long before we enter the scenes of our research cultures, generations of colleagues before us have developed patterns of discursive practice or genres in response to the particular knowledge-making needs addressed in the field. Thus, over time, each research community develops its own unique discursive culture with its own habitual practices, norms, and conventions—its own ways of talking, arguing, and deliberating, that is genres, which regularize in a given research culture what can and cannot be said, thought, and known.

To provide only a few examples, in each research culture, genres regularize:

- Whether one's work is to be presented as a matter of arguing, describing, reporting.
- What kinds of questions can and should be asked and how they should be phrased.
- How data can or must be generated, justified, discussed, and interpreted.
- How much and what kind of subjectivity (e.g. "I") writers can or should project in their writing.

- What kinds of knowledge claims can be made, how, based on what kind of evidence.
- What constitutes appropriate evidence and how it is to be presented.

Although only a brief selection,[2] these examples of concerns arising in writing and regularized by the genres of particular research cultures may suffice here to illustrate *this other side of the paradox: What is normalized and appears universal to long-time members of a research culture is deeply culturally specific to that research culture and therefore new to doctoral students*. Accordingly, the decisions regarding the above concerns depend on the location of the writer in relation to colleagues and other readers in that research culture, to its traditions of inquiry, as well as to current exigencies in the long-ongoing research conversation to which the writer seeks to contribute. The genres of a research culture are therefore new territory for doctoral students; as such, genres are vital sites for inquiry and for learning how to participate in the discursive knowledge-making practices of their fields.

To be able to see and address writing as a vital site of student inquiry into discursive knowledge-making practices in their fields, however, we must retrieve this sociocultural situatedness of writing from behind its cloak of normalcy, universality, and invisibility. When we do so, we begin to recover two aspects of writing that while normally shrouded, are particularly vital to doctoral student learning: First, the questions that arise in writing are questions of knowledge production—they

[2] A more extensive set of examples of what genres regularize:

- Whether one's work is to be presented as a matter of arguing, describing, reporting
- What kind of purpose is appropriate to have in a given genre
- What rationale is deemed compelling for making a particular kind of contribution to knowledge
- Who can participate in a genre—who, for example, is asked to write a particular kind of literature review, treatment, or analysis of the literature in a field to define the lay of the land in a field
- What kinds of questions can and should be asked and how they should be phrased
- How—with what kinds of methodologies—questions can be answered and how those methodologies must be justified, for example, in relation to what competing methodological assumptions
- How data can or must be generated, justified, discussed, and interpreted
- What is appropriate to be said and in what order, what not
- How much and what kind of subjectivity (e.g. "I") writers can or should project in their writing
- What background knowledge will be assumed
- What aspects require elaboration and emphasis
- What kinds of knowledge claims can be made, how, based on what kind of evidence
- What constitutes appropriate evidence and how it is to be presented
- The extent to which knowledge claims must be qualified, how, and under what conditions
- That disciplinary orthodoxies participants must reproduce and which ones can be questioned
- What kind of knowledge can or must be included or excluded (e.g. how practitioner knowledge, knowledge from different disciplines, or even research findings from members of competing theoretical factions within the same discipline are to be handled)
- How sentences are to be constructed to facilitate particular kinds of knowledge work, for example, whether the passive voice is to be shunned in order to allow for deeper researcher reflection about epistemological assumptions underlying the work at hand or whether the passive voice is indeed the only acceptable way of advancing particular kinds of knowledge claims
- How readers are to be oriented, what kinds of logical connections between ideas are to be foregrounded or assumed

are questions of what can be said, thought, and known in a given genre in a given research culture at a particular time; they are questions of what counts as knowledge or evidence, questions of how one goes about positioning, advancing, defending, critiquing, contesting, extending, or reshaping knowledge claims amid competing epistemological, ontological, and ideological commitments of different factions that make up research cultures; they are questions of what makes a knowledge claim credible to colleagues and accepted into disciplinary lore, or rejected, ignored, or suppressed. In short, what we uncover when we remove the cloak of normalcy is the epistemic nature of writing, that is, the role of discourse in the production and regulation of knowledge (e.g. Bazerman 1988; Dias and Paré 2000; Kamler and Thomson 2006; Starke-Meyerring et al. 2011). Conversely, when we allow writing to sink beneath the cloak of normalcy, we are glossing over the very knowledge-production practices in which doctoral students are to participate.

Second, when we uncover writing as a socioculturally situated epistemic practice, we also begin to see another important aspect of writing: its deeply transformative nature—transformative not only in the sense of transforming our knowledge and understanding of a subject matter, for example, when we know more about the subject at hand or about what our data mean after we have produced a text than we did when we began. Rather, importantly for doctoral student learning, writing is transformative in a different sense: it is transformative of writers themselves; that is, it is steeped in questions of identity as identities or subject positions are shaped largely discursively (Bawarshi 2003; Green 2005; Ivanič 1998; Paré 2002; Kamler and Thomson 2006; Paré et al. 2011). This notion of writing as identity work has a number of important implications for doctoral student writing, three of which are particularly important in understanding doctoral student experiences with writing.

The first implication is that the kinds of concerns that arise in writing, the kinds of demands research cultures place on us as writers are shaped not only by the discursive traditions developed in that culture, but also by the particular roles we play in these cultures. That is why writing differs not only across research communities, say in biology versus computer science, but also within research communities; for example, writing as an undergraduate student or even as a master's student is quite different from writing as a doctoral student even if students have obtained all their degrees in the same field (Prior 1998). Undergraduate student writing tasks, for example, tend to be designed for writing to learn disciplinary subject matter or for proving the acquisition of a particular disciplinary knowledge base for evaluation; rarely are undergraduate writing tasks rhetorical in the sense of authentic participation in the research conversations of their disciplines. In undergraduate student writing, citation practices, for example, are not usually ways of writers extending, questioning, or building on the work of colleagues, or of writers aligning themselves with and against competing epistemological or theoretical factions within a discipline; rather, citations are more or less sources of information on a topic acknowledged and documented by student writers for evaluation purposes. Although Master's students can often take first steps of participation as research colleagues, the demands placed on them are quite different from those placed on doctoral students, for whom research writing is not only a question of learning, but also of so-

cialization into the academic research workplace (Paré et al. 2011). That is a considerable shift, so that doctoral student writing is not just a matter of writing a longer document, the dissertation, but of a growing identification with particular discursive practices, disciplinary orthodoxies, or competing epistemological factions designed to produce particular kinds of identities or subject positions with particular ways of thinking and knowing that make highly specialized and, we might add, disciplined contributions to knowledge possible.

The second implication of this transformative nature of writing for doctoral education is that for students, the process of developing their identity as researchers is shaped largely discursively—through writing—and often involves considerable, albeit hidden, struggle. For example, over time, doctoral students learn how to align themselves with and against the multiple and often competing theoretical, epistemological, or ideological factions within their research cultures, working out their location on the disciplinary map. In this effort, different genres inscribe different kinds of identity work, with the literature review, for example, as Kamler and Thomson (2006) describe very compellingly, a prime site of identity struggle. With writing invisible, however, that struggle may well remain hidden, giving the process of doctoral student writing a deceptive appearance of a smooth assimilation.

The third implication of this complex epistemic and transformative nature of writing touches on the process involved in learning how to write in a particular research culture. Since learning to write is learning to participate in the knowledge-making practices of research cultures and involves struggling with complex identity issues, that process is not completed over night. Rather, as much research in writing studies has shown, learning to write is a process of development over time. Importantly for doctoral students, writing is learned through gradually increasing and mentored participation in the discursive practices that constitute the work of the research culture rather than in remedial generic workshops designed to "fix" presumably deficient general writing skills that can presumably exist outside of disciplinary knowledge-making practices (Artemeva 2008; Blakeslee 2001; Dias and Paré 2000; Dias et al. 1999; Simpson and Matsuda 2008).

This need for learning through participation within the research culture (rather than in generic workshops outside the research culture) is illustrated by the kinds of epistemic questions that arise in writing mentioned above. Consider, for example, how much participation and intimate sense of discursive practices in a given research culture are necessary for a newcomer to be able to make decisions about how much background knowledge on what aspect can be assumed in a given situation, what competing ways of asking a research question or of discussing data must be taken into account, or what kinds of disciplinary orthodoxies must be reproduced. Writers learn to make those decisions through their gradual and ideally mentored participation in the discursive practices of their research cultures. Accordingly, if the students are to make informed decisions, they need to have a particular kind of critical dialogue with long-term members—a kind of dialogue that allows for at least two kinds of learning opportunities. First, students need to have critical discussions about the role of discourse in the production of knowledge and identity in their research fields—a critical analysis of disciplinary genre and culture—to

understand how those decisions are constrained in their research cultures, and second, students need to be able to produce drafts in stages, and to have the kinds of discussions about their drafts that help them learn how to make those decisions in their texts and that allow them to take an active role in analyzing as well as negotiating the demands and constraints genres place on the production of knowledge and of researcher identities.

As the following insights shared by students into their experiences with writing show, however, this kind of critical dialogue is difficult to achieve when the paradox of writing remains unaddressed and deeply culturally shaped knowledge and identity practices remain hidden beneath the cloak of normalcy and universality. What then does this paradox look like from the perspectives of doctoral students? How does it surface in their experiences? What consequences does it have?

The Paradox in Doctoral Student Experiences with Writing

In the students' discussions of their experiences with writing, the paradox of writing surfaced in a number of ways. *First*, and perhaps most importantly, with the paradox unaddressed, students encountered supervisor perceptions of writing as "common sense", a universal skill and therefore as a non-question accompanied by a set of normalized expectations. *Second*, in many ways, these normalized assumptions and perceptions laid the foundation for doctoral student experiences with writing. As the student insights below reveal, with writing hidden beneath the cloak of normalcy, students may experience their learning as stifled in a number of complex ways.

1. With the paradox unaddressed, students encountered supervisor perceptions of writing as a universal skill and therefore as a non-question in supervision.

With writing submersed in the tacit realm, doctoral students encountered supervisors who did not perceive the introduction of their supervisees into the discursive knowledge-making practices of their research cultures as their pedagogical work. Instead, the students encountered supervisors who perceived writing as a universal skill that doctoral students should simply have—perhaps learned once and for all in high school or in their undergraduate or master's programs—rather than as a set of discipline-specific epistemic practices that students would learn over time through their increasing mentored participation in these practices. Accordingly, writing became a non-question in supervision or at best a question of remediation—of a decontextualized skill that students could presumably develop outside the research field in which they were learning to participate.

The following interview excerpt illustrates this normalized perception of writing as a universal skill quite vividly:

> Student: My supervisor said when he accepted me, "It looks like you're a pretty good physicist, but you'd better take a writing course." It was just a condition of my acceptance. He told me I had to. But the thing is I looked around for a long time for a course because I didn't want to waste my time. …I felt completely helpless. I mean he's a very strong writer

> and he told me that he's more than willing to help me. But there's a certain level that he said I had to be above. I just had to get above that level or else it was too much kind of a waste of his time. He has no problem teaching me how to write physics but he was concerned about my just general writing skills.
> Interviewer: Did he say anything about what he meant by what he was concerned about?
> Student: Just like general grammatical errors and general writing stuff that's kind of gibberish and stuff like that.
> Interviewer: Oh, where he couldn't understand what you were saying?
> Student: Just like people might not have known what I meant. He felt like it was unclear and stuff like that.

This student's experience reflects a number of significant characteristics of the paradox in doctoral education. To begin with, again, it reflects the assumption of writing as universal, and as somehow universally clear, denying the ways in which the genres of a discipline shape and sanction the discursive practices of a research culture—both writing and reading—and hence what is perceived to be clear and what "gibberish". Accordingly, with writing perceived as a universal skill, the supervisor was left to conclude that the student was somehow deficient—somehow had not developed sufficient "writing skills" and had best undergo remediation elsewhere.

Perhaps even more important, the experience of this student reflects the institution-wide nature of the paradox both in the absence of research-based institutional attention, space, time, and resources dedicated to writing and—as the following comment by this student illustrates—in what Rose (1985) so aptly called the "myth of transience". As Rose explained, rooted in an understanding of writing as a universal skill, the myth of transience is the rather common belief that what is understood as a problem of deficient student writing will pass with some remediation, usually in the form of generic workshops or non-credit courses, a belief that, however, is not borne out by research. Even when offered, such generic workshops on writing tend to lack a research base, often advancing what are believed to be universal "principles of effective writing", denying the rhetorical and culturally situated nature of discourse. The nature of the generic workshop as experienced by the student illustrates this lack of a research base:

> [The instructor came] with a preconception of what makes a good writer. They're like: "This is what you need to do." Like, for example, eliminate jargon, like there's these rules: Well you have to do this in your sentence. Well I mean in physics…your paper's going to be jargon filled. Just look at this first sentence [student points at his draft of a journal article]. But someone who's in my field wouldn't find this jargon filled at all. …Like I can write you something that you'll be able to understand, but where is that going to get me in my career? Nowhere. You know what I mean? It's going to get you understanding, but really is that important to you, is that important to me? Let's face it, no.

What this student describes here reflects much of the non-research-based arhetorical advice dispensed in a plethora of writing handbooks—advice that denies the unique ways in which language use is socio-culturally situated and specific to the knowledge-making needs of different research fields (Kamler and Thomson 2008). This kind of generic, non-research-based advice or workshop, therefore, does little to support the student in a critical inquiry into the ways in which discursive practices in his research culture work to enable or constrain the production

of knowledge. At best, it's a waste of the student's time as well as of institutional resources; at worst, it reproduces the assumptions that put students in this situation in the first place.

Spending extra time trying to find opportunities for writing development outside the very research communities in which they wish to participate as writers is one way in which students experience the normalization of writing and its universal appearance to supervisors that characterizes the paradox of writing. Throughout their studies, though, the paradox also means that students struggle on their own without guidance in shaping their drafts, as this student explained:

> So I would give it [a draft] to him [the supervisor] and say, "Well what do you think?" And he was never really happy with it [and said], "Well you know, it's not finished. What do you want me to look at? Give it back to me when it's finished; then I'm going to be able to tell you if you're going to be able to publish it."

Again, with the paradox left unaddressed, the discussion of a draft—the shaping and situating of the student's contribution to knowledge in a complex long ongoing research conversation—becomes a non-question, and opportunities for student inquiry into the ways in which knowledge is produced discursively remain untapped.

For other students, the paradox has even more severe implications when supervisors, operating under assumptions of writing as a universal skill that students should simply bring with them, express their anger at what is perceived to be the student's deficiency. Consider this student's experience:

> I gave her (the supervisor) [a draft] the first time a few months ago. She was a little bit angry with me. …She [said], "Why don't all these people, why don't you know [how to write]? I don't understand; you're already a professional." So this made me very afraid and not to show her [my writing] anymore. This was about four months ago and I'm still afraid.

Again, with the paradox unaddressed, the supervisor does not recognize writing development as her pedagogical work, in this case with troubling consequences for the student's learning, the time required to complete her degree, and her wellbeing as she is working in fear of normalized expectations.

2. With writing as a non-question in doctoral supervision, students experienced their learning stifled in a number of ways.

As these student insights into their experiences with writing indicate, the paradox, if unaddressed, has numerous implications for doctoral student learning, which in the experiences of these students materialized in a number of consequential ways:

- With writing and writing development treated as non-questions, students experience a sense of being left in the dark, of not having access to important disciplinary knowledge-making practices, of learning by trial and error, or of learning as a question of lottery-like chance.
- That sense of being left in the dark becomes difficult to address for students because in an environment of normalized and universalized expectations students may fear asking questions of supervisors. In other words, asking questions about writing, that is, questions about the very knowledge-making practices in which students are to participate, becomes risky business for students.

- Despite their fear of asking questions, doctoral students express a strong need for dialogue about writing in their learning, but with the paradox of writing unaddressed, that dialogue is difficult to achieve.
- Without that dialogue, students forego vital opportunities not only for critically analyzing the epistemic work of writing in their research fields, but also for reflecting on and negotiating their emerging identities as researchers in their research cultures, being left on their own to struggle with considerable ruptures and loss of confidence in their sense of themselves as researchers in their fields.
- In searching for solutions, students may internalize the paradox as their own failure.

(a) Students experience a sense of being left in the dark, learning by trial and error, or by chance.

Perhaps not surprisingly, with writing perceived by supervisors as a universal skill rather than as a culturally specific knowledge-making practice and therefore not subject to critical analysis and dialogue during supervision, students described a sense of being left in the dark, of learning by trial and error, or by lottery-like chance, with disciplinary knowledge-making practices in their disciplines remaining shrouded from them. This sense of being left in the dark and of chance was accompanied by a resulting sense of disorientation and anxiety over the appropriateness of their work in their research culture. This notion of disorientation featured prominently in the students' experiences with writing and was captured by students in very suggestive metaphors, such as that of being a hitchhiker on a busy road without a sense of where the road is leading, of "shooting in the dark", or of "spinning the roulette wheel". As one student articulated this sense of disorientation:

> I feel a little bit like I wish there was a handbook on how things are supposed to go and how I'm supposed to do things; I even kind of joke with my partner about creating one of those things, so that other people can feel less lost. But I just kind of felt a little bit like there's this kind of road that everybody's on and I'm kind of on the side trying to hitchhike, trying to get somebody to slow down and show me where we're supposed to go. Because I just don't ever really feel that I'm on the right path or that I'm doing the right thing.

In a way, the metaphor with which this student discusses her experiences with writing speaks volumes to the paradox of writing—a busy road, with everyone whooshing by, and the student feeling like a hitchhiker. The excerpt reflects the student's sense as a newcomer to what for her is a new culture with a new set of activities where she is expected to know what she cannot possibly know, but what is normalized for long-time participants and therefore expected and beyond question or explanation. It also reflects some of the student's anxiety and uncertainty over whether she is participating in appropriate ways, whether she is "on the right path" or is "doing the right thing".

Another student described this sense of disorientation as a matter of "shooting in the dark", a comment that also describes the chance-like nature of learning how to participate in the discursive knowledge-making practices of her discipline:

> I think there's a myth going on or floating around that we all know how to write and somehow we do. …It makes for a lot of anxiety that you feel the expectation like okay, write this essay of twenty pages. Then, oh, what do they even want here? This is a new

> university—I don't even know what they're looking for; nobody really tells you and then you're trying to find out somehow. …Kind of shooting in the dark.

This chance-like nature of learning how to produce knowledge through writing in their disciplines was articulated even more sharply by another student as closing her eyes, hoping for the best when submitting draft or by another student as a question of "spinning the roulette wheel":

> It [submitting a draft to the supervisor] was just kind of close your eyes and just give it to them and hope that they don't tell you it's awful.

> It [submitting a draft to the supervisor]'s a little bit like spinning a roulette wheel as to where it will come back. We don't know. We always like to joke it depends on his mood. It probably has more to do with the quality of the writing. But I mean if he sends something back and it's not up to snuff, then he'll tell you it's not up to snuff. You kind of dread it in a way.

These student comments highlight important implications for doctoral student learning. With the paradox of writing unaddressed, writing as a social practice remains hidden, here specifically the ways in which supervisor comments may reflect less individual quirks than demands placed by research cultures on the discursive behaviour of participants into which supervisors have been socialized and are now attempting to socialize the doctoral students under their supervision. After all, supervisors are part of research cultures, so that their sense of how a thesis should take shape reflects the normalized expectations, current paradigms, values, and practices of these research cultures.

(b) With writing beneath the cloak of normalcy, asking questions about writing—about knowledge production—becomes risky business.

When writing is perceived as a universal skill that students should bring to their degree work, that is, when the research-culture-specific epistemic and transformative nature of writing remains hidden, the students' experience of being left in the dark or of learning as a matter of spinning the roulette wheel becomes difficult to address because students may fear asking questions of their supervisors, given the high-stakes, intensive, and long-term nature of the student–supervisor relationship. In an environment of normalized, universalized assumptions around writing, students thus again experienced their learning stifled. As this student put it:

> When there's this atmosphere that you're supposed to know this stuff, you're supposed to have all this stuff done, it's very intimidating to kind of show that no, I don't know, and I'm not quite sure how I was supposed to know or why I missed it, but I don't. If I don't ask this question and risk looking like I don't know as much as everyone else, I'm never going to know.
> …
> It's hard to allow yourself to be vulnerable to say to someone, "Hey, I don't know; do you think you might be able to." …Just to even ask the question, you risk looking like well, why don't you know that?

Another student explained a similar risk of asking questions of her supervisor in an environment of normalized assumptions:

> When I have a question, I usually don't ask him. I always go see another professor. Because I'm…because I always think, I think that I am going to ask something I should know

> already. I should know that. I should have found out. So I just feel like maybe I, maybe if I ask another professor he's not going to think too much about me.

When asking questions about writing becomes risky business in the face of normalized assumptions, students lose out on vital opportunities for learning to develop a critical sense of the discursive practices of their research communities and how those enable or constrain knowledge production; what cultural logics and epistemological assumptions, values, stances, and practices they reproduce, or what room for divergence or innovation they allow. Importantly, this aspect of the students' experience with writing is exacerbated when—as Paré (see Chap. 4) illustrates—supervisors are left to struggle with the paradox of writing as well. While supervisors are left struggling to articulate the discursive knowledge-making practices of their fields, students may not feel in a position to ask for clarification, fearing that they may not live up to normalized expectations of their writing, which again leaves their learning stifled.

(c) *Despite their fear of asking questions in an environment of normalized assumptions, doctoral students expressed a strong need for dialogue about writing in their learning, but with the paradox of writing unaddressed, that dialogue was difficult to achieve.*

Even if doctoral students did dare ask questions and initiate dialogue about writing in their field, such dialogue, according to the students, may be difficult to come by. As the student insights into their experiences so far have shown, students consider such conversations vital to their learning because they understand very well that something is happening to which they don't have access—that they are not being taught, although it is essential to their development as researchers. They understand that rather than being taught, they are simply expected to know, that they are stumbling through by trial and error, hoping for the roulette wheel to fall into a spot that offers learning—sometimes at great cost to their ability to complete their degree programs in a timely manner when they fear submitting drafts or spend time searching for remedial workshops that are usually not grounded in a solid research base in rhetoric and writing studies that would allow them to inquire into the discursive knowledge-making practices of their fields.

Without critical dialogue about writing with their supervisors, students have indicated limited access to these disciplinary knowledge-making practices, but as the following student comments indicate and as Paré's study of supervision sessions (see Chap. 4) amply illustrates, with the paradox of writing unaddressed, the discursive knowledge-making practices of a research culture remain normalized and thus beyond question or dialogue, let alone critical analysis and inquiry. Instead of the conversations the students wished to have about writing, students found their supervisors simply crossing out their text, writing over their own, or simply stating what is the "right" or the "wrong" way of writing something. As one student put it:

> [I want]…the reader [the supervisor] to have a conversation with me rather than just saying, "This is wrong, take it out." Ask what was my process when I was looking at that. Why did I include this here? So then I can come back and say, "well if I were to put this here and that there, would that make more sense?" To create more of a conversation than "This is right; this is wrong; okay, we're done."

Another student identified a similar difficulty of engaging in dialogue about writing with the professor of an introductory doctoral seminar:

> So we're just kind of handing this in and we get feedback from the professor and he tells us why this was good or bad. But it's not exactly making you enter this whole world. But it just—it certainly is a good thing to do. But I would have wished to have this more addressed in class because all you get is "This paragraph wasn't so good because this particular periodical doesn't seem to appreciate this style." But beyond that, there is little reflection on writing in a more general sense.

The lack of dialogue about their writing was further explained by another student as a lack of exchange:

> I don't know. I just go there [to the supervisor] to get my feedback, but there's no exchange. We don't have any…You know, we're not going to talk like, "Did you read this article, and what did you think about it, and did it help your opinion, or what did you think, or what about the methodology—was it different?" You know, there's no exchange. It's like you've done your work, okay, you go. I feel like a…like a student in my bachelor [program] or in high school. If you find it's good, and if you find it's not, then you go and work on it. But there's no like stimulation of ideas.

Another student was hoping for a course that would provide a systematic introduction into the discursive knowledge-making practices of his field, taught by a researcher in his field:

> I asked, "Why isn't there a writing course in physics?" And someone said, "Well everybody's ideas on what's good writing in physics is so different that it would be futile to have someone to try and teach it." But that's kind of a cop-out, right? …I know they have taught it at other universities. There was a specific class that was taught by a physicist who writes well. Even if it is his idea on writing, I think it would go a long way in talking about writing; you just get a sense of what his ideas on writing are. It gives you a lot of understanding of the tacit ideas that physicists have about writing.

With the paradox unaddressed, though, a discussion of how writing works to produce knowledge in the student's field is difficult to achieve because writing remains hidden in plain sight, normalized, "common sense", inaccessible. Although there is now an extensive research base in rhetoric and writing studies examining the ways in which discourse works to produce knowledge in different disciplines, with the paradox of writing unaddressed, writing remains a non-question and that research base remains untapped.

(d) Without dialogue about writing, students forego vital opportunities to reflect critically on their emerging identities as researchers in their research cultures.

The lack of critical dialogue about writing has important implications for student opportunities not only to critically analyze the epistemic work of writing in their research cultures, but also to engage the transformative work of writing in shaping their identities as researchers in their field. Indeed, as the following student comments illustrate, without critical dialogue about writing, students are left to struggle with complex questions of researcher identity development on their own as they make the leap from being largely observers of disciplinary knowledge-making practices to being active participants with contributions to make, claims to stake,

reputations to build, and research cultures and their knowledge-making endeavours to advance, all of which present a complex set of new demands on doctoral student writing. Importantly for doctoral student learning, left unspoken and simply expected, these new demands on identity negotiation can present a considerable rupture for doctoral students, including a rupture in their confidence in themselves as writers, which they link closely to their success as researchers in their fields. This sense of rupture in demands on them as writers was captured particularly poignantly in the experience shared by this student:

> I never really had any problems [writing]. I actually had two MA theses…I never had any problems. Then finally coming there doing my Ph.D., I felt like I had all these problems; I didn't know how to write anymore! I was like, well, it was just the wrong choice, maybe. So it was like suddenly I was just bad. Not a good student anymore, whereas before I never had any problems.
> …
> I had no self-esteem in my writing. I felt like I didn't know how to write any more at all.

When writing is perceived as universal and simply expected, when the epistemic and transformative nature of writing are denied and complex identity struggles remain cloaked, it is easy to see how students can develop feelings of inadequacy. As another student put it:

> I wish I could feel adequate. It's a struggle that I have. The fear is that I am inadequate, I don't know the material enough, or don't have anything to say, or [am] inadequate in that these people can talk so beautifully with…fancy words and they know what they are saying.

As these student experiences indicate, without dialogue about the transformative nature of writing and the demands research communities place on member identities and the discursive practices that reproduce them, students may experience themselves as inadequate, having made the wrong choice, or simply not being cut out for academic work.

This rupture in the students' sense of identity and confidence as writers is exacerbated further when supervisors are left to struggle with questions of writing development and resort to simply crossing out and replacing student writing with their own. One student described this experience as follows:

> It [supervisor feedback] came back as a return email with, you know, in Word, where you can track comments and just kind of go in and change things and delete stuff. It wasn't like a conversation at all: "There are certain ideas here and maybe we can work on reshaping them" rather than just going in and deleting what I've written and writing something.

For the student, this kind of experience left little opportunity for learning or for working out epistemic and identity questions that were involved in the writing that she had received crossed out and "corrected" by her supervisor. As the student noted:

> I used to think it [supervisor feedback] was a little bit hopeless. Like anybody's ideas are better than mine. So whatever they want to do is fine. So if they want to cross out anything or write it, fine. Just fix it; it must be better than what I've done.

This sense of rupture in their identity as writers and researchers in their fields and the accompanying discouragement remains hidden beneath the cloak of normalcy when the paradox of writing is not addressed and writing remains a non-question.

With assumptions about writing normalized, students are denied the critical dialogue that might help them see the transformative nature of writing, including the gradual long-time development involved in that transformation as well as the politics of that transformation, such as the politics of learning to locate oneself on the disciplinary map—as this student explains:

> There was also positive feedback, but a lot of it was asking me to write more about things and directing me or pushing me into a certain direction, so I did not really feel so much that I was in control of the project, but that it was being pushed into certain directions that I did not consider part of it. …I felt under pressure even though it was done all nicely in the sense of personal contact—there was no kind of conflict in the situation whatsoever. Just the style of giving feedback and the kind of the thing I was being asked for, I felt like, "Oh god, now I have to get in that direction!" So [as I] was…leafing through my draft again, it was like who knows what kind of surprise will be on the next [page]. It was more like "Oh now she wants this and now she wants [that]." And I didn't want to do that! And I'm not interested in the [a particular research direction suggested by the supervisor]!

As this student's experience indicates, without critical dialogue about their writing, students may lose opportunities for learning how to work out actively ways of aligning and positioning their work as a contribution to their research communities. As in the case of this student, students may perhaps lose out on opportunities to recognize burning research areas the supervisor is aware of and might greatly enhance the value of the student's work for the collective knowledge-making endeavour of her research culture. Instead, students are left to resort to undercover strategies of thwarting what they may experience as whimsical supervisor demands or even attempts to take over their text:

> And then she axed about twenty pages, and she did that quite rigorously and even threw out a few things that I felt were really dear to me. So I left a few things that she had kind of axed and cut off less.

As these student experiences illustrate, with the paradox of writing unaddressed, and hence without critical dialogue about writing, students may be left to experience supervisor comments—what Paré (see Chap. 4) illustrates as their efforts to help students locate their contributions in their research cultures—as a matter of being disciplined, discouraged, or pushed and dragged about disciplinary landscapes.

(e) Students internalize the paradox as their failure.

What is perhaps most disturbing for us as educators and administrators is that students internalize the paradox as their failure to know what they cannot possibly know, as their failure of not meeting expectations based on normalized assumptions. As this student put it:

> She [the supervisor] said that it's incredible that we doctoral students still don't know how to begin doing our research plan [a written document]. So really and truly I didn't know. The truth is it's true what she said. So I just backed off and didn't want, I haven't yet [resubmitted anything].

The "research plan", though, is, of course, a genre and as such is a socio-cultural construct specific to the knowledge production needs of that research culture, in-

scribing a range of expectations, norms, values, commitments, and so on that the student cannot possibly know.

Another student also internalized the assumptions about his deficiencies as a writer that accompany the cloak of normalcy and universality and its denial of writing as a site of knowledge and identity production in doctoral education:

> I don't think it [the professor sending him for remedial work on writing] was cruel. I think it's very reasonable to say that there's things that you can teach me and that there are things that he could teach me, but he perhaps feels that his resources are better spent otherwise. You know what I mean?

Again, hidden beneath the cloak of normalcy and universalized assumptions, the disappearance of writing from supervision as a waste of time becomes normalized, leaving the student to internalize the problem as one of his own deficiency. However, when students internalize the paradox as their failure, the problem is, of course, allowed to continue festering beneath the cloak of normalcy.

Addressing the Paradox of Writing in Doctoral Education—Toward a Systemic Approach to a Systemic Problem

In my concluding thoughts, I would like to return to the questions raised at the beginning of the chapter about the ways in which doctoral students experience writing during their degree work, what practices and perceptions underlie those experiences, and how they might be addressed.

With regard to doctoral student experiences with writing, the insights shared by the students here show that their experiences with writing during their doctoral degree work are far from smooth or a matter of unproblematic assimilation. Instead, these experiences involve a considerable rupture in their sense of themselves as writers as well as friction, tension, identity struggles, loss of self confidence, and anxiety—a complexity, however, that remains effectively hidden beneath a cloak of normalized assumptions about writing. Hidden beneath a cloak of normalcy, universality, and invisibility, writing as an epistemic and transformative practice becomes a non-question in doctoral education—at the very least, one that is difficult to engage for supervisors and doctoral students. As a result, for doctoral students, writing as a vital site of inquiry and learning to participate in disciplinary knowledge-making practices is lost, with students disoriented, afraid to ask questions about the very knowledge-making practices in which they are to participate, and left without opportunities to actively negotiate complex identity struggles involved in that participation. As we saw, some students find themselves wandering around from one remedial workshop to another, events which are rarely grounded in research into writing and hence are ill positioned to help students make sense of what it means to be "clear" to physicists, anthropologists, engineers, or biologists, let alone guide students in a critical analysis of discursive knowledge-making practices in their fields. Other students continue to struggle without guidance or opportunities for discussing their drafts. Without any way of analyzing and discussing the discursive

knowledge-making practices of their disciplines, students stumble through trial and error for unknown lengths of time. Yet, others, faced with the anger of supervisors operating under assumptions of writing as a normalized universal skill, don't dare to submit a revised draft for months.

The practices and perceptions that underlie these experiences are what in the student descriptions of their experiences surfaced in complex ways as the paradox of writing in doctoral education: On the one hand, the discursive knowledge-making practices research cultures develop over generations to accomplish their knowledge work become normalized, transparent, invisible, and indeed appear universal to long-term members of research cultures, rendering writing a non-question. On the other hand, for newcomers, these very practices constitute new territory and a vital site of inquiry into how knowledge and researcher identities are produced and negotiated in these research cultures.

Given the highly consequential nature of this paradox in doctoral education, how, then, might it be addressed?

Emerging research on doctoral student writing has advanced a great number of important pedagogical strategies, for example, advancing the role of writing groups (Larcombe et al. 2007; Lee and Boud 2003; Maher et al. 2008) or the role of specific publishing pedagogies within students' doctoral work (Lee and Kamler 2008; Aitchison et al. 2010). However, as Aitchison and Lee (2006) caution, these pedagogical approaches have limitations and cannot solve the problems underlying current approaches to research education. As the authors note, "the broader issues about the location of responsibility within institutions for 'writing development' in research degree programs remain unresolved" (p. 276). What is needed rather is a larger systemic cultural shift in research institutions (e.g. Kamler and Thomson 2006; Lee and Aitchison 2009)—one that recovers writing from beneath its cloak of normalcy and, as Paré (see Chap. 4) notes, creates an environment for writing that is grounded in a solid research base.

To move toward such a shift, it seems, then, that we need to attend to the deeper and systemic nature of the problem. Although particularly consequential for doctoral education, the paradox of writing is, of course, not unique to doctoral education, but is indeed rather endemic to higher education institutions—reproduced at all levels of study, indeed, throughout institutions. After all, as much research in writing studies has shown over the last few decades, supervisors and doctoral students are not the only ones affected by the cloak of normalcy and universality that keeps writing invisible in institutions of higher education. Rather, what surfaced here in the experiences of these doctoral students is a systemic problem: Similar to the ways in which we have inherited from generations before us the different genres in which we—administrators, educators, and students—participate in our different roles, so we have inherited the cloak of normalcy and universality that makes these genres, the culturally specific discursive patterns of interaction, and specifically of knowledge and identity production, appear as common sense and beyond question.

Addressing the paradox of writing, that is, recovering writing from beneath its cloak of normalcy, then is not simply a matter of "business as usual" or even some added "assistance" or "support" for supervisors and students, and it is not even a

matter simply of "explicit instruction" in discursive disciplinary norms students are presumably to follow. Rather, addressing the paradox of writing involves infusing the doctoral curriculum with a solid research base that examines the roles of writing and discourse in the production of knowledge, researcher identity, disciplinarity—a research base, that as Paré (see Chap. 4) explains, has emerged over the last few decades and is now extensive. Without that research base, the paradox comes at great cost not only to doctoral students and supervisors, but also to institutions in general, which have faced significant burdens on precious resources in times of tightening budgetary constraints, for example, when resources are spent on generic non-research-based workshops dispensing ill-theorized advice on presumably universal principles of "effective writing", while students and professors are left struggling with complex questions of knowledge and identity production in the discourse of their research fields. Perhaps most importantly, when writing as a site of knowledge production is lost to inquiry and learning, for example, when supervisors and students lack the research-based attention needed to inquire into the ways in which genres shape what can and cannot be known in their fields, the paradox is allowed to undermine the core institutional missions of research and teaching.

Conversely, when we engage the systemic, inherited nature of the problem with a research-based approach, we can begin to recognize the productive potential the paradox harbours for re-seeing and strengthening doctoral education, with its location at the heart of the mission of research institutions. Indeed, situated between tradition and new ways of seeing disciplinary knowledge-making practices, the paradox has important potential for doctoral student learning if students explore with long-time members the ways in which the discursive practices of their research cultures are regularized to produce certain kinds of knowledge and certain kinds of researcher identities. In the same way, the paradox has great potential for innovation in knowledge production within and across disciplines when researchers have a research-based approach to reconsidering the ways in which genres inherited over generations enable or constrain what can and cannot be said, thought, and known in their research culture. In short, the paradox has the potential to nourish a culture of lively, vibrant, and robust research-based inquiry, critical examination, deliberation, and debate of the ways in which discourse and writing enable and constrain what we can and cannot know—a culture that produces generations of new researchers who are not simply left to imitate accepted norms, but are encouraged to explore what discursive traditions of knowledge production may be important to cultivate, challenge, or re-envision in order to innovate in knowledge production in their fields.

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Chapter 6
Making Sense of the Doctoral Dissertation Defense: A Student-Experience-Based Perspective

Shuhua Chen

Introduction

Most doctoral programs in the world require students to write a research dissertation and to defend it orally in front of a group of scholars. As the last milestone of doctoral education, the dissertation defense is an important event for doctoral candidates, their supervisors, and the members on the defense committee. For candidates, they must pass it to be awarded the degree. For supervisors, the research work under discussion is their co-achievement with their students. For defense committee members, the defense is their opportunity to evaluate doctoral candidates (or to have their evaluation confirmed) and gate-keep a discipline. The dissertation defense is an event in which doctoral students demonstrate achievements of years of doctoral training and a procedure through which the quality of doctoral education is assured.

There are numerous books providing doctoral students with guidance about completing a doctoral program; most of these "how-to guides" contain a chapter describing the dissertation defense and advising doctoral students about preparation. On the one hand, these books reveal important characteristics of the dissertation defense. For example, few candidates fail it and it is more like a scholarly discussion than a rigorous exam. The books also provide insightful advice for students' preparation, such as having rehearsals, asking for clarification of questions, and not being defensive. On the other hand, few of these guides offer doctoral students' own perspectives on the dissertation defense, for example, what they think is the purpose of this exam and what it feels like to defend one's dissertation. As a result, doctoral students learn no more from these guides than some "tips" for presenting their work and answering questions. Doctoral students, of course, may consult other sources for information about the dissertation defense, such as supervisors, other professors, students who have completed their defense, and they may even attend other student defenses. However, research (e.g. Murray 2003; Wellington 2010) has shown that

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students still have misunderstandings and confusions about what the dissertation defense examines and what examiners expect of them.

This chapter goes beyond the students' *impressions* of the doctoral dissertation defense—be they impressions from reading how-to guides or from attending other people's defenses—and aims to explore more deeply the nature of the defense and its significance in the doctoral experience. The chapter synthesizes ideas from how-to guides, findings from the existing research literature, and findings from an ongoing study.[1] In particular, drawing on interviews with recent PhD graduates in Education and observation notes taken by a doctoral student (the author) from several successful dissertation defenses at a Canadian research-intensive university[2], the chapter tries to open up a space for doctoral students' own voices to be heard about this exam. At the same time, considering the fact that doctoral students often seek help from their supervisors when preparing for the defense, this chapter is also meant to raise questions for supervisors to discuss with their students as well as to make suggestions for supervisors and students.

Variability of the Dissertation Defense

Not all doctoral programs require a defense of a dissertation and not all dissertation defenses are conducted following the same procedure. Internationally, few Australian universities require an oral defense of the dissertation; and the UK defense, called the *viva*, is often conducted in private. In most North American universities, the doctoral dissertation defense is open to the public and is less formal than traditional oral exams. It starts with the defense committee's private pre-defense meeting, followed by the candidate's presentation (often 15–30 minutes) and a questioning session (often 60–90 minutes), and finally the defense committee's post-defense meeting. The defense committee is often composed of a Chair, internal members (members of the student's committee—most often chosen from the candidate's department), external members (chosen from outside the candidate's department but within the university), and an external examiner (from outside the university and often physically absent from the defense or joining by videoconference). While there are similarities, universities may vary at both policy and practice levels in conducting the defense. In Canada, for example, not all universities give students open access to dissertation defenses. In a few Canadian universities, doctoral candidates need to do two defenses and the final one is a closed exam. Canadian universities also seem to hold different views on the purpose of the dissertation defense. While the defense is a means to maintain and strengthen the standards of the PhD at one university, it is "to engage the committee in an enjoyable and informative discussion" at another (McGill Graduate and Postdoctoral Studies 2009). Canadian universities differ in the composition of the defense committee as well. Of note, some

[1] Please see Further Reading for research literature that is not listed in the References.

[2] All the defenses observed have been passes and all the doctoral candidates interviewed have been asked to make only minor changes.

universities have stricter guidelines than others on choosing the external examiner. For instance, one university gives a long list of who cannot serve as an external examiner in its online documents while another university only provides one line about this. In addition, who asks the first questions during the questioning session also varies institutionally. Some universities prefer the external examiner's questions to go first (often asked by the candidate's supervisor if the external examiner is not present) while others delay the external examiner's questions until the end of the first round of questions. Most Canadian universities prohibit the release of the external examiner's report to students prior to the defense while the University of Toronto allows students to have the report two weeks before they defend. Finally, Canadian universities have various regulations regarding decision-making and outcomes of the dissertation defense, for example, whether the Chair can vote and whether the final decision is made by majority or unanimous vote. There is also disciplinary variability. For example, research shows that defenses in the social sciences and natural sciences follow different patterns in terms of the sequence of questions. In social-science defenses, questions are asked around themes with no clear opening and closing phases, while in natural-science defenses, questions tend to be linear with clear opening and closing phases (see Trafford 2003). To some degree, each defense is different from any other since it discusses a unique dissertation, evaluates a unique candidate, and is shaped by a unique defense committee.

Variability of the dissertation defense implies that doctoral candidates not only need to consult the university and departmental policies about the dissertation defense but also need to check out how it is conducted in their faculty and department. More importantly, they should have some knowledge about the backgrounds of the examiners on the defense committee.

An Exam or a Discussion?

Many people will agree that the dissertation defense is different from any other types of oral exams, especially in North America, where the defense is open to the public, audiences are allowed to ask questions, examiners make jokes, and few candidates fail. Some how-to guides even say that the purpose of the defense is "not to fail the candidate" (Wisker 2005, p. 315) and the faculty "really want [the candidate] to succeed" (Cone and Foster 2006, p. 307). A study into UK institutional policies on the dissertation defense found that, although the dissertation defense was compulsory for PhD students in all of the 20 institutions examined, few universities could fail students based on their performance in the defense, and there was a lack of clear criteria for candidates' performance (Tinkler and Jackson 2000). Therefore, even if the dissertation defense is an exam, it may not be a rigorous one unless there remain questions about the quality of the dissertation. To a large extent, the dissertation defense is "not the site of decision making" (Tinkler and Jackson 2004, p. 30). And, in both the UK and the US, there are researchers who argue the dissertation defense is for editing and improving the dissertation rather than an exam of the candidate. On the other hand, other research has revealed that doctoral

students can experience major challenges in their dissertation defense. For example, Hartley and Jory (2000) found that 15 out of 100 UK psychology students that they surveyed had viva outcomes such as major amendments, further viva, and rejected (in North America the possible outcomes are: major revisions, reconvene, and fail). And, at my own university, I have attended an unsuccessful dissertation defense in an Engineering department. While academics tend to see the written dissertation as evidence of a doctoral candidate's scholarship rather than the oral defense, doctoral students tend to see the defense as a test of their knowledge, communication skills, and independent thinking. These discrepancies at policy and practice levels may lead to confusions and misunderstandings for doctoral students and new academics.

Preparing for the Defense

Most doctoral students will not think about the oral defense until they have submitted the dissertation. Yet the preparation for the defense can start as early as students enrol in their doctoral program. This longer-term view is well expressed in the following quote from a UK how-to guide:

- If the scholarly merit of the thesis determines the outcome of the viva—then producing a thesis that is based on explicit scholarship *is* your preparation for the viva.
- If your supervisor(s) constantly ask [*sic*] the Kipling questions to challenge you and foster your intellectual development—then answering questions, defending points of view and engaging with scholastic ideas and their applications *is* your preparation for the viva.
- If undertaking constructive review of the thesis can reinforce understanding of its cohesiveness and synergy—then achieving deep understanding of research as an integrated process *is* your preparation for the viva.
- If critical re-reading of the text of thesis [*sic*] strengthens its arguments and improves its presentation—then auditing the thesis for meaning, clarity, and presentation *is* your preparation for the viva (Trafford and Leshem 2008, p. 192).

Of course, short-term preparation starting a few weeks prior to the defense is also necessary and important. Generally speaking, doctoral students prepare for the dissertation defense in similar ways, no matter which country or which department they are in. For example, they always consult their supervisors for information and feedback, often ask the other students who have completed their defenses about their experiences, and sometimes seek help from other academics such as people on their dissertation committee. They also spend time re-reading the dissertation, may have one or more mock defenses/dry-runs (often with their supervisor and fellow students, occasionally with family and friends), and often attend the defenses of other students. On the other hand, preparing for one's defense is a very personalized experience. For example, although all students re-read their dissertation, they read it for a range of purposes. Some merely want to review the details in the writing while others re-think the research project from new perspectives. The following interview excerpts show how two doctoral candidates re-read their dissertation with different foci:

> Student: I think mainly the thing that I have been doing is looking at [my dissertation] and trying to look at it critically from somebody else's perspective, where I have been clear, where I haven't been clear…
> Interviewer: Who is this "somebody else"?
> Student: I guess somebody who is reading it, who wasn't there in the field with me doing my actual research. …Sort of I was reading it for the first time, what looks confusing, what doesn't come across very clear. (Hank, pre-defense interview)
> …
> I am trying to…get a sense on the limitations of the study as well as contributions to knowledge. This is the part that I realized that I didn't do as a good job in my dissertation. (Martin, pre-defense interview)

In the first excerpt Hank focused on clarifying things for the reader coming new to his research and in the second Martin focused on compensating for what was weak in his dissertation. Personalized preparation is understandable and actually should be recommended, as dissertations vary and student situations vary.

Research, including my own, has revealed that doctoral students get information about the dissertation defense from all kinds of sources, including supervisors, other students, other academics, the university website, other online sources (such as Google), how-to guides, and workshops. Some students use more sources than others, and the sources are not equally helpful. While guidance from the supervisor is often the most frequently mentioned source, mock defenses/dry-runs and other students' defense experiences are often reported as the most helpful sources. In contrast, sources that provide general information, such as the university website and workshops, are the least helpful. The following excerpts show how dry-runs and other students' stories may help some students prepare for the defense:

> I did a pre-doctoral defense yesterday with my lab, so I practiced with my lab with the students, and took their comments, definitely very important, that's what I am doing this weekend, just trying to integrate their comments into my presentation. (Laura, pre-defense interview)
> …
> The majority of people that I know have had good experiences. There have been one or two that had bad experiences, where they found it very stressful…because the members of the committee were asking them very difficult questions. So that was good to get both sides. …A friend of mine just had it last week and she had somebody who was very familiar with the statistical analysis that she used. That is not a common analysis. So he asked her a lot of really difficult questions about that type of analysis. So she said it was good to know who's coming and what are their areas and expertise so that you can try to prepare for the questions. (Maria, pre-defense interview)

Supervisors mainly provide feedback on presentations, brainstorm questions, and discuss issues regarding the content of the dissertation. Yet in my research, the supervisor's guidance seemed less important to the students than mock defenses/dry-runs and the defense experiences of other students. This may imply that probably at the last stage of doctoral study, the candidate does not need as much guidance on research or content of the dissertation as on what the defense really feels like. Actually, in my research one participant's supervisor was away, so he did not ask his supervisor for help at all. Another student had two supervisors, and the one who had expertise on the research was from another country and could not even attend her defense. From another angle, supervisors might, in addition to their guiding roles, encourage their students to get information from as many sources as possible, and

at the same time, create opportunities for current students to consult recent doctoral graduates about defense experiences.

Predicting Questions to be Asked

Doctoral students often wonder what questions they will be asked in the dissertation defense. And many how-to guides, as well as some research literature, provide lists of common questions for doctoral students to prepare for their defense. I have summarized these questions from various sources in Table 6.1.

The list in Table 6.1 is a good start for students in preparing for the questions that they will face in the dissertation defense. However, it should be noted that while categories of questions may be predicable, exact questions are not. Every defense is different from the others in the sense that it takes place in a specific departmental, institutional, disciplinary, and national context, builds on a specific dissertation, and is shaped by a specific defense committee. In actual defenses, few questions are asked in the forms shown in Table 6.1. Instead, almost all questions are adapted to a specific research topic. Drawing on my research, Table 6.2 shows some questions selected from several of the actual dissertation defenses that I observed. I place sample questions from Table 6.1 with the questions selected from the actual defenses in order to show how the actual defense questions are specific to a dissertation. For ethical reasons, all the candidates' names are pseudonyms, all the questions have been re-worded, and some information has been changed.

The comparison between the question categories and the actual defense questions shown in Table 6.2 indicates that when preparing for the questions, doctoral students cannot depend on the "common" questions but need to think carefully about how different categories of questions might be asked that fit in with their own research. Obviously, this means they should know their work inside out.

In order to imagine possible questions, doctoral students also need to have some knowledge about each examiner's background. Examiners ask questions from their own theoretical perspectives and personal experiences. It is always easier to answer a question if one knows where it comes from. When I asked one of my research participants (Hank), who had recently had his defense, why he thought the external examiner asked a certain question, he said:

> I think he is reflecting upon his experience. I know who he is now and I know a little of his background. I think he was reflecting on his recent experience in Y and that's what he was speaking to. It was his first time he was ever going there. So I think it just stood out of his mind, like he's just been to Y and has experienced this thing, and it was related to what I was doing, and what do I think about it. (Hank, post-defense interview)

It is beneficial for doctoral students to conduct background research on the members on their dissertation defense committee, especially on those who come from outside their own department. Of course, this research will be much easier if they have had the opportunity to participate in selecting their defense committee members.

Table 6.1 Common questions in doctoral dissertation defenses. (The categories and questions are summarized and adapted from the following sources: Cone and Foster 2006, p. 295; Fraser and Rowarth 2007, p. 249; Garson 2002, pp. 304–305; Trafford and Leshem 2002; Wellington et al. 2005)

Question types	Sample questions
Motivation	• Why did you choose this research topic? • Why did you think this topic is important?
Researcher position	• How did your own position/background/bias affect your data collection and analysis?
Contribution	• What do you think your work has added to the discipline? • What do you see your study contributing to the literature?
Theories, theoretical/conceptual framework	• How did you arrive at your conceptual framework? • Which current theory or model best explains your findings? • How would someone using a ___ theoretical framework interpret your results?
Literature review	• Why did it cover the areas that it did and not others? • Why did you/did you not include the work of X in your study? • How do you explain the discrepancy between your findings and those of previous research?
Research design, methodology, data analysis	• What informed your choice of methods? • How did you decide to use XYZ as your main instrument(s)? • Why/How did you select your participants? • What scales operationalize your variables, and how do you know if they are valid? • Did anything surprise you in the data? Any anomalies? • Why did you analyze your data in this way? What would be some alternative ways? • If you want to improve this measure, procedure, and so on, how would you do it? • If you could do your study over again with unlimited resources, how would you do it?
Generalizability, implications	• How generalizable are your findings, and why? • Based on the findings of your research, what would you recommend to practitioners/policy-makers/other researchers? • What implications do your findings have for ____ (e.g. teacher education)?
Being critical	• What do you see as the problems in your study? What limitations do these impose on what you can say? How would you correct these in future studies? • What do you think are the main limitations of your work?
Further work	• What would be the next logical study to do as a follow-up to this one? • What do you plan to do next with your data? • Which aspects of the work could be taken further? How?
After doctorate, publication	• Which elements of your work do you feel are worthy of publication? • What are you going to do after you gain your doctorate?

Table 6.2 Questions in actual doctoral dissertation defenses

Question types	Sample questions	Questions in actual defenses
Theoretical framework	How did you arrive at your conceptual framework?	• You used X's theory, and this theory indicates that several youth behaviour problems are correlated, such as A, B, C. Why did you keep these problems separate in your thesis? Theoretically, how does this affect your interpretation of your data? What limitations has this brought to your study? • What is the rationale for not including international students but only including immigrants?
Research design	Why/How did you select your participants?	• Regarding X behaviour, how did you determine whether the participants fit or not?
Implication	Based on the findings of your research, what would you recommend to practitioners/policy-makers/other researchers?	• To what extent might the social movement type of knowledge and your analysis of NGOs inform some of the work you want to do in the future? • I am a school principal, and I know that X behaviour decreases in adults. Why should I bother to educate my kids against X? What would you tell me?

Nature of Examiner Questions

The dissertation defense has several functions, such as ensuring the authenticity of the dissertation, checking the candidate's knowledge in certain areas, having weak areas of the dissertation clarified, and advancing ideas of the dissertation. These functions are mainly fulfilled through examiners asking questions of the doctoral candidate. By posing questions, examiners want to find *doctorateness* in doctoral candidates (Trafford and Leshem 2008).

The notion of *doctorateness* builds on the distinctiveness of the doctoral degree and emphasizes the qualities of doctoral candidates (Trafford and Leshem 2008). Simply put, it is about what distinguishes the doctorate from other academic degrees and what abilities doctoral graduates are supposed to have after doctoral study. It is not about any single component of a dissertation (such as the research design or the conceptual framework), but about how several components converge and are integrated into a whole. Trafford and Leshem (2008) identified 12 components of the doctoral dissertation as follows and point out that *doctorateness* is demonstrated "when synergy exists between components" (p. 38):

- Stated gap in knowledge
- Explicit research questions
- Conceptual framework
- Explicit research design
- Appropriate methodology
- Correct data collection
- Clear/precise presentation

- Full engagement of theory
- Cogent argument throughout
- Research questions answered
- Conceptual conclusions
- Contribution to knowledge

In Table 6.3, the left column shows *doctorateness* questions selected from five Canadian dissertation defenses that I observed, and the right column indicates the possible components (drawn from the list above) involved in each of these questions.

Of course, not all questions in the dissertation defense target *doctorateness*. According to Trafford (2003), examiners' questions can be categorized into four groups. Group A includes technical questions about the dissertation, such as structure, presentation, and content. Group B includes literature-based questions, such as theoretical perspectives and implications of the findings. Group C includes questions about research practice such as emergence and use of research questions and access to the field and the data. And, Group D includes questions about developing conceptual frameworks, conceptualizing findings, making conceptual conclusions, establishing links and synthesizing concepts, critiquing research, contributing to knowledge, and disseminating findings. It is the last group of questions, Group D that requires doctoral candidates to demonstrate and defend *doctorateness*. Based on the questions from 25 UK doctoral dissertation defenses in various disciplines, Trafford (2003) concluded that examiners tend to ask more questions in Group D than in the other three groups if they feel the candidate deserves a pass. My own research on Canadian dissertation defenses is revealing that this seems to be true in the Canadian context. Based on observation notes from over 20 successful[3] defenses,

Table 6.3 Sample *doctorateness* questions

Questions from defenses	Possible components
How realistic is it that any of your arguments can be taken seriously by policy-makers?	Cogent argument throughout, contribution to knowledge
How would your results differ if you collected data from a large urban U.S. environment?	Conceptual framework, explicit research design
Could you elaborate on the original contributions of your research?	Stated gap in knowledge, contribution to knowledge
How can your findings be applied to the real world and how would you advise nurses as a nurse educator?	Stated gap in knowledge, cogent argument throughout, conceptual conclusions, contribution to knowledge
If the student participants and their parents in your study had access to all of your data, do you think they will come to the same conclusions as you have made?	Appropriate methodology, cogent argument throughout
How does your researcher subjectivity influence the conceptualization of your data?	Appropriate methodology, cogent argument throughout

All the questions have been modified for ethical considerations

[3] All of the doctoral candidates were called "Dr. X" right after their dissertation defense.

I have found that although the number of questions in the defense varies (from 16 to 30), the largest portion of questions (around 50%) are about *doctorateness*.

In addition, it seems that most of the challenging questions in the dissertation defense, as identified by the research participants, fall into the *doctorateness* group as well. And, questions in this group are thought provoking and inspiring for doctoral candidates. The following excerpt shows how Laura reflected on a question in her defense, which asked her to comment on the gambling industry and its influence on education:

> The question about the schools in Las Vegas really opened up my mind about just how interesting it might be in the state of Nevada to be a youth gambling researcher and also, like, it made me think differently of casinos and gambling, because in the state of Nevada, it is a source of income for people, it's a way of life, it's a way of raising family. You can make a lot of money dealing cards. So that really, I thought that [question] was fascinating. Kids are dropping out of school because they don't need an education in order to get a good job. That really forced me to think a little bit outside of the box about how education is really important for more than just getting a job. (Laura, post-defense interview)

In short, *doctorateness* is what examiners are looking for in the dissertation defense. And, it is the large proportion of the questions that involve *doctorateness* that makes the dissertation defense what it is. Therefore, doctoral students should pay particular attention to questions of this type when preparing for the defense.

The Dissertation Defense and Researcher Identities

Doctoral dissertations are research work and doctoral candidates are researchers. The dissertation defense is a conversation in which a novice researcher seeks recognition from a group of experienced researchers. The following quote from a popular how-to guide addresses this position of the doctoral candidate:

> Then the questioning will begin. This…is the most crucial part. You want to respond in a way that suggests you are prepared to enter the community of scholars: You are informed, articulate, suitably humble in the presence of your elders, but quietly confident. (Glatthorn 1998, p. 185)

This quote touches on doctoral candidates' researcher identities: a "humble" and "confident" novice who is entering "the community of scholars". Similar descriptions can be found in other how-to guides, with typical ones being that the doctoral candidate is the owner of the research work being discussed, an expert, or a "soon-to-be colleague" of the defense committee members. While these descriptions give us a sense of the researcher identity of the doctoral candidate in the defense, they do not reflect the variety of possible doctoral student experiences. For instance, some students may think they entered the community of scholars long before they attend the defense; others may consider even passing the defense does not fully ensure their entry. Further, it has been overlooked that the dissertation defense might have some influence on identities of doctoral candidates.

Doctoral students hold various views on being researchers and identify themselves as different kinds of researchers. These differences may influence their un-

derstanding of the dissertation defense. In the following, I show how three doctoral candidates, representing three kinds of researchers, interpret the purpose of the dissertation defense differently.

Hank identified himself as "very much a researcher". He started working as a "research officer" outside his university a year before he finished his dissertation and had research experience in another research institute. He thought being a researcher meant being recognized by others as a researcher. For him, this recognition was his job title.

> There's more performative or…concrete things that somebody's identity is attached to when you call somebody the researcher, which has a lot more to do with the legitimacy that their work has granted, the types of roles they are expected to play within their workplace, the types of rewards that are set up, or recognition that is set up for the work they do, for example, publication or paint, or these types of things that they actually make, that formalize somebody…to the role of a researcher…[from] just somebody who does research. …It's in my job title, so I feel quite a lot, I'm a research officer here. I'm very much a researcher at the moment. (Hank, pre-defense interview)

Being a relatively experienced researcher, Hank did not seem to see his dissertation defense as recognition of him being a researcher. Instead, it was merely a validation of his peers:

> I guess it validates in a sense. My research is now being reviewed by my peers, they said it was good, there were five of them, and they all agree that it was good enough. Therefore, the likelihood is that they are not all wrong. So you feel there's sort of a validation process there. And…I already felt more or less like I was a researcher prior to coming into it, my job is a research officer. I wouldn't have been hired if they didn't think I conducted research. But it's nice to get that sort of validation of saying, "Okay, you are definitely a researcher." (Hank, post-defense interview)

Laura considered herself a practitioner who was learning to be a researcher. She came from a doctoral program that aimed to produce "scientist practitioners" and she was working full-time as a counsellor in an agency. For her, being a researcher meant integrating research findings into practice. The doctoral training she received had equipped her to do independent research, but she lacked research experience:

> My program is a combination of clinical and research, so what I really feel like is a scientific practitioner. I feel like I am a researcher insofar as it is practical…I feel like it's changed a lot of the ways I feel like a clinician. If I wasn't a researcher, I wouldn't be able to practice psychology with as much scientific understanding of what the findings are for different treatments…I think I am very well prepared to do research and I think I would feel very prepared to begin a career as a novice researcher. But I feel like a young researcher. (Laura, pre-defense interview)

Correspondingly, Laura saw the dissertation defense as a test in which her knowledge and communication skills were evaluated:

> They will be taking a look at how well I communicate what's in the thesis. So I have already submitted the thesis and I think that it's been approved. So I think at this point they are really looking at how well I understand it, how well I can communicate those findings, and I think that basically they want to clear up any concerns they might have about what I wrote. They want to see how well I understand my own project, and they are looking to see how well I communicate and disseminate those findings. (Laura, pre-defense interview)

For Laura, the dissertation defense was somewhat of a transition point at which she was accepted as a researcher. One thing she most remembered about her defense, as she later reflected, was the celebration after she passed:

> They were so welcoming to me afterward. …I can't believe how amazing that experience was. We had sherry up in the Chair's office, and they took pictures, and they hugged me. I thought [I was] very welcomed as a colleague. So it completely changed how I feel as a researcher, because…it felt a little bit like I was being welcomed as a researcher…Like, I passed and now I am a colleague. (Laura, post-defense interview)

Patrick, a non-native English speaker, identified himself as a "student researcher". The difference between "student researcher" and "real researcher", according to him, was that the latter was more independent. Patrick believed he would become a "real researcher" after he finished his PhD:

> I feel more like a student—PhD student now. But after I finish my PhD, I [will] feel more like I am ready to do real research, I mean, not real research, I mean, how can I say, the research that I really want to do more. So now I'm like a student researcher, just half/half, my student half and researcher half. …A student researcher…means I should be under supervision of my advisory committee, but a researcher [means] I can organize and I can do research on my own. …through this learning process [supervision and guidance], maybe if I finish my PhD, I can be a real researcher. (Patrick, pre-defense interview)

Being a "student researcher", Patrick stressed the authenticating function of the dissertation defense. Passing the defense meant completion of the doctorate, and thus meant he would be able to conduct independent research.

> I guess they want to check the writing is really mine. They just want to see how I defend my thesis…this is the main reason I guess. And also they…want to clarify some questions… before they give me pass or fail. So it's kind of one process of judging my degree. (Patrick, pre-defense interview)

The three doctoral candidates represent roughly three kinds of researchers. Hank was a relatively experienced researcher, Laura was a professional becoming a researcher, and Patrick was a student pursuing research independence. Having different researcher identities, the three candidates, it could be argued, understood and interpreted the purpose of the dissertation defense differently. Hank saw the defense as peer validation, Laura saw the defense as giving her entry to the researcher community, and Patrick saw the defense as giving him authenticity as an independent researcher. Doctoral students' researcher identities may influence their understanding of the dissertation defense, and very likely their preparation for and performance in it. Thus, when supervisors help doctoral students prepare for the dissertation defense, they may wish to take into consideration each student's perceived purpose(s) for the defense.

Doctoral students' researcher identities are formed and re-formed through research practice—be it conducting research for the dissertation or for other purposes—and continue developing in the dissertation defense. Through communicating with more experienced researchers, the defense committee, doctoral students gain new understanding of their researcher identities. In fact, a UK study found that some doctoral students' defense experiences appeared to influence negatively their research interests and future ambitions (Jackson and Tinkler

2001) because despite being successful, about 10% of the participants reported a decreased interest in doing academic work due to their defense experience. My own research reveals that the dissertation defense may have some influence on doctoral candidates' researcher identities, although the influence seems to be stronger for some candidates than for others. Look at Patrick's reflection on his defense experience:

> Before the defense I think I was kind of a student, but during the defense and finishing the defense, they treated me like a researcher. Okay, it's your research, so what do you think? But before that, I had to discuss with my supervisor, and [she would say] you have to read this book that book, and I had to follow. But during the defense, I felt like they want to know my idea, my own idea…I had to answer [questions] under the assumption that I am a researcher, because I can't have any help from my supervisor…I am alone there, on my own. (Patrick, post-defense interview)

Here the dissertation defense seemed to have "pushed" Patrick to act independently, to think independently, and to answer questions "as a researcher". Note he made a contrast between the way he was treated before the defense and the way he was treated in the defense. Actually, Patrick stressed the word *my* when saying, "I felt like they want to know my idea, my own idea." So the defense was somewhat transformative for Patrick, making him feel like an independent researcher and an owner of his research work.

For Hank, a more experienced researcher, the dissertation defense does not seem to have as much influence on his researcher identity. Yet, it expanded his knowledge in his field of research and helped his future academic career. Below Hank was commenting on the difficult questions in his defense:

> I think the discussion is three difficult questions. [They] highlight to me an area that I could do further work. So I take that on board—what they are saying. …It wasn't just to try to calm them or please them that I said [the questions were important], but I actually think they are really important questions. I am not about to re-do my study on that basis, but I do think that, as I develop a research agenda, I should look at some of those things more closely. …I think the most difficult ones are the ones that I take back with me and think about "Okay, how can I fit this into my future research?" (Hank, post-defense interview)

Here Hank saw the dissertation defense as an opportunity to gain insights into his research area. As he was still working on research projects in the same field as his dissertation work, and planned to search for a university faculty position, he saw the difficult questions as helping with his research agenda. In this sense, Hank's defense experience strengthened his researcher identity even further.

For Laura, a practitioner becoming a researcher, the dissertation defense was a memorable learning opportunity. When I asked Laura in what way her defense experience advanced her as a researcher, she answered:

> Probably just the words that the Pro-Dean said at the very end, when he said, "You never know everything in your field; all you can do is to be good at what you do and to listen very, very, very carefully." (Laura, post-defense interview)

What that Pro-Dean said to Laura may resonate with many doctoral candidates about their defense experience. The defense is where less experienced researchers are learning from more experienced researchers.

The doctoral dissertation defense is often considered as a *rite of passage*, for it shifts the candidate's status from student to academic. Yet this term does not fully reflect the diverse experiences of doctoral students. For some students, the dissertation defense does shift their status from students to independent researchers; for others, it may merely create a space for learning.

Successful Defense Performances

Doctoral students hold various views about what successful defenses are like. In my research, I asked doctoral candidates (who all successfully defended) before and after their dissertation defense to characterize a successful defense performance. Interestingly, not only the descriptions varied from student to student but the same student's descriptions were different before and after the defense. Below I present Hank's and Laura's descriptions of what they thought were successful defense performances. As my purpose here is to highlight the differences between each student's pre- and post-defense descriptions, I present the excerpts by person.

Before the defense, Hank thought a successful defense meant succinctly presenting one's work and responding to people from diverse backgrounds:

> I guess a successful defense performance is somebody who is able first to succinctly summarize the work they've conducted and the conclusions they have drawn from that work in their initial presentation; and they are expected to be able to respond to the concerns about their work they are doing that are coming from academics and others, who are coming from diverse backgrounds, and therefore to defend the approaches they have taken, the decisions they've taken, and the conclusions they've drawn to people who do not necessarily come from the exact school of thought they belong to. (Hank, pre-defense interview)

After the defense, Hank's description of successful defense performance focused on emotions and the feelings of the candidate.

> I guess somebody who is sort of articulate and *calm* [emphasis added], and being able to sort of convey *confidence* [emphasis added] and sort of global understanding of the work they are doing, somebody who is able to address questions that are coming from a wide variety of angles. …I guess somebody who has got the *humility* [emphasis added] as well, sort of saying where they don't understand or they are not equipped to answer that question and all the rest, I think that's what won't necessarily fail you if you are the student. (Hank, post-defense interview)

Note that besides words such as "calm" and "confidence", Hank used the word "humility". It is not known whether Hank expected to show humility before his defense—he may have—but his highlighting of this after his defense seems to indicate that a successful outcome of a defense (a pass) does not necessarily mean an impeccable performance.

For Laura, a successful dissertation defense is very much about how a candidate feels. She said before the defense that:

> A successful defense performance is one where you like your project and you are able to have fun, and feel confident about knowing and understanding it, and get up there, and it

> should *feel good* [emphasis added]. …It's an opportunity really just to share with some people what you found and what you were looking for, and to tell that story. So a successful defense should be one where I felt confident and where I thought knowledgeable and where…I really felt like I was really speaking to people rather than reading off of a page because I was nervous. (Laura, pre-defense interview)

Here Laura's "feeling good" means having fun and being confident and knowledgeable. After the defense Laura revised her description, although she still believed in "feeling good":

> I think it's just about being able to communicate what you did in a way that calm and, confident, but also *being able to accept it, like quietly accept it without being hard on yourself if you don't know an answer* [emphasis added]. And I think that only comes…when you submit it and you are happy with your project. So if you submit and you think, "Okay, I did the best I could" then it's going to be easier to have that attitude when it comes to time to defend. But if you submit and you're like "I just want to get over with it"…but…you don't feel like you did a good job, then it's going to be harder to feel good about it when you come to defend it. (Laura, post-defense interview)

Laura's post-defense description, I believe, was coloured by her defense experience. She was not able to answer a question about some statistics concepts at the defense, and while reflecting on this, she said that it was actually an easy question. Like Hank, Laura realized a successful defense performance involved humility.

The descriptions by the two students of successful defense performances before and after their own defenses suggest that doctoral candidates probably need to prepare *emotionally* for the dissertation defense. They should expect questions that they are not able to answer and display humility in the defense.

Summary and Conclusion

The doctoral dissertation defense is a compulsory aspect of the doctorate in most countries, yet its significance is often under-estimated by academics and doctoral students. There are confusions about whether it is an exam and what it examines, and misconceptions amongst doctoral students about how to prepare for it. While numerous how-to guides provide students with useful information, they tend to emphasize only the skills and strategies for surviving the oral defense and talk little about individual student experiences and the possible ways in which the defense influences students. Drawing on the research findings from my study being conducted at a Canadian university as well as findings from the existing research literature, I hope I have, in this chapter, helped academics and doctoral students understand the dissertation defense a little more deeply.

This chapter has been written on the basis that each dissertation defense is different from another. It is so because each defense is about a specific candidate and his/her research work, takes place in specific departmental, institutional, and disciplinary context, and is conducted by a specific defense committee. This contextual feature has two implications. First, personalized preparation for the defense is im-

portant; and second, doctoral students should adapt the common questions found in how-to guides according to their specific research topic.

The dissertation defense is related to the quality of doctoral education, and the defense committee is expecting doctoral candidates to demonstrate *doctorateness*. According to my research and the research literature, doctoral candidates should expect half of examiners' questions to be *doctorateness* questions, which involve developing conceptual frameworks, conceptualizing findings, making conceptual conclusions, establishing links and synthesizing concepts, critiquing research, and contributing to knowledge. They may expect the challenging questions in their defense to fall into this category. Thus, in preparing for the defense, doctoral students should pay particular attention to questions of this type.

In this chapter I also established a link between the doctoral dissertation defense and doctoral candidates' researcher identities. The basis for the link is that doctoral candidates are researchers (at least in their dissertation work) and that the dissertation defense is a conversation between a less experienced researcher and a group of experienced researchers. Doctoral candidates have various backgrounds and research experiences and identify themselves as all kinds of researchers. The differences in researcher identity can lead to different expectations and interpretations of the dissertation defense. On the other hand, the dissertation defense may influence doctoral candidates' researcher identities. This connection, which adds significance to the dissertation defense as a doctoral experience, is missing in how-to guides and has been overlooked by academics and doctoral students. I have also included excerpts about doctoral candidates' characterizations of a successful dissertation defense. I hope these excerpts, especially the changes in the students' views, will encourage students to emotionally prepare for the dissertation defense. In all of these ways, this chapter provides a new perspective from which to look at the dissertation defense.

John Swales, who studies the U.S. dissertation defense from a genre perspective, once wrote that one "may dine out for years on his or her 'ordeal'" (Swales 2004, p. 169) in the dissertation defense. This is a good reminder that doctoral students' experiences of the dissertation defense matter and in some cases very much. It is thus worth the effort of the candidate, the supervisor, and the defense committee members to make it a beneficial and pleasant experience.

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Part III
Gender, Genre, and Disciplinary Identifying—Negotiating Borders

In this part of the book, the focus is on three issues that are increasingly of concern in higher education—the gendered nature of academic work, the shifting and contested nature of disciplines, and the internationalization of the academic workplace. Wherever one looks in higher education today, global competitiveness and internationalization are fundamentally changing the context, nature, and practices of academic work. Increasingly, academics are working and studying in cultures and languages that are not their home ones. As well, disciplines are being called to think differently about the nature of research and to move to what has been called "mode 2" forms of knowledge which more directly engage with the needs and interests of society. And, issues of inclusion and diversity remain in the forefront as those who have traditionally been excluded from higher education demand and expect to participate. All of these trends with concomitant legislative changes ensuring institutional attention to such issues. In these chapters, different manifestations of border or boundary negotiation are taken up in the fields of Physics, Engineering, and English, all in the institutional context of McGill University.

In Chapter 7 (Gonsalves), our attention is drawn to what has been called the under-representation of women in the sciences (and of men in the humanities and some social sciences, e.g. Education). While previous studies have suggested the issue is related to barriers to women, the results are often contradictory and there is the danger of reifying gender binaries. Gonsalves draws on empirical evidence to reframe the problem of women in science and to present an alternative way of looking at the experiences of doctoral students, with a view to understanding how students—men and women—construct identities as scientists in relation to the dominant discourses of Physics. Chapter 8 (Yousoubova) takes up the issue of academic internationalization and how discursive practices of different national academic systems shape and require different scholarly identities. The role of dominant North American academic discourses in excluding academics from non-Anglophone countries is explored through examining the grant writing experiences of a newly arrived non-Anglophone academic. Chapter 9 (McAlpine, Paré, and

Starke-Meyerring) addresses the contested nature of English, a traditional Humanities discipline, particularly the extent to which those in the discipline are challenging themselves and being challenged to re-think and redefine the nature of the discipline and the extent to which disciplinary and institutional pressures intersect in terms of doctoral education.

Chapter 7
Gender and Doctoral Physics Education: Are We Asking the Right Questions?

Allison J. Gonsalves

This chapter emerged out of a study that aimed to understand the local discourses that tell women and men what it means to be a man, woman, or physicist in the context of doctoral physics education (Gonsalves 2010). In doing so, I highlight the local and contextual nature of gender ideologies in physics. The study was initially conceived with the intent of examining possible reasons for the under-representation of women in physics, and to understand reasons why women stay in physics. What emerged from this study, however, was the realization that specific questions around why women leave or stay in physics are not sufficient to understand the problem of how to develop gender-inclusive educational practices in doctoral physics. Researchers have been exploring the issue of women's attrition from science doctoral programs for more than two decades, but development in understanding the *problem* of the under-representation of women in science has been limited. As such, it may benefit researchers, faculty, and administrators to explore the ways that the gender binary is constructed and reified in the field of physics. To achieve this, a redefinition of the so-called *problem* of women in science is necessary: one that de-centres the category *woman*, and rather focuses on the ways that gender is produced in doctoral physics programs to reify and sustain the current gender order.

Despite years of under-representation in science, and in particular physics, some women do persist and thrive in doctoral physics programs. Recent Canadian statistics suggest that of the doctoral degrees awarded in physics in 2004–2005, 22% went to women. A notable statistic suggests that in Astrophysics women are less under-represented, collecting 31% of doctoral degrees awarded in that disciplinary sub-field (Ivie and Ray 2005). Thus, there are examples of women who persist in male-dominated fields and very little scholarship exists around their experiences. It seems that the question "where are the women?" has only taken us so far. If we are to focus our efforts on remedying the shortage of women in the science work field, we are not only losing sight of the larger issues around the discursive construction

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of gender and science, we also risk reifying gender by suggesting that men/women have unproblematic/problematic relationships to science.

Over the past 30 years, researchers in the fields of gender and science education along with those in feminist science studies have written about gender bias in the construction of scientific knowledge, the cultural norms and values of scientific communities, and curricular and pedagogical practices in science education (see Brotman and Moore 2008 for an extensive review of the literature). Research and initiatives to address, in particular, the low percentage of women pursuing graduate degrees in the physical and engineering sciences have been met with limited success (Ivie and Ray 2005), despite a considerable investment of resources (Phipps 2007). The obduracy of this disparity should signal to researchers that the standard paradigm of research into gender issues in science is not sufficient to instigate change. Recently, research into these issues has taken a turn to sociocultural theory (Brickhouse 2001), particularly at the level of school-science research (Brotman and Moore 2008). Research drawing on socio-cultural theory now pays greater attention to the ways that schooling, particularly science education, has acted to reproduce a view of science as objective and dispassionate, and has concomitantly privileged certain groups of people and marginalized others. In doing so, this kind of research examines the ways that students who are marginalized from science can experience difficulty engaging with science and seeing themselves as scientists (Carlone and Johnson 2007).

Because of its deeply gendered connotations, physics provides us with an interesting discipline in which to study both the gendering of educational trajectories and professional identities in physics, and the production of gendered discourses in the discipline. Moreover, doctoral education warrants particular attention due to its close connection with subsequent professional participation and performance in the discipline, and is therefore seen as a crucial site for programming initiatives to retain women in the profession (Fox 2000). This understanding of doctoral education is instrumental at best, but is significant in the link that it makes between student and professional. Doctoral education in physics often leads to post-doctoral work and subsequently academic positions, or to industry positions. Thus, doctoral education as a site of identity transformation from student to professional is particularly interesting, and bears implications for the gendering of educational trajectories and identities in other fields.

Physics, as a designated hard science is often positioned in popular discourse as incompatible with femininity (Schiebinger 1999). The strong associations between femininity and women thus render women as incompatible with physics in public understandings of who is able to participate in the discipline. This was made evident in 2005 when Larry Summers, then president of Harvard University, described women as less capable in math and physics by suggesting that women may lack innate ability for spatial reasoning or abstract thought, which led to their underrepresentation in the harder sciences such as physics (Summers 2005).

In the public discourse on women in science, we often hear of the incompatibility of women and physics, but we seldom hear of students who enjoy and find success in physics and how they construct spaces for themselves with discourses of mascu-

linity and femininity in physics. There are also few studies that pay attention to the reasons why students are attracted to physics that might provide a critical analysis of the symbolic masculinity that constructs the field. The draw of being successful in a field that poses so many barriers to women has only been discussed by a handful of researchers (see Henwood 1998; Gilbert and Calvert 2003). The equation of female under-representation in physics with the symbolic masculinity of physics reifies an understanding of women as an always, already gendered category that is naturally situated in opposition to physics. This warrants further interrogation as it suggests contradictions inherent in the way researchers conceptualize masculinities, and femininities, and raises concerns about attempts to render physics more "female friendly".

The rest of this chapter discusses some findings of a study aimed at exploring how students position themselves around discourses of gender and physics in doctoral education. In what follows, I will present evidence that shows how the discursive framing of the field is predominantly associated with symbolic masculinity, but that the gendering of the field is dismissed or contested by students participating in the practices of physics. The dismissal of the gendering of physics is most often manifested as a claim to the gender neutrality of physics. However, contradictory evidence will be presented that demonstrates how doctoral students can both reify the gendering of physics and subvert it through the construction of local masculinities and femininities in the field. The implications of these conclusions will be discussed with respect to considerations that faculty and academic developers may take regarding initiatives to recruit and retain women in doctoral physics programs.

The Study

The analysis presented here draws on observations and interviews with 11 men and women doctoral students over the eight months that I conducted research in the physics department of Eastern University; they were from the disciplinary subfields of theoretical physics, experimental condensed matter and astrophysics. I analyzed the dominant discourses that construct not only the discipline of physics but also construct subject positions for women and men that rely on normative formulations of masculinity and femininity. The analytical framing that I used to understand the ways that learning and identity are discursively played out draws from Gee's (2005) notion of Discourse[1] models: stories that constitute explanatory frameworks that individuals hold to make sense of their world and their experiences. In relying on interview data to make claims about the discursive construction

[1] Discourse with a "big-D" (Gee 2005) is used here to denote the combination of language, action, interaction, values, beliefs, symbols, objects, tools and places that are associated with being a *certain kind of person.* Lemke (1995) interprets Gee's discourse "as what we are actually saying (and doing), and Discourses (capitalized) as our social habits of different people saying (and doing) the same sorts of things in the same ways time and again" (p. 16).

of both the field of physics and students' identities in that field, I regarded the interview talk as situated and contingent representations of Discourse models that students were constructing in the moment of the interview—thus, as data sources to themselves to be investigated rather than a view of the field as it may exist outside of the context of the interview. These Discourse models are resources for producing identity in the context of the interview because they are co-constructed in dialogue with me, the researcher, and they are able to go uncontested in the interview. Therefore, at the moment of the interview, the speaker draws on Discourse models to describe an experience; she/he speaks from a particular subject position, a subject position that establishes the lifeworld of the speaker at that moment (Davies and Harrè 1990) in relation to the interviewer.

Throughout this chapter I will refer to the construction of subject positions for students in physics—these are the possible identities that are made available to students in the constitution of the field. I refer to them as subject positions and not identities to indicate that these conceptions of who one can be are fixed, but to acknowledge that as students construct identities around Discourses of physics, they may oscillate between many different subject positions, sometimes occupying several at one time. In what follows, I explore how participants construct Discourses of *physics* and subsequent subject positions for *physicist*, and in doing so, how students appear to construct a discipline that is gender neutral, but in fact they reify hegemonic forms of masculinity and femininity that limit the subject positions available for students in physics. Using examples from interview data I discuss how Carol, Lily, Laura, Ruby, Molly and Peter—participants from three different sub-fields of physics (astrophysics, condensed matter and high energy physics) construct Discourse models of physics that both reify and subvert normative gender roles in the local practices of physics.

Physics: The Pinnacle of the Hard Sciences

In conversation with Carol—a doctoral candidate in condensed matter physics—I discussed the origins of her interest in physics. Using a Discourse model that espouses the objective nature of physics, Carol suggests that what drew her to physics was its definitive nature. In the following exchange, Carol not only described physics as objective and definitive, but identifies with that characteristic. We get a sense that she values disciplines that are definitive over those considered to be more subjective.

> Carol: Okay, so I have been interested in physics since high school. I am really good, well my best subjects were math and physics. Well I was really good at computer science as I was really good at all my classes but those ones were my favourite I guess.
> Interviewer: Okay.
> Carol: Because you could get a right answer, you could get 100% you could you know and not in English [laughter].
> Interviewer: There is not that element of subjectivity?
> Carol: Yeah, so I really liked math for that reason because there is, it is not super exciting but I also really liked calculus, physics used all of that math, which was really exciting and

> then [laughter] also I liked, we did how things move and then so you could predict how, um, you know anything. We were doing Spice Girls travelling in a van or something like that on our exams and we do these things. I can't remember how complicated it was at that time, I just remember that was our exam questions.

In this exchange I position physics as the objective science by suggesting that it does not have the "element of subjectivity" that other subjects have. In doing so I give an evaluative statement that validates Carol's Discourse model that physics is the most objective science.

While valuing physics because of its definitive nature, Carol also describes physics as a subject that begged to be *understood* whereas other discplines were thought of as subjects where content was memorized. She points directly to the rote learning she sees as required by other disciplines like chemistry:

> Carol: But, but [laughter] and so sometimes I don't get, I don't really like chemistry too much or biology [laughter].
> Interviewer: Really?
> Carol: Because you have to memorize too much for biology.
> Interviewer: Okay, but chemistry, no?
> Carol: Um, I don't like chemistry because it was just, I found it a lot of easy math, like too easy, adding and multiplying and I only took it in high school. I never got to take it in University. The one part I did like was you had a shape and you had to rotate it in your mind and like talk about, yeah, I liked that topic but the others like, you know where you put A + B arrow C [laughter] I didn't like that part.

One way that masculinities are produced in physics is through the Discourse of *real understanding* versus *hard work*. For instance, Walkerdine (1989) argues that within communities are practices that *define* normative masculinity and femininity as well as practices that *produce* masculinities and femininities by constructing subject positions to occupy. In physics, this can be understood as not just people's assumptions or perceptions about masculinity and femininity, but also the way those assumptions and perceptions are brought to bear on the practices people engage in, the choices they make, and the ways they position themselves (and are positioned) in the community. Thomas (1990) discussed similar findings in the way physics is constructed by students relative to the humanities, wherein physics was seen as a science that required understanding rather than rote learning, which enshrines physics in its position in the epistemological hierarchy among the disciplines, wherein physics is awarded higher status than the other sciences.

Laura, a doctoral candidate in theoretical physics, holds on to a similar Discourse model as Carol—one that sees physics as a subject that requires understanding, more than other disciplines. In this case, Laura discusses the cerebral nature of theoretical physics work as having a greater requirement for thinking than other disciplines, one that she describes as experiencing when in conversation with doctoral colleagues from other scientific disciplines:

> You spend a lot, like I think there are a lot more things that all of these people I am talking about have to do during the day that their mind can divorce from a little bit. Whereas I, if I am work working, which is not marking, not you know, I am really concentrating, I can only do a few hours of that a day. So it is different. I don't think they quite get it.

This statement was given in the context of a comparison between the work that she does, and that of her doctoral colleagues in geography. This Discourse model is consistent with sociological research around the construction of epistemological hierarchies in science (Bucholtz et al. 2009). These constructions of physics set up a hierarchy of "hardness" among the disciplinary fields of science. This imperative to be the most fundamental field connects prestige with those fields that are considered to be most fundamental. Those fields require the most *understanding*, a concept that is connected with the development of the rational mind, and masculinity (Walkerdine 1989).

Gender Neutrality in Physics

The significance of the way the physics Discourse has been constructed as fundamental, reductionist, objective, and abstract lies in how these understandings of what constitutes physics are constituted through understandings of masculinity and femininity. Gilbert (2001) asks us to look under *science* and its *Other* when considering the issue of gender and science education. Because masculinity and science have historically been so entangled, and because this entanglement is foundational to the construction of modern science, it is difficult to think outside of it as evidenced by the apparent ambivalence students in this study expressed regarding the link between masculinity and physics as a high-status mode of knowledge production. Lily, a doctoral candidate in condensed matter physics, recognizes the "anomaly of a woman in science" (Keller 1982), but does not regard physics as a masculine discipline:

> Interviewer: Do you see it as that, as a masculine discipline?
> Lily: I don't think it needs to be. I mean it is male dominated now but I don't think there is anything about it that is inherently masculine at all, so, yeah, I think I am not the right person to ask because it never bothered me so that is why I am here. That's the thing, it is something that has always sort of puzzled me so I really don't have any good answers…it is not a problem, you know.
> Interviewer: Well cause ah…and you are finding that you are successful in the field it is not something that has ever…
> Lily: Yeah, definitely…I mean I have had the occasional professor along the way that has sort of been, you know, women don't belong in physics sort of. They are usually old retired guys who for some reason are still hanging around but, yeah, it has never been a problem.
> Interviewer: So does the idea of masculinity or femininity in physics have any meaning to you, like in the work in your career, is it something that you ever give any thought to?
> Lily: Not really, no.

Here, Lily constructs science as *gender neutral*, and does not regard the link between science and masculinity as problematic for her. Perhaps this ambivalence about the link between masculinity and physics stems from the implicit understandings that physics is linked with reason, logic, and objectivity, characteristics she has previously identified with. Similar to Lily, Ruby, a doctoral candidate in astrophysics, states "this issue [of masculinity and science] never bothered me", but in

her explanation of why she was not bothered, she does not deny the link between masculinity and science, she just eschews it:

> Ruby: I never felt like, "Oh, no, people are going to think I am more masculine because of this field" or "Oh, no, I shouldn't be going to this field because I won't be as good as the guys were." I never felt anything like that. It is a field that I like and just went in to it, there happened to be more guys—fine—kind of thing. No, I never felt any kind of pressure of, "I shouldn't do it because it is a guy-field." I never felt any kind of pressure and I don't understand why other people do too. Like where is the pressure coming from? Okay, you are a girl you want to go and do that because you like it Okay fine, go. What, where is the problem, kind of thing.

This rendering of physics as *gender neutral*—an element of the Discourse model of physics that was prominent in my discussions with students was consistent throughout many of the interviews, with women and men often suggesting that they never think about gender, and the topic almost always did not arise in interviews with men unless I brought it up. The issue of erasing gender from physics has been discussed by feminist theorists extensively, and physics has long been regarded as the scientific discipline that is the hardest to examine with a gender lens precisely because of its extreme emphasis on objectivity and its perceived gender neutrality. The problem with the implicit acceptance of physics as a gender-neutral endeavour has figured problematically in a number of studies, and particularly in Traweek's (1992) anthropological account of high-energy physics. However, as Traweek and others (Keller 1985) have argued, physics is indeed not a "culture of no culture", but rather a practice that is highly imbued with symbolic masculinity (Phipps 2007), that is constructed and reified through the stories students hear and tell about physics. In the interviews I conducted, physics was constructed as gender neutral most prominently by stressing the gender imbalance as unproblematic, and by figuring the prominence of men as something that students did not ever think about. The neutralization of masculinity in physics has the effect of reifying the gender order wherein masculinity becomes the unmarked norm that governs the construction of acceptable masculinities and femininities in the culture (Henwood 1998). Others have suggested that the construction of physics as gender neutral obscures the powerful ways that gender and physics are co-constructed, and deflects attention away from the need to identify problems related to gender and physics (Henwood 1998).

Despite the construction of physics as gender neutral, evidence from this study exemplifies instances where Discourse models of physics construct gendered subject positions for students. In what follows I demonstrate how femininity is positioned as *Other* to physics, resulting in marginalized subject positions for women in physics. I also provide an example of the gendering of technology in physics and an opportunity for the subversion of gender regimes in physics practice.

The Construction of (Gendered) Difference

The construction of difference in the production of gendered subjectivities, has always meant different from men. Henwood (1998) has discussed the positioning of women in engineering as tomboys, taking up subject positions as *different* to

other women who are unsuited for the world of engineering. Henwood argues that this positioning challenges the dominant discourses that women are weaker than men, but the result is an *Othering* of more gender-conforming women, which in fact appears to reinforce that discourse. My discussions with Ruby, a fourth-year astrophysics student, also revealed similar gender manifestations in the culture of physics. During interviews she constructs a subject position for physicist that positions her in opposition to normative forms of femininity. She begins by positioning herself as a physicist stating:

> [I]n general I don't care what I wear, and lots of [physicists] don't care what they wear. Or some of them, anyway, I can't, girly girls are something else, I can't stand girly girls, I don't think you are a girly girl, don't worry.

Henwood (1998) suggests that women engineers position themselves as tomboys to emphasize their difference from other women. Similarly, Tsai (2003) discusses the *Othering* that goes on between women physicists, and *non-physicist* women, who are often perceived as displaying normative forms of femininity. Later in the same interview, Ruby revisits the discourse of girly girls and reproduces the discourse of the incompatibility of femininity and physics:

> Ruby: Um…I just find that when in physics and girly girls it is a contradiction somewhere.
> Interviewer: Okay, I want to explore that somewhat though, like what, why is there a contradiction between girliness and physics?
> Ruby: Well there is a contradiction like the wearing high heels thing. If you are a logical person who is able to do string theory then you should realize that you are hurting yourself by wearing high heels. Um, what else is the contradiction? It is all the scale of priorities where people have different priorities and I suppose they are allowed to have their appearance as high a priority as their research, so why is that bothering me? I don't know but it is bothering me for sure.

Ruby appeals to logic as a reason why one should not wear high heels. Ruby positions wearing high heels (and thus acting like a girly girl) in subordination to masculine characteristics like logic and reason. In this case, femininity is regarded as not-logical and not compatible with physics, and therefore undesirable in a physics program. In this case, Ruby actually constructs the association of masculinity with physics. Hall (1996) writes that:

> It is only through the relation to the Other, the relation to what it is not, to precisely what it lacks, to what has been called its constitutive outside that the "positive" meaning of any term—and thus its "identity"—can be constructed. (pp. 4–5)

Thus, Ruby also constructs physics by what it is not, which is illogical, at the same time that she constructs girly girls by what they are not—physicists.

However, this construction of femininity as incompatible with physics has not meant, for the participants in this study, that women are incompatible with physics. Nevertheless, the female participants sometimes had to consciously position themselves against the construction of women as not scientifically inclined in order to claim having an authentic physicist identity. In an email conversation, Molly points out that:

> I would argue that because women don't feel naturally as though they are supposed to be physicists, they have to, at some point, commit to being a physicist (or a scientist) in a way that men don't. Because you are moving against the grain, every day in a field where you are a minority, and people *talk* about how you are a minority, I think there is a tendency to explain why you do what you do, and you have to believe the story you tell. You have to convince yourself that you are meant to be doing this instead of some more "normal" career path [something with typically feminine human skills]. So I suspect that once you have convinced yourself of this, once you have sold this story to yourself, it's more difficult to see outside this worldview. If you haven't done this to yourself, because you are a man and no one blinks at your career choice of physicist, it might be much easier to see other options, like the private sector, etc.

The counter-identification with normative traditional forms of femininity offers us some perspective into how students resist gender power relations in physics and attempt to position themselves as naturally capable and interested, since childhood, as opposed to the hardworking woman in physics who achieves because of determination rather than natural ability (Walkerdine 1989). In fact, while almost all of the female and male participants in this study described physicists in normative masculine terms, all of them saw a place for themselves in physics and, moreover, saw no contradiction between their own gender performances and the practice of physics. The effect this has had though is to mark gender-conforming women as *different*, and their associated expressions of femininity, as incompatible with physics, thus reifying the discourse of the contradiction of women in physics.

Gendering the Tools of Physics

Lily is the senior researcher in her group and is an expert at manipulating the scanning tunnelling microscope. Her role in her research group is one of mentor and student. She is probably the most adept at microscopy in her group and is relied upon to facilitate the training of new masters and undergraduate summer students. Lily discusses her proficiency at the routine tasks that are "finicky and small" and that deal with "small things, small tools and small fragile elements" and suggests that these procedures are now calming for her. This interested me, because in our first interview, Lily again brought up her role in the operation of the instrument, but emphasized that she took up the position of sample preparation because of the delicate nature of the process, and because her physical features (small hands) permits her to perform certain tasks and not others:

> Lily: So we've determined that for this instrument, there's always three people who work on the instrument because it requires just that much care, there needs to be that many people around to make sure that somebody can always do something. So we always need one person with small hands. The phalanges are maximum this big [motions with hands] and you might have to stick your hand right in. If you have big hands you can't physically do it. And the screws are like 1.0 mm screws and stuff like that. And we need someone who is big and strong because it's all stainless steel and if we ever have to take a piece off the vacuum it's really heavy, I can't do it, I physically can't.

> Interviewer: And then how about manipulating the sample? I watched another group doing it, and they were sweating, it seemed really difficult. Is that something you do as well?
> Lily: Oh yeah.
> Interviewer: Is it really difficult?
> Lily: It can be, yeah.

For Lily, doing physics entails the delicate, finicky, detail-oriented work that requires nimble fingers rather than strong arms, and meditative patience rather than brute force. Recognizing herself as a physicist in this case does not entail taking up a position in opposition to physics due to physical restrictions, rather Lily carves a role for herself as expert doing a physical task that fits her body. However, later in the interview, she describes a trip to a lab in Germany where the same instrument was built differently:

> Lily: I actually, I spent a month in Germany with another research team, and they had an instrument by a different company that's based in Germany, and everything was really big. I had to stand on things to be able to see and reach and I physically couldn't do a lot of the transfers by myself because I just couldn't, I didn't have the arm span to reach.
> Interviewer: Is it made for bigger people?
> Lily: Well, this is my theory. It's made by a German company and a lot of German people, especially men, are like large and our instrument is made by a Japanese company, and Japanese people are quite small. I didn't clue in until I came back home and everything was easy, and in reach again and I was like "I wonder" but you know, it could very well be.
> Interviewer: Is there a reason why it would be made bigger? Or it just was.
> Lily: No, I think it just was. There was no real necessity for it. It was essentially the same kind of instrument, but in a different country.

The gendering of cultural artifacts has been discussed extensively in feminist literature. We are all familiar with so-called girls toys (designed to foster skills related to caring and social interaction) and so-called boys toys (designed to foster experimentation, problem solving and construction), but the gendering of machines in the work-place tends to be obscured to give the image of gender neutrality. Is a car designed for a man or a woman driver? Such a concept may be considered to be ridiculous. However, over the years, research in feminist technology studies has shown how technological artifacts embody elements that were designed with implicit assumptions about the gender of the individual that will be using the tool. The gendering of technological artifacts can have the effect of maintaining power relations in physics. Oudshoorn et al. (2002) argue that objects can become gendered because engineers anticipate the "preferences, motives, tastes and skills of the potential users, and the cultural norms in society at large" (p. 473), and these then become materialized into the design of the artifact. Indeed, Lily's experience with the German scanning tunnelling microscope (STM) demonstrates the assumptions about who would be using the microscope and this pervaded the design of the instrument. An effect of this is to shape the agency of those who come into contact with the technology.

The gendered design of the STM functions to delegate roles, actions and responsibilities to the physicists who use it. Lily described her difficulty using the instrument in Germany versus the Japan-designed microscope back at home. Due to the physical limitations the machine posed to her, she had to demand help from

some of the taller men in the lab. This sets up a practice where the division of labour is redefined in ways that reinscribe gendered power. Lily's method of subverting this hegemony is to position herself as expert in preparing the sample and accessing the vacuum chamber with her smaller hands. In doing so, Lily makes a bid for recognition by constructing a redescription of the role of technical physicist—she can position herself as an expert on the STM in spite of the physical limitations the machine itself poses. However, on the other hand, by adapting to and not contesting the design of the larger STM, she reinscribes the dominant gender order constructed by the gendering of technological tools used in her field.

Being a Physicist: Knowing and Acting Against the Stereotype

While students held a common conception of the stereotypical physicist, they found a range of ways to position themselves around these representations, indicating that more than one subject position for identity was available to students. Peter, in a discussion about the stereotypical physicist, suggests that it is possible to identify physicists in the public sphere by virtue of their appearance: "[They have] this over-precise haircut, or the t-shirt put in the pants and then something, like at least one awkward thing, doing one awkward thing."

However, he does not align himself with this subject position for physicist; in fact he makes an attempt to position himself against it, indicating that he generally wants to dissociate himself from the stereotypical physicist—"…you always want to pretend not to belong to these geeky people…because it's like, you don't want to be a typical geeky guy, sitting in a windowless room [laughter]". When asked how he differentiates himself from this kind of physicist, he states: "I just be myself." However, later in the interview, he refers to the common physicist behaviour of always falling into conversations about physics, suggesting that once this happens "everyone's the same".

Tensions Between the Global and Local

In the above sections, I have presented evidence that shows how Discourse models for physics tend to construct the practices of physics and physicists as gender neutral on the global level, but, in fact, local scripts that construct subject positions for men and women in physics are far from neutral. At the local level subject positions for physicists are constructed in relation to masculinities and femininities that must be negotiated by doctoral students. As a result, students have been able to carve out spaces for themselves among essentialist Discourses of masculinity and femininity that subvert the normative effects of those Discourses. For example, Lily manages to position herself as an expert on a machine that is clearly designed for a man. But at the same time, students espouse Discourse models that reify those Discourses. For example, Carol constructs physics as objective and definitive

and Ruby constructs physics in opposition to traditional forms of femininity. The interview interactions in this study demonstrate how students construct subject positions for physicist that rely on essentialist, durable images of who can be physicists. These images are reified through their relations with role models who often typify these images. However, we also saw that students may contest these subject positions, offering different possibilities to author spaces for themselves as physicists on a local level, but not offering possibilities for change on a global level. In her ethnographic studies of campus engineering identities, Tonso (2006) argues that students' abilities to enact agency and author spaces in which to construct and perform engineering identities may be recognized as acts of resistance to campus culture, but these local acts are unlikely to result in cultural change on a global level. Similarly, this chapter highlights the ways that students can simultaneously reject and reify stereotypical physicist identities in ways that maintain the obduracy of physics culture.

Rethinking the Problem

Much of the research on gender and science, particularly pertaining to the under-representation of women in science, assumes that the so-called problem arises out of the unproblematic association of masculinity with boys/men and with science—an association that presumably makes science unattractive to women and girls (Thomas 1990). The response to this association was a reformist approach to science education to make it more appealing to girls and women. Science was determined to have a representation problem—it was too hard, too de-contextualized. Initiatives intended to encourage more women to enter science played up the female friendly approaches to science education, with the intent of building up a critical mass of women in science that can challenge the cultural practices of an institution that had long been the bastion of white males. As such, the problem was constructed as one of getting more women into science to balance out the gender ratio, and provide role models for women who are interested in pursuing a career in the field (Etzkowitz et al. 2000). As discussed in this chapter, these characterizations of the problem are limiting. While students may reinscribe the masculine construction of physics in the Discourse models they themselves espouse, many of the instances described in this chapter show that these depictions of physics are often also appealing.

Additionally, Gilbert and Calvert (2003) argue that among the effects of these initiatives was the devaluing of inclusive science that then came to be seen as low status or diluted. These undesirable effects of initiatives to make science female friendly suggests that resolutions to the problem of the under-representation of women in science has to do with more than a sexist culture or the masculine representations of science. Stemming from this concern is the additional problem that the underlying assumption of gender mainstreaming initiatives is that science is somehow gender neutral (Gilbert and Calvert 2003).

One of the most salient outcomes of this research was the recognition that the equity approach to the issue of women in science is insufficient to capture the complexity of gender dynamics both in the constitution and practice of physics' disciplinary sub-fields. This research also points to the contradictions that exist between assuming unproblematic associations between actual women and femininity. As discussed in this chapter, the ways in which the women portrayed in this chapter position themselves relative to local masculine or feminine subject positions is varied, but often results in the reification of femininity as *difference*. This finding has important implications for research and policy initiatives into the recruitment and retention of women in doctoral physics. First, this research alerts us to the dangers of associating women with femininity when constructing program initiatives to make science more "female friendly" or when hasty attempts at achieving a critical mass in physics are made. Second, this research points out that masculinity is a constructed and relational category and that aspects of it can be taken up by both male and female students. This finding highlights the need to deconstruct these categories entirely, and to examine diverse representations of gender as they intersect with race and class, in order to better understand how the *Other* is constructed in the field. Additionally, this research also should make us suspicious of the idea that physics is somehow gender neutral and only has a masculine image that can be improved by simply adding women to the mix, without upsetting the gender order.

It seems that the question "where are the women?" has only taken us so far. If we are to focus our efforts on remedying the shortage of women in the science work field, we are not only losing sight of the larger issues around the discursive construction of gender and science, we also risk reifying gender by suggesting that men/women have unproblematic/problematic relationships to science. Moreover, until the Discourses that construct physics and gender are fully unpacked in relation to one another we have little hope of understanding the contradictory ways in which individuals position themselves around those Discourses. The goal of research into gender and science should not be to blindly determine ways to get more women into the field, but rather to develop a nuanced understanding of the field and how gendered identities become constructed in particular ways. The result then may be to move away from examining categories like *women* and *men* and to develop a complicated understanding of the relationality of masculinity and femininity in physics, and to arrive at a more equitable gender politics (Walker 2001).

Efforts at recruiting and retaining women in science may benefit from further analyses of the gendered experiences of both men and women in physics departments in ways that reconsider the structure of the issue. Current research and policy initiatives aimed at recruiting and then retaining more women into physics either rely on or reproduce constructions of women that emphasize traditional forms of femininity; in other words, couple femininity with women and masculinity with men. That there are women who are capable of doing physics, but do not perform femininity in traditional ways, sets up a circumstance where women (as a category) are always, already incompatible to physics.

Implications for Doctoral Students and Professors

The goals of this chapter were to describe the complex ways that doctoral students navigate masculinities and femininities in physics programs, and to cause the reader to reflect critically on the traditional (and limiting) ways of thinking about gender difference in physics education. Efforts to recruit and retain women into physics, or the sciences in general, that rely on normative assumptions about gender roles might be rethought in light of the evidence presented above. The use of Discourse models in this study may provide the reader with a tool for thinking about the culture and pedagogy of physics, and may make us more aware of the different ways that students engage with physics (and the broad range of masculinities and femininities that may accompany those forms of engagement). While the culture of physics was espoused as gender neutral, many students described Discourse models of masculinity in physics, which was either taken up, or subverted. These kinds of thinking tools may help us to see the ways that gender is woven into the cultural narratives of disciplines like physics in ways that students themselves do not detect, yet position themselves around nonetheless. Discourse models may help us to identify Discourses that construct difference and require non-gender-conforming students to position themselves in ways that confer "new" forms of expertise.

Recognizing these new forms of expertise, and allowing space for a broad range of gender expressions in physics are not changes that we might expect to occur overnight. However, difference or sensitivity training for faculty and students might benefit from addressing topics such as gender norms and expectations of gender performances in the workplace, laboratory or classroom environments. These programs exist at many universities, and they could be informed by work such as this to address the ways that masculine cultures are erased from disciplines such as physics in order to maintain gender normative practices. By taking a perspective of valuing difference in the academy, students and professors might arrive at a more inclusive practice.

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Chapter 8
Genre and Disciplinarity: The Challenge of Grant Writing for New Non-Anglophone Scientists

Larissa Yousoubova

Introduction and Background

The undisputed dominance of the English language on the global research scene is positioning non-Anglophone academics as peripheral contributors to the Anglophone research core. Despite current emphasis in the literature on the significance of their research contribution to the global knowledge economy (e.g. Flowerdew 2007), academics who write in English as a second/foreign/additional language (hereafter referred to as ESL—English as a second language) are often marginalized by the key discursive venues of their disciplines (e.g. Canagarajah 2002; Hyland 2007).

The publish-in-English-or-perish policy is in part due to the fact that 90% of the globally significant research is disseminated through 10% of journals most if not all of which are in English (Salager-Meyer 2008). In a highly competitive Anglophone academic market place, productivity of a researcher is measured against concrete outcomes of their disciplinary writing, and researchers rely on their writing as "a means of funding, constructing, evaluating and negotiating knowledge" (Hyland 2004, p. 5). An international publication record ensures a high visibility research profile, so understandably, ESL writing for publication has commanded consistent attention from the scholars who investigate disciplinary discourses (Belcher 2007; Flowerdew 2001).

But the pressures and challenges faced by ESL academics who transition to the "fiercely competitive" English language environment of their disciplines (Hyland 2007) are not solely about the publication record. Procurement of research grants is also challenging. In the context of the continued decline of budget funding in the Anglophone research and higher education sector (The Economist 2010), academics have to rely on external monetary sources to ensure continuity of their research and, hence, their career. Grants from government agencies and/or contracts funded

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by related industries are often a primary source of funding for cutting-edge research projects, especially in the sciences. In Canada, for example, whose higher education sector performs 40% of national R&D (Research and Development) and whose expenditure on R&D is the second highest in the world, 55% of advanced research is funded by sources outside of universities (Nicholson et al. 2008). In the United States, approximately 60% of university-performed research is funded by eight federal agencies of which the National Science Foundation (NSF) and the National Institutes of Health (NIH) are the biggest contributors (U.S. General Accounting Office 2003).

However, in Canada only one third of all grant proposals in sciences and engineering tend to be funded (Nicholson et al. 2008). In the United States, only about a quarter of proposals submitted to the NSF receive funding. As of the year 2000 the NSF grant capacity and the average NSF grant size have increased by over 40% but the funding rate of highly rated proposals has gone down; at the same time, the number of proposals submitted to the NSF within this period doubled (Olsen and Tornow 2007). In Canada, the Discovery Grants Program (DGP) run by the National Science and Engineering Research Council (NSERC) has seen applications for its grants increase by well over a quarter since 2002, while the DGP budget has gone up only 13% (Nicholson et al. 2008). It is not surprising that grant writing is a highly competitive engagement and "the most basic [fundamental] form of scientific writing" (Myers 1990, p. 41).

Chapter Overview

For new Anglo and non-Anglo hires alike, grant writing is especially high stakes because external funding expectations are built into new faculty performance reviews, which are part of an increasingly corporate management style in North American universities (Gould 2003). Since grant proposals have an extended review cycle, the first grant submissions of new tenure-track faculty must be filed within months of their being hired *and* be highly competitive to have a winning outcome. As the ESL scientist whose grant writing we explore in this chapter pointed out:

> We have a reappointment exercise three years after the initial hiring and at that moment, among many other things, a professor must demonstrate that he is able to secure sufficient funding (say, 4–5 grants is considered to be reasonable, plus perhaps some contracts), that he has 5–6 graduate students (PhD students are especially important) and that he published or at least submitted a few refereed journal papers with his graduate students. If you did not meet these goals, you are at risk of being fired without even getting a chance to apply for tenure (which is to be done five years after the initial hiring and at that moment the requirements are even higher). Since a typical period for grant application or paper consideration is 6–8 months, it is obvious that all applications/papers must be written and submitted within the first two years or so. As you see, one does not have too much time for developing his writing skills. (From an email 2008)

This chapter reports on a case study that represents the increasing internationalization of the North American intellectual work force and the diversity of its academic

experience. The new ESL researcher whose quote appears above and whose grant writing experience is the focus of this chapter is an engineering scientist trained in the distinctly non-Anglophone academic tradition of Russia but now working in North America. On a par with his Anglophone colleagues, his tenure and the subsequent continuity of his career in large part depended on his securing competitive external funding within a few months of being hired. But unlike his Anglophone peers, he had not been socialized into the practices of grant writing as a graduate student and, having to learn on the fly, entered the race from a disadvantaged position. What, then, were the pressures and challenges this ESL scientist, faced when writing for funding in the competitive marketplace of Anglophone academia? How did he develop an understanding of the genre of grant writing and how did he project it in his grant proposals?

It should be noted that a focus on diversity of personal experience quite often exposes issues experienced by the majority of individuals involved in the same practices, which may otherwise be taken for granted and thus invisible. So the added value of this work is to highlight not just the difficulties for non-Anglophone grant writers but potentially the problems for all those new to grant writing.

The chapter begins with a brief overview of the link between research writing as (re)producing particular local orders of a discipline and a particular kind of discursive scholarly identity. Next, examples from the case study illustrate how failure to display disciplinarity, i.e. to project locally appropriate discursive ways of being in his grant writing, invalidated a grant submission by this ESL scientist in the eyes of his Anglophone grant reviewers. Excerpts from his rejected and accepted grant proposals, interview data, and proposal reviewers' comments inform the suggestions in the concluding section. Incorporated throughout are also the voices of several other ESL academics with whom the author has been corresponding professionally. Additional representative disciplines here are mathematics, biology, agricultural sciences, linguistics, and business communication.

The purpose of this inquiry is not to provide a detailed analysis of grant writing as a complex system. Rather, the evidence from the case study is drawn on to demonstrate that in responding to and reproducing multiple practices of national academic traditions as well as those of institutions and disciplines, disciplinary writing "involve[s] innumerable local decisions" (Freedman and Medway 1994b, p. 11) which are not necessarily universal and are not therefore transparent to a newcomer trained outside the local framework.

Grant Writing and Identity: Theory and Practice

Membership in a discipline involves reproducing its discursive genres and cultures—a discipline's regularized ways of being: speaking, writing, arguing, and positioning claims that accomplish a particular purpose in their target discursive space. It may be tempting to think that disciplinarity transcends linguistic and national boundaries, but when intersecting with national academic traditions, disciplinary cultures

and their discursive practices are subject to considerable variation (Becher and Trowler 2001). In fact, national practices of research funding vary greatly across borders (e.g. Feng 2008), presenting often conflicting discursive opportunities and constraints and requiring different discursive responses. For example, most U.S. faculty depend on external grants for continued financial support during summer months (e.g. Heppner 2009; Personal correspondence—ESL Mathematics); many countries of Continental Europe enjoy traditional dual-support funding through direct institutional budgets and external national sources with a more recent addition of grants and budgetary injections from the European Union (Irvine et al. 1990; Personal correspondence—ESL Business Communication), while research in the countries of the former USSR is still funded mostly through centralized government budgets (Russia: The National Research Funding System 2004; Personal correspondence—ESL Biology; Agricultural sciences).

Socio-linguistic aspects of disciplinary writing are rooted in multi-level social interactions which are influenced by the "local conditions, historical processes, and the differing perspectives of [its] multiple participants" (Bazerman and Prior 2005, p. 4). Freedman and Medway (1994a) observe that since "arguments are only locally valid", disciplinary writing is "evaluate[d]…by purely local criteria" (p. 8). When talking cross-culturally, it would be rather counterproductive to engage at the level of individual academic collectives and institutions; this chapter considers "local" to be distinct on a national level. That is to say that national disciplinary cultures are socio-politically, economically, ideologically and linguistically distinct, and therefore shape and require corresponding discursive identities.

To convince the reviewers then, a grant proposal should reproduce locally recognized norms of grantsmanship as well as those imposed by the funding agency. This is especially important as the writer and the reader who are distanced by the text have "no opportunity for immediate mutual alignment or correction" (Bazerman and Prior 2005, p. 3). Because of this distance, failure to adhere textually to the established norms of their target disciplinary discourse compromises writers' chances of having their claims or arguments accepted by the gate-keeping disciplinary peers (e.g. Sullivan 1996). In fact, researchers' disciplinary membership is in large part due not to what they write but *how* they write to align themselves with the particular local worldviews of their discipline (Blakeslee 2001; Hyland 2004).

The established norms of disciplinary writing, however, are rarely explicitly stated or written out. Instead, they tend to be acquired by new academics in the process of participation in the activities and conversations of the discipline (e.g. Lave and Wenger 1991). One may argue that as far as grant writing is concerned there does not seem to be a shortage of practical how-to advice both on university websites and in print. Indeed, university websites in North America explicitly state that the proposal should sell, i.e. promote the writer's disciplinary expertise among other things, but how does one do it without bending the axiom of being a humble servant of the discipline? New researchers enculturated into their disciplines in the Anglophone environment most likely learn how to balance their writing within this conceptual dichotomy. In fact, Anglophone writers may not perceive this to be a

dichotomy at all. It is a norm. But for a national of an Eastern European culture like Russia such a state of disciplinary being is not normal. "To sell" in the Russian academic context equals "to boast", and "to boast" violates "the humble", so the ESL scientist whose grant writing this chapter explores had to learn to recognize such cultural undercurrents upon his transition to an English North American university.

It should be mentioned at this point that there is a notable lack of systematic attention to ESL grant writing in North America, where external research funding is at its most competitive. While studies of grant writing in non-English national contexts are emerging (e.g. Feng 2008), current studies of grant proposals in North America do not take ESL writers into consideration. In fact, the absolute majority of these studies investigate the experiences of Anglophone writers. Tardy (2003) and Mehlenbacher (1994), for example, look at how experienced and novice scientists navigate a complex system of interconnected activities constituting and surrounding the grant proposal. Through multiple drafts and rejected submissions Myers (1990), in probably the most influential empirical enquiry into the proposal writing, shows the evolution of discursive strategies with which two biologists successfully targeted central U.S. funding agencies to support their controversial disciplinary ideas. Schryer et al. (2004) have compiled an annotated bibliography of how-to grant writing advice and empirical studies of the genre. Chapin (2004) and Mikelonis et al. (2004) are essentially practical guides to writing proposals for the NSF and other U.S. agencies, respectively. Connor (2000) is a text-linguistic study of grant proposals in sciences and humanities in the United States. Ding (2008) explores the learning experiences of graduate students writing for funding from the U.S. National Institute of Health (NIH). Although the group of graduate students he follows included ESL writers, his focus is not on the diversity of their experiences; this study tracks the group as the students learn proposal writing by completing a specialized course. In other words, in the domain of empirical and practical enquiry into the high-profile discursive practice of grant writing ESL researchers do not seem to exist.

But cross-cultural research shows that ESL disciplinary writing is often hindered by difficulties on socio-linguistic levels. For instance, East European and Nordic researchers tend to use considerably less metatext in their writing (e.g. Pisanski-Peterlin 2005; Mauranen 1993), the explicit textual reader guidance that provides textual "clarity" for the English reader. The issue has been linked to a number of socio-cultural determinants one of which may be the size of the writer's native research community. Another stumbling block, especially for Slavic writers, is the use of what fellow Anglophone reviewers perceive as strong verbs when presenting research findings. Instances of "The data in this article *demonstrate*…" are not uncommon and in some disciplines tend to offend the eyes of the English reader who in the same situation would most likely use "*indicate*" or another less invasive verb (e.g. Kourilova 1998).

These and other issues often lead to what Hyland (2005) calls cross-cultural pragmatic failure, i.e. failure to address socio-cultural, linguistic, and locally specific disciplinary variables of their target discursive spaces. It makes transition across national and cultural borders a challenging endeavour for any new academic.

Case Study: The Challenge of Grant Writing for a New Scientist

Grigory (pseudonym) is an engineering scientist and a Russian national. At the time the case study was conducted in 2006 he was a full-time tenure track faculty member in a large research-intensive university in Canada (hereafter referred to as [CanU]).[1] All his graduate and post-graduate degrees were awarded in Russia. He had been stationed in Asia for several years before coming to Canada and had published in English from both locations. As the editor of one of the flagship journals in his discipline he has an extensive network of contacts with colleagues all over the world.

Grigory was hired as a tenure track faculty at [CanU] in 2003 and first saw the France-Canada Research Foundation (FFCR) call for proposals the following summer. The deadline for proposal submissions was November 2004, a year after his being hired. Competition results were announced in May 2005, another half-year later. His 2004–2005 proposal was rejected, but luckily he had another year to go before his re-appointment exercise. He took advantage of the possibility of resubmitting one's proposal to FFCR the following year. The summer of 2005 was in part spent talking with the [CanU] Office of Research, working through the reviewers' comments, and drafting the second submission. Grigory wrote both proposals solo, with occasional feedback from his project partner in France. The second proposal was submitted in the Fall of 2005 and won funding as of May 2006. The initial interview with Grigory took place in November 2006, after his first successful re-appointment, and follow-up interviews and correspondence continued into early 2008. By Fall 2006 Grigory had won or was about to win several other competitively awarded grants either as a principal investigator (PI) or as part of a team. This case study focuses only on his FFCR submissions because (a) they represent a completed submission-rejection-resubmission-acceptance cycle, which many new scientists tend to go through (Nicholson et al. 2008); and (b) being his first solo submissions at [CanU], Grigory felt they were likely the most representative of the pressures and challenges he had experienced in his transition into the Anglophone disciplinary environment.

The data drawn on in this chapter include:

- Interviews and correspondence with Grigory;
- FFCR [CanU] 2004–2005 Call for Proposals and Internal Selection Procedure, a document;
- Full texts of Grigory's 2004–2005 (rejected) and 2005–2006 (winning) proposal submissions;
- Reviewers' comments from the FFCR Proposals 2004–2005 Evaluation Sheet;
- Occasionally, voices of other ESL academics with whom the author is in contact professionally.

[1] Happily, at the time of writing Grigory had already been tenured (*LY)*.

Under Pressure

The concept of competitive external funding for advanced research in North America most likely originated in the offices of the U.S. government-directed research projects during and after the World War II. According to S. Tilghman, the president of Princeton University, "It was [the director, Vannevar Bush's] very conscious decision to get money into young scientists' hands as quickly as possible" (cited in Fallows 2010, p. 46). Originally conceived and designed for the purposes of strategic survival, the model has since transformed North American tertiary education system into a scientific "innovation engine" which attracts researchers from all over the world[2] (e.g. Marvasti 2005; Skachkova 2007).

Over a third of all faculty in Canada are foreign born, and non-Anglophone hires constitute about a quarter (Statistics Canada 2006). While these numbers include academics educated both outside and within the North American academic tradition, it should be noted that many of the non-Anglophone immigrant faculty who receive doctorates in North America encounter problems similar to Grigory's *during* their graduate and post-graduate studies. The author's personal experience is only one such example.

Success in securing external funding in the "fiercely competitive" English language environment (Hyland 2007) is essential for the new researcher to claim disciplinary credibility. In engineering sciences especially, graduate students and new faculty face aggressive competition for research and equipment grants (Mehlenbacher 1992). For new non-English-speaking scientists, it is one of the greatest challenges of their transition into the Anglophone research environment and a potentially decisive factor in their inclusion or exclusion from North American research institutions. Part of the reason for exclusion is language related:

> Writing in English is still an issue linguistically speaking. Even now I am still not satisfied with my ability to write in English say in terms of speed of writing. For example, writing proposals still takes me longer than what it takes my English colleagues here, obviously. (Grigory)

Even though significant, language is not the only problem non-English writers face. Grant writing is about competition, and academics educated in North America take this in their stride. It is expected that as graduate students they have been developing their grantsmanship skills through writing proposals for student funding as well as participating in competitively funded research projects. Being involved in various activities, which comprise and are connected to grant writing, new researchers learn to (re)produce particular practices of constructing knowledge in

[2] James Fallows in his January/February 2010 article in The Atlantic quotes a Nobel Prize winner and the President of the U.S. Memorial Sloan-Kettering Cancer Center, Harold Varmus: "My favourite statistic is that one-quarter of the members of the National Academy of Sciences were born abroad. We may not be so good on the pipeline of producing new scientists, but the country is still a very effective magnet" (p. 46). Figures for The Royal Society of Canada are even higher: well over a third of its fellows are foreign-born, and a quarter of all fellows are non-Anglophone (RSC Communications Office April 2010).

their disciplines. New international hires who have not gone "through this local educational machine" (Grigory's term) do not have such an advantage. Being less familiar with the grant writing system, they have to make up for all the tacit knowledge and learn on the fly, while competing with those who have already been initiated into the system:

> When you are hired at [CanU], they expect you within 2–3 years to have a few grants already. And I mean, not just submitting proposals, they need to see that you are bringing in money. Money, money, money…you are also expected to publish a few papers, some with your students. There isn't almost any time to learn anything, you are expected to know these things. (Grigory)

Echoing Grigory's experience, several other ESL scientists mentioned in personal correspondence that of all their disciplinary writing, the grant proposal was the most difficult genre to master.

Ideologies, Idiosyncrasies, and Identities: To Sell or Not to Sell?

Across the disciplines in the grant-writing world, the grant proposal accomplishes particular discursive work. It needs to persuade the assessors of "the scientific quality of the proposal" (Grigory's term)—to convince them that one has a research problem that is compelling, innovative, and builds on prior disciplinary knowledge. The proposal also has to demonstrate that the applicant is the best possible person with the most pertinent expertise to conduct the study. However, the means by which grant writers accomplish these goals differ across national borders (e.g. Connor and Mauranen 1999).

Anglophone grant writing has been likened to promotional genres, and one of its functionalities is discreet marketing of the writer's disciplinary expertise and capability to develop and deliver an advanced research project (e.g. Connor and Mauranen 1999; Swales 1990). This is a definitive cultural idiosyncrasy. Individual initiative, entrepreneurship and research stardom are both possible and encouraged in Anglophone national traditions of mature market economy. The market-based system is fertile ground for the culture of highly competitive production of disciplinary knowledge (e.g. Hyland 2004; Hyland and Tse 2005).

Of the discursive features in which promotionality tends to manifest itself in the proposal, authorial self-assertiveness is perhaps the most complex (e.g. Myers 1990). Grant seekers are first and foremost researchers committed to advancing disciplinary knowledge, so even though their idea may be ground-breaking, it takes internalized understanding of the genre to remain *au fond* humble while unfolding the panorama of one's expertise throughout the text. As an established ESL biologist and a successful grant writer stated in personal correspondence, all the proposal sections matter in a sense that they all must be exercised to their full promotional potential:

> A grant proposal includes an analysis and some sort of future information but the latter in a considerably more detailed and extended way than an article would. So you need to

> convince extremely qualified scientists who will be sitting on the review board that your plans are substantiated by your understanding of how to do this experimentation. *It's huge* [emphasis added]. (Personal correspondence—ESL Biology)

Although this biologist still thinks in Russian before writing in English, he no longer feels at odds with the aggressively competitive nature of the grant proposal. He attributes his knowledge of grantsmanship to collaborating with his advisor and peers during a post–doctorate in Canada. Similarly, Tardy (2003) shows that a new Anglophone scientist who received formal grant writing training as a graduate student and co-wrote grants with his post-doctoral advisor had an opportunity to develop insider understanding of the process, in contrast with his more established colleague who had had to learn "by trial and error" (p. 29).

Grigory's commentary, on the other hand, reflects new exposure. Not only was the genre of grant writing new to him but his senses were also heightened by the sharp socio-cultural contrast he had experienced when transitioning:

> In fact, in the Russian scientific tradition, I believe, there is an appreciation of modesty. You do not do chest thumping in a sense that I am the best guy. Usually others should do it for you, they say that this person is very good. For Russian readers it would not be the right thing to say, I am the best. We would consider it boasting. Here [in North America] it is perfectly fine and even expected. You should not of course overdo it but modesty is not a virtue here. (Grigory)

At the same time, this is one of the essential lessons Grigory learnt: writing needs to respond to national disciplinary constraints. Moreover, each writing genre has specific norms related to projecting a credible discursive identity. Grigory explained, "Speaking of 'boasting', it is not a feature in research articles, but it certainly is important for grant proposals."

In countries like Russia, where academic institutions and research have until very recently been centrally funded by the state only, grant writing in its English-language equivalent and on its English-language scale does not exist. Although a number of Western funding agencies now routinely call for proposals from Russia, the majority of them target scientists in the military complex to prevent brain drain (Gerber and Yarsike Ball 2009). Competitive peer-reviewed funding from domestic sources is negligible. Two science foundations, which are a new institution, distribute 5% of the funds the Russian government allocates for research (Dezhina and Graham 2005). Besides, as the foundations are fully controlled by the government (Russia: The National Research Funding System 2004) and face financial and legal issues of their own (Dezhina and Graham 2005), their long-term prospects are questionable.

Furthermore, a restrictive selection process for new researchers in Russia is not grants-based either. New researchers are selected on the basis of academic merit only. They are often pre-approved or recommended by Master's committees or supervisors for the PhD program and then have to pass stringent admission exams. Once selected, they are socialized to respond to institutional priorities. Research agendas are set by ministries and the Academies of Sciences, Medical Sciences, and Agricultural Sciences, which also control institutional compliance through annual budget block funding to individual institutions. Researchers are still salaried employees.

In essence, as an academic practice, a disciplinary discourse of open competition has only recently been introduced in Russia and is on tentative ground. There has been very little activity in Russian academic institutions which demands construction of the kind of promotional discourse that seems counterintuitive to the epistemologically required image of the "humble servant of the discipline" in research writing (Hyland 2004). In fact, in Russian academic culture it is still not credible "to sell" (Yakhontova 2002).

The non-promotional character of Russian scientific writing in general may also be due to a number of socio-historical factors. Russians are nationals of a society which historically has been communally oriented and where selflessness and *explicit* modesty have always been lauded as some of the highest personal virtues (Fedotov 1991; McDaniel 1998). Since a version of market economy has only recently been introduced in the country which for over 70 years prior had been subject to centralized regulation of the economy and the ideology of top-down conformance, market-inspired competitiveness has yet to have a discernible impact on research writing, if it ever will. That is to say that Russian scientists still largely reproduce the national academic practice of explicit non-promotionality in disciplinary discourse. Even though their research idea may be transformative, they are expected to downplay their personal authority in the consorted, collective effort of disciplinary knowledge construction.

A comparative study of research financing and its outcomes is not within the scope of this chapter. But it would be a mistake to think that rather than advancing knowledge in the disciplines, research in Russia is conducted solely to satisfy the government's next five-year plan.[3] If it were, Russian science would not have become one of the most respected in the world (e.g. Gerber and Yarsike Ball 2009). Perhaps the most visible difference here is in the vector of funds distribution. Funds in Russia are largely disbursed from the top on a regular basis, whereas in North America even strategic calls for proposals that are backed by the governments seek individual submissions and their funding is project-based.

To sum up, since self-promotion in academic writing is considered unethical, a Russian researcher who violates this maxima will not be, in Russia, considered a credible disciplinary member. But when writing grant proposals in North America, researchers are *expected* to discretely promote their professional qualifications and the significance of their experience in the project proposal. One cannot avoid being immodest here in the Russian sense of it, for one would then fail to project disciplinary credibility in the North American sense of it. In the eyes of the Anglophone grant reviewers Russian discursive modesty risks to be perceived as confusingly unclear and inappropriately meek, and it is well known that "the meek shall not inherit the grants" (Myers 1990, p. 49).

[3] This is an allusion. Five-year economic plans became history in 1991, with the break-up of the USSR. But since a North American reader is still likely to associate the concept with centralized government intervention in the former Soviet countries, its draw was irresistible.

Isolation, Collaboration, and Politics of Being Funded in the Sciences

Scientists rarely write solo; instead, their writing tends to be done collaboratively even if it is with only one other partner involved. As the website of the Center for Writing in the Disciplines (2010) at Princeton University states: "All scientists and engineers write regularly, and all write collaboratively." Scientists whom Mehlenbacher (1994) interviewed in his study described several models of collaborative writing commonly used in their fields for constructing papers and proposals. One of them closely corresponds with Grigory's own experience:

> In many cases, both proposals and papers I write with other people, and then of course I have some help from them. How is it done? Usually, there is a responsible writer, he actually writes and gathers everything together from others. If I am such a writer, I write the first draft, I make it as perfect as I can. Then I send it to the team, they send me their corrections. Then I try to reconcile the comments because some of them are contradictory. Different people recommend to change different things. Well, I produce another draft, and on we go again until everyone is satisfied. It's not easy, especially if you have a few people in your paper, which is quite common in our field. (Grigory)

It is, however, not uncommon for principal investigators (PI) to write proposal drafts alone. David Bloch, one of the two biologists in Myers' (1990) study, wrote alone for four months before he showed the draft to the colleagues in his lab. Again, Grigory's experience was somewhat similar:

> Most of my papers are written with co-authors. It is common for papers and conference papers—sometimes there are team proposals, but mostly you write proposals alone. You may have some collaborators, but if you are a PI, you must write it all yourself. (Grigory)

Unlike Bloch though, Grigory discovered that these norms, that of writing collaboratively and that of writing solo for at least part of the process, can collide at a crossroads with some consequences. Writing his first FFCR proposal, he knew he perhaps should have taken advantage of the former, but as he was engaged in the latter, he felt he really couldn't. His FFCR submission partner was in France and another collaborator in Russia. Given considerable differences in research funding between the countries, Grigory occasionally consulted these colleagues on content-related issues only—the "what" part of the proposal. He could have approached his local colleagues for feedback on the "how" but he was reluctant:

> Yes, I know at the Research Grants Office they advise to show these things to your colleagues. But I am not sure how well it works because, you know, everyone here is busy like hell. If you come to someone with "Can you read my proposal?"…Well… (Grigory)

So Grigory had to learn by trial and error, the hard old way. Admittedly, his experience may be at the extreme end of the scale because his disciplinary initiation took place in a culture and language markedly different from those of North America, but for reasons discussed below it is not unlikely that many new academics, their socio-linguistic origins notwithstanding, experience similar problems.

Political Talk

Collaborative writing provides a climate for hands-on learning, and it would be good to take advantage of this practice when welcoming and/or coaching new researchers. It is very important for them to understand that success in securing competitive grants does not depend solely on the quality of a written proposal. Writing is only part of a complex and interdependent system of "written proposals, funding processes, and academic research" (Mehlenbacher 1994, p. 161), as well as internal pressures to meet corporate-style measurement criteria and external concerns such as the number of funding sources available, and the necessity of building and maintaining a long-term relationship with funding agencies.

There are many intricacies within the system of grant funding, which may be critical to one's success, but they are not self-evident to a newcomer. These have to be learnt and, preferably, taught. The politics of grant funding, for example, is one such tacit variable. Successful researchers view proposal writing and research funding as a long-term endeavour rather than isolated instances of writing and stress the importance of cultivating long-term relationships with funding agencies (Mehlenbacher 1994; Mukerji 1989). They invest time and effort into developing their negotiation skills, fact-finding and building informal connections, and rely on these skills when engaged in "political talk" (Mehlenbacher 1994, p. 160) with their contacts and interested officials at funding agencies in order to maximize the chances of their submission.

Moreover, writing for and maintaining contact with different funding sources requires different strategies. Mehlenbacher's (1994) study of communication strategies evolved by 15 scientists at an Ivy League university shows that being funded, especially on a large scale, depends on establishing prior contacts with funding decision makers and often takes "years of contacts that span numerous universities and corporations" (p. 158). One such tactic brought up by these scientists was repeat site visits, i.e. verification visits by funding agency officials to the site of the proposed or funded project (e.g. a lab). The researchers considered these to be a fruitful relationship-building tactic, which is also essential for gathering background information that may not have appeared on the call for proposals. Indeed, when David Crews, the more experienced biologist in Myers' (1990) book, attempted to renew his NIH grant, the proposal was turned down after a site visit. But interaction with the NIH officials during the visit likely allowed Crews to collect additional information, which he used to edit the proposal and get it funded on a re-submission.

The above issues may or may not be specific to funding in the sciences and/or in particular fields of science, but any grant seeker would benefit from developing communication strategies appropriate within their own discipline in order to make their proposals as fundable as possible. New ESL researchers, however, are unlikely to have this knowledge. It is internal to the system and, as a result, is tacit to the point of being evasive even for many disciplinary insiders. Besides, it is learning through participation in the grant writing system that puts one in

a position to observe and understand the process of constructing a written proposal as well as the necessity of developing professional relationships within the sources of funding. Curiously, many graduate grant writers in North America are still not made aware of this, which means that in the long run they too may be considerably disadvantaged. As for transitioning ESL academics, most of them will not have had even the possibility of being informed of the political aspects of being funded.

Proposals Before and After

Description of the Grant

Grigory submitted both proposals to the FFCR, a bilateral funding initiative established to support new research into a number of emerging and leading-edge domains of natural and technology sciences. Although maximum funding per project is only CAD $10,000, Grigory characterized the grant as highly competitive: "It is a small grant, but hard to get: out of 20 submissions from [CanU] two got the grants. Very low success rate."

Because of such a high acceptance threshold, the initial proposal, although deemed by the reviewers to be within the "high-middle" of all submissions, did not win the funding. The second submission the following year secured the grant.

To understand the specifics of the FFCR funding, we turned to the agency's call for proposals, which the writers receive through the Offices of Research at eligible universities. As Connor and Mauranen (1999) indicate, the funding agency guidelines or calls for proposals offer a preliminary look at the rhetorical make up of a grant proposal. The level of detail provided in such documents varies greatly from institution to institution and from one funding agency to another. The FFCR call for proposals is concise and does not go into much detail:

> The Call for Proposals is open to all disciplines but a certain emphasis will be given to social and human sciences, life and health sciences (post-genome, bio-informatics), information technology, nanosciences, as well as environment. Proposal involving universities and industry as well as multi and inter-disciplinary projects will be encouraged. (FFCR call for proposals, 2004–2005)

Reflecting on his two FFCR submissions, Grigory said:

> The announcement for that competition is just one page, and there are just a few sentences there that say what you should include/describe. In my first try I did include all those things, as I thought. But I put these things in slightly different wording. And that did not get through. You are allowed to resubmit the following year, and in my next submission I re-wrote it but then I included those sentences from the announcement exactly the way they were written as headings. It got through.

As the next section indicates, though, word choice was not the only tactic that helped him to turn around a failed submission.

Promotional Face Forward

The opening sections of the two submissions below provide a good illustration of the author's reflection. The *Project* section comprised of *Title* and *Discipline* opens the title page of the proposal document, and its strategic positioning at the head of the text cannot be underestimated in producing the first impression (see Table 8.1).

What would be a grant reviewer's first impression of the 2004–2005 proposal? It would seem that the writer simply piled up assorted disciplinary domains to which the proposed research applies without any system. In fact, it resulted in the following comment:

> May not be one of the "target" disciplines of FFCR. (FFCR Proposals 2004–2005 Evaluation Sheet, reviewer comments)

But on a closer look, this unguided list expects the reader's participation in making the following connection: that ultrasonics and acoustics would naturally be related to life and health sciences, computer science to information technology, etc. Non-intrusiveness, expectation of reader involvement, and considerably less guiding metatext than English academic prose routinely involves is one of the characteristics of Russian written expression. It relies on the reader to share mutual understanding of the disciplinary context and of applicability of the proposed research (e.g. Petrič 2005), which has been also shown to be a feature of a number of other non-Anglophone academic traditions (e.g. Čmejrková and Daneš 1997).

Unlike non-English readers, though, grant reviewers cannot afford and are not expected nor indeed wish to read in detail so that they may potentially arrive at the grant writer's ideas themselves. Indeed, reviewers, who determine the fate of the proposal, look for explicit, face-forward bridging of the call for proposals and the writer's ability to prove that "your plans are substantiated by your understanding of how to do this experimentation", so the writer has to reproduce reviewers' reading practices:

> What happens is those referees will never read your proposal very carefully, e.g. here we are looking for innovative aspects, did he write anything about innovation here? No, it does

Table 8.1 Excerpts 1 and 2

2004–2005 initial proposal 1. Project	2005–2006 winning proposal 1. Project
Title: Theory and simulation of nonlinear waves in heterogeneous and active media	Title: Simulation of nonlinear waves in heterogeneous and active media
Discipline/field: *Interdisciplinary*	Discipline/field: *Multidisciplinary*
Mechanics, fluid mechanics, computational fluid dynamics, computer science, ultrasonics, acoustics, medical applications, velocimetry	*Life and health sciences*: ultrasonic diagnostics and treatment, waves in biological media *Information technology*: computer modeling, computational fluid dynamics, software engineering *Others:* mechanics, fluid mechanics, acoustics, magneto-acoustics, microfluidics

> not work like that. If you don't have that heading there, forget about it. They'll just write in the review that you have no innovative aspects in your proposal even though you may have them but have not framed them properly through structure, headings, and so on. And that I think is true for other editors; they like everything to be straightforward and clear. (Grigory)

In the 2005–2006 winning proposal Grigory changes the introductory profile to remove theory from its priority seat and make the proposal directly applicable to real-world issues in healthcare and information technology (top priority fields for FFCR) with outcomes being useful theoretically and practically in a number of other disciplines. Readability of the resulting text is greatly improved and the writer demonstrates his understanding of the reviewers' reading practices:

> Also, no one has the time to read the text in detail, so it has to be to the point. For example, if the project description requires to outline the project's innovative features, one should clearly indicate that their proposal is very innovative because of this, this and this. And better yet, clearly number/identify the innovative features (e.g. bullet point type lists) so that the reviewer can clearly see what they are. (Grigory)

By providing textual sign-posts in the 2005–2006 opening section not only does Grigory guide the reviewer visually to focus on the key applicability points of the proposal, but, in essence, he clearly bridges his proposal to the FFCR call for proposals.

The Initial Proposal: Only Other Writing Practices to Draw From

Having to reconcile the notion of "selling" with his own understanding of an appropriate discursive identity and faced with a dire pressure to produce a fundable proposal in a short time without much help, Grigory initially resorted to previously familiar writing practices. In this case, he drew on his experience of journal article writing. But, as we will see, other genres are designed to accomplish different knowledge work and are not likely to be recognized as a proposal. Indeed, this is what happed to his initial submission.

The section on the project objectives immediately follows the title page, in effect opening the proposal proper, and is an integral part of the first impression (see Table 8.2).

The 2004–2005 section on research objectives bears resemblance to article introductions in that it outlines the contexts in which research that is to be discussed is situated (research problem and objectives are not specified). The writer employs rather sweeping, general statements cast in long, complex sentences that would be appropriate for article narrative, to which the reader is presumably committed, having been "hooked" by the title and the abstract (Hyland and Tse 2005), and which is permissible given the textual space allotted to the journal article. Again, resembling article introductions, Grigory's research is being situated within the outlined context by indicating a knowledge gap, which then serves as a stepping-stone for guiding the reader to the objectives of the proposed research, towards the middle of the second of the two large paragraphs of the section.

Table 8.2 Excerpt 3

2004–2005 initial proposal 4. Project description
Objectives of the collaboration: The Wave Phase Conjugation (WPC) in acoustics or ultrasonics is an equivalent of Brillouin scattering or four-waves-mixing in optics. It allows, by a physical process inside an active medium (the magneto-acoustic conjugator), the creation of a kind of acoustical laser with time reversal properties allowing a retro-focalization of incident waves with a huge increase of their initial energy. The potential applications are very attractive. According to the target medium, they concern acoustical imaging, medical surgery (kidney stones, cell hyperthermical treatments), non-destructive testing as well as velocimetry in heterogeneous fluids. The technique is still in development in research laboratories but the possibilities are such that France and Russia decided the creation of a joint "laboratoire Europeen Associe" (CNRS et Acad Sc Rus) around this topic. Industries are aware of the potential applications and begin to support the emergence of first industrial tools. Nevertheless, some key issues are still not well understood, particularly for high-energy waves, because the nonlinear effects inside the materials make impossible the derivation of mathematical reference solutions. Only numerical simulations can provide a guide for technical improvements and optimization of the process and of the phase conjugators. These considerations lead to the main objective of the proposed collaboration—*the development of computational techniques and tools for the simulation of waves propagation which would be easily adaptable to a wide range of media with complex constitutive laws (for instance, biological ones)*. It would allow solving various problems of great practical importance related, in particular, to high-resolution self-corrected acoustical microscopy, echography of biological tissues, non-destructive testing, and ultrasonic non-intrusive velocimetry. Some computational techniques developed by [CanU] team are very promising for this purpose and this collaboration could clarify many unanswered questions.

Indicating a knowledge gap is one of the key features of a grant proposal (Connor 2000; Connor and Mauranen 1999). But given the constraints of the table format of the FFCR proposal form, burying the gap and relating it to research objectives at the end of the "Objectives" section did not prove an appropriate strategy. In line with the discursive traditions of Russian academia, the writer is letting the reviewers themselves gradually build an appreciation of the importance and innovativeness of the idea of wave phase conjugators. But it is the wrong place for communing with this audience. Anglophone discursive tradition relies on explicit reader guidance throughout the text, and reviewers quite certainly did not understand the author's intention, commenting rather dismissively that it was:

> Not clear what the "fresh idea" [of the proposal] is. (FFCR Proposals 2004–2005 Evaluation Sheet, reviewer comments)

Moreover, while the author may have thought it would strengthen his claim to state that France and Russia had already joined forces to further the development of wave phase conjugators, this choice proved to be unsuccessful and even suspicious with the proposal reviewers whose reaction was:

- Does not create a new Canada–France partnership but instead adds to an existing France–Russia collaboration.
- Would probably proceed without [Can U]'s involvement. (FFCR Proposals 2004–2005 Evaluation Sheet, reviewer comments)

The Successful Re-submission: Evolution of a Disciplinary Insider

Grigory's understanding of the undercurrents of grant writing—intertwined constraints, opportunities, activities, and conversations around a proposal—is evident in his re-submission to FFCR the following year (see Table 8.3).

Here both the gap and the objectives are brought forward to open the section. The gap is assigned a more general value initially and then effectively elaborated through the objectives. Furthermore, the emphasis is not only on the theoretical and practical novelty, applicability, and importance of the proposed research but also, noticeably, on joining the expertise of Canadian and French teams, which, one is encouraged to assume, may not have a chance to be joined without having funding. So not only does the author emphasize Canada–France connection and eliminates a misinterpreted involvement of the Russian side, but within the very first sentence of readable length he makes a move to involve his reviewers (if our collaboration is not funded, considerable theoretical and practical problems are likely to remain unresolved, outstanding). At the same time, a certain degree of suspense is built into this opening sentence since the author does not divulge which specific issues will be addressed and may remain unresolved if this research is not funded. Instead, the reader, having been given a bait, is led to these issues presented as the three visually outlined objectives which immediately follow the opening "hooking" remark.

To drive the bait deeper, Grigory alters his word choice in the description of the main research goal: while in the initial proposal it was a modest proposition of "develop[ing] computational techniques and tools", in the winning proposal the novelty element usually emphasized in promotional writing in the form of the adjective "new" has been added and "techniques and tools" generally perceived in

Table 8.3 Excerpt 4

2005–2006 winning proposal 4. Project description
Objectives of the collaboration: The general objective is to join the expertise of both teams in the fields of computer modeling and wave phase conjugation in acoustics, so that to effectively address outstanding theoretical issues and industrial application problems. More specifically, the collaboration will include: 1. Development of the new computational method for simulations of waves phase conjugation in acoustics, which would be easily adaptable to a wide range of media with complex constitutive laws (such as, for instance, biological ones). The new method will be based on the novel idea recently proposed by one of the collaborating teams and successfully applied in different but related areas (see more detailed explanation below). 2. Incorporation of the technique into the existing in-house software. 3. Application of the tools to various problems of great practical importance related, in particular, to high-resolution self-corrected acoustical microscopy, echography of biological tissues, non-destructive testing, and ultrasonic non-intrusive velocimetry, magneto-acoustics, etc.

academia as narrower in scale and operational in scope have been substituted by "method", a higher tactical concept inclusive of both techniques and tools as well as having a potential to serve as a basis for developing a methodology, a strategic concept of the highest level: "Development of the *new* computational *method* [emphasis added]."

To draw the reviewer further into the text, to encourage reading on, another element of promotional writing is used in stating that the method will develop out of a uniquely new concept proprietary to one of the collaborating teams (but not specifying which, as opposed to laying it out up front in the 2004–2005 proposal). What's more important is that this "novel idea" has already been proven successful in related disciplinary fields; i.e. hint, this research funding will not be an investment into testing a potentially dead-end concept, it's already been not only done but the concept has proved to be viable. Thus, the reviewer is encouraged to see that the proposed project and FFCR investment will bank on both the innovativeness and the initial success of "the fresh idea". Not only is the reviewer explicitly pointed to "the fresh idea", he/she is metatextually guided to read the "detailed explanation below". In contrast, in the 2004–2005 proposal "the new idea" was driven to the bottom of the two lengthy paragraphs and presented as some computational techniques (again word choice) that although promising still needed to be tested out. The author's stance there was tentative, with considerable hedging ("promising", "could clarify", "many unanswered questions"), while there is practically no hedging in the winning proposal and the stance is quietly assertive (the undisclosed idea has already been tested and is successful).

In sum, instead of attempting to do too much in too restricted a space (lay out the ground, the new theoretical concept, the importance, applicability, and existing would-be competition for the proposed research), the result of which is sinking the reviewer's teeth into too much unguided information, the author anticipates and addresses the reviewer's reading strategies and the agency's stated priorities by what one program officer in a corporate funding agency called "nailing it on the head". Specifically, the author uses CFP key words, phraseology, and concepts to align the proposal with the priorities specified by the funding agency; he does not crowd the opening sections by seemingly jumbled but in reality very honest listings. He emotionally involves the reader in the stakes of the proposed research by aligning the research objectives of the proposal with the priorities of the funding agency; that is, he deploys abridged but direct hits on the CFP statements (e.g. in the Objective 2, the author aligns the outcomes of the proposed research with the CFP priority fields, this time in information technology). His rhetorical strategy results in a suspenseful, subtly promotional style. Syntactically, the author supports his discursive choices using metatext and short[er] sentences; he also subdivides the text visually into numbered subsections, both of which greatly improve readability of the proposal. In the resulting text, Grigory projects an image of a competent, confident, and credible disciplinary insider.

Some Closing Thoughts

When Grigory's initial proposal did not succeed, he found the reviewers' comments helpful for preparing a re-submission:

> If you don't win the grant, it is possible to see your reviewers' comments at the Office of Research. I took those reviews into account. They did not really see what was there. I had to write more clearly and more straightforward, even blunt, I'd say. (Grigory)

And he knows why being blunt is necessary. Having won several competitive grants, Grigory himself had become a reviewer for Canada's NSERC and experienced first-hand the workload and time pressure on the reviewer.

> I got the NSERC grant on this year's re-submission, and this year I myself received 18 proposals to review and my timeframe to review them is a week and a half. Not only do I have to read 18 proposals, for each one I have to write comments in various categories into this form [a highly structured 2-page form]. So, really, how much do I have to go into each proposal's details? This one, here, has 33 pages of text and there are 18 of them! That is why of course the writing should be. …If I see the key words [and phrases], that's a good sign already, but if I don't see them… (Grigory)

In his own grant writing Grigory now explicitly bridges the proposed research with the funding agency expectations: "I [now] write to be clear and stress what they [funding agencies] require."

In closing, Grigory's perception of the necessity of being "blunt", "boasting" and "chest thumping" in grant writing, which Myers (1990) characterizes as self-assertiveness and Connor and Mauranen (1999) as promotionality, stems from the fact that grant writing has not been part of Russian academic practices and that self-promotion in Russian academic writing is considered unethical. Authorial assertiveness in a proposal was a serious challenge for this researcher, and it took precious time and failed effort to learn. But he succeeded. Given that Russian academics do not receive explicit writing instruction in graduate school and that Grigory had not had the opportunity as a graduate student in North America to be involved at least peripherally in developing proposal submissions, resourcefulness of this researcher is all the more impressive. He initially employed his knowledge of an English-language genre most familiar to him, the research article. When a proposal written like an article introduction failed, he synthesized the results of his analysis of the failure into a commanding submission to meet the opportunities and constraints of the genre of grant proposal.

Conclusion

A North American grant proposal should "sell", and graduate ESL students in North America often have an opportunity to learn this through participation in various funding-related activities. But saying "sell" to many ESL academics may sound

like a contradiction because in a number of non-English cultures the connotation of "selling" includes unethical "boasting". Unfortunately, even though grant writing tips abound, lack of systematic research into ESL grant writing leaves these writers to their own devices.

This case study suggests that in writing grant proposals new non-Anglophone scientists face more challenges than their local peers. They have to learn to participate in new, often entirely different and sometimes alien systems of disciplinary writing in a foreign language. Specifically, the discursive system of grant writing is part of "the educational machine" that produces particular kinds of people who are able to engage in particular kinds of competitive knowledge construction. Authorial assertiveness and self-promotion in this system are aligned with the notion of a humble servant of the discipline, but this is not obvious to an uninitiated newcomer. Current performance pressures, some of which are reported in this case study, e.g. "bringing in money" through highly competitive grant submissions within a restricted timeframe, leave little time for learning. Nor do these pressures seem to allow for mentoring by established researchers. Conversely, the competitive nature of research grant funding and highly specialized disciplinary knowledge may hamper institutional efforts to include and enable the success of new ESL hires. But would they render these efforts impossible?

Suggestions

In private talks as well as through correspondence, several ESL academics indicated that *any* help with grant writing would be much appreciated during the first couple of years of being hired. Their wish list includes not just workshops/counselling sessions by the Offices of Research but, notably, specialized courses designed for grant writing new faculty; talks by highly successful ESL grant writers, experienced grant reviewers and agency officials. Mentoring is high on the list. So even though "everyone here is busy like hell", establishing a multi-disciplinary pool of experienced faculty, both Anglophone and ESL, who would be willing to advise first-time ESL grant writers can be a good tactic. Understandably, faculty would be more amenable to this idea if such appointments were recognized as service or teaching and counted towards workload.

Although empirical research is much needed to understand the specifics of ESL grant writing, universities may wish to consider some targeted services for their non-English faculty now. Research Offices can facilitate introductions to appropriate funding agencies and officers through networking events where grant officers present their agency specifics not just for the ubiquitous "newcomer" but for a culturally diverse ESL cohort. Individual departments can further help by implementing mentoring schemes, whereby as part of initiation into the department/faculty veteran grant writers and reviewers lend experienced eyes to the ESL newcomer. Such mentoring may include not only reading and commenting on the new hire's drafts but involving them in team grant writing and real-time reviewing of propos-

als written by others. In fact, as Grigory's experience shows, early exposure to both team writing and reviewing grant proposals in one's discipline as well as thoughtful use of reviewers' comments is beneficial to building knowledge of the system.

In sum, in a climate of corporatization of the university culture and a growing concern with public accountability, academic policymakers may wish to consider facilitating a number of concrete measures aimed at welcoming non-English researchers and maximizing their contribution to institutional performance. These could extend to involving them in policy-making decisions by encouraging international faculty to serve as agency grant counsellors externally and on consulting staff of the Offices of Research, thus integrating their perspectives, knowledge, and experience—and not just into practical advice on grantsmanship. In the long run, their voices should inform agency and university policies and be reflected in concrete processes and procedures established by funding agencies and grant reviewing committees.

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Chapter 9
Disciplinary Voices: A Shifting Landscape for English Doctoral Education in the Twenty-First Century

Lynn McAlpine, Anthony Paré and Doreen Starke-Meyerring

Introduction

What is appropriately done in a doctorate (Noble 1994; Golde and Walker 2006)? To what extent should disciplinary differences, changing economic conditions, the technological revolution, or societal need influence the answer (Woollard 2002)? What is the doctorate preparation for work in an academic field or in society (Golde and Dore 2001)? These questions highlight for us the shifting, contested nature of the doctorate both within and beyond academe, and are questions of scholarly (as well as professional) interest to us. And, the questions assume even greater urgency in the face of a significant problem in Canadian and U.S. universities: increasing times to completion (Elgar 2003) and doctoral attrition rates as high as 30–50%, with the higher rates common in the humanities (Lovitts 2001; Yeates 2003, February).

In this chapter, with the help of academics and students in a Department of English—a discipline representative of the humanities—we examine issues around the changing nature of the doctorate. For us, this was an opportunity to look within another discipline (other than Education) and learn more about doctoral education from that border crossing (McAlpine and Harris 1999). And this visit to another disciplinary culture—quite distinct from ours—has been an object lesson, since we face different but equally forceful policies and societal trends in our own field of Education.

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What emerged was an intriguing picture of a discipline struggling with whether and how to re-define itself in a time of dramatic changes in popular culture, publishing, and the job market for English PhD graduates. In the words of Graff (2006), "the English doctorate needs to be rethought from the ground up" (p. 372). This moment of flux provides a context for considering how disciplines can and might change their doctoral practices and how those in English specifically imagine and propose to move forward. In effect, we make the argument that there are opportunities for the revitalization and growth of the English PhD, but only with a thoughtful re-examination of the shifting landscape of the field; what may be required is the transforming of many traditional cultural practices—a change process not easy for any discipline to achieve.

How This Account Was Developed

We used a grounded approach, beginning in a particular Department of English, using focus groups (one with academics and one with PhD students) since we were interested in the negotiated and constructed ideas of the community (Wilkinson 2003). During these conversations, we also asked for suggestions of published sources in the field of English that addressed doctoral education—in this way accessing the literature these individuals were aware of.

After analyzing the transcripts and notes from the interviews to identify themes pertinent to each group, the drafts of the themes were sent to each to ensure authenticity. Next, we drew on the literature suggested by our English colleagues to see the ways the themes in this department were mirrored in others' experiences in the same field. At this point, we also drew on our own knowledge—Anthony's and Doreen's in literacy studies, and Lynn's in higher education pedagogy and academic development. By incorporating our own understandings and interpretations, we were able to consider the implications for the doctorate beyond this outpost of English. In using this grounded approach, we attempted to be sensitive to context, to be transparent yet rigorous (Smith 2003) in order to represent as best as possible insiders' perspectives.

The Department: An Outpost of the Discipline

This story is embedded in a particular time—2005—and place—McGill University, an English language-based institution in a predominantly French-speaking province of Canada. The Canadian political system is extremely decentralized, and the division of fiduciary and fiscal powers, different from more centralized jurisdictions such as the UK and Australia, limits the creation of national standards in higher education. This creates, perhaps, more degrees of freedom for universities and

departments to decide how to respond to the mixture of societal expectations and government policies that they are experiencing.

The PhD program in this department was rethought 13 or so years ago and consists of one year of course work, one year of "fieldwork" (study with substantial report and exam), and then the dissertation, with an expected five years in total to complete. The program is intended to "give [students] an understanding of a particular field but also a deep understanding of a number of important theoretical questions that bear on work in the discipline" (Paul).

The Professors' Voices: Fetishizing Completion as a Platonic Good

It is late afternoon in mid-November. It's already dark and snow is falling outside the window deadening the sounds on campus as we gather around a table in Paul's office. Paul, the Chair of English, with Shakespeare his academic interest, is a relative newcomer to McGill, having arrived only four years ago. Maggie, at McGill for roughly 20 years, is the previous Chair and has also been Graduate Director; her interest, the Renaissance, overlaps somewhat with Paul's. Dorothy, the present Graduate Director, also acted in this position from 1999 to 2002; she is a medievalist and has been here about as long as Maggie. *In these areas of expertise, we see fields, which have been central to traditional departments of English.* [Italics represent our comments on the descriptions and statements.]

We ask a couple of questions and are launched on a lively, animated conversation for the next hour and a half, discussing a range of things; the two we highlight here—since they represented the central issues of the group—are institutional and societal pressures of time to completion that conflict with disciplinary perceptions of what it takes to become a member of the discipline, and issues around attracting the best students.

Maggie and Paul are particularly vehement concerning the institution's increasing emphasis on PhD completion in four years regardless of subject area. Maggie sees it as "dangerous thinking". Paul believes there is a "deep misunderstanding between some disciplines in the humanities and the university. Time to completion is the wrong proposition; it should be time *for* completion". All three want students to complete relatively quickly, but not without the chance to "follow their noses" (Paul), "do some intellectual exploration in a relatively risk free environment [and] not at the sacrifice of the quality of research" (Maggie). This is "truly distressing and highly detrimental to research in arts and humanities. Whatever happened to exploring the frontiers of knowledge and ideas for the sake of intellectual expansion and scholarly enhancement?" (Dorothy). *At issue here is the contrast between mode 1 and mode 2 forms of knowledge (Gibbons* 2000*). What is valued here is a more traditional academic view of knowledge rather than the one that prizes socially useful knowledge (Golde and Walker* 2006*).*

And, there are bigger, longer-term issues at stake:

> Reverberations down the line for the next generation of scholars and I think that these things were not adequately being considered…these are not understood. The administration does not seem concerned with the potential long-term effect on certain fields that might require fieldwork or time-consuming archival research. (Maggie)

"Being told *how long to take* [emphasis added] is going to determine some choices. … It is therefore vitally important our discipline is adequately represented in discussions that could determine the directions of future scholarship for some time" (Maggie). "It needs to be talked out" (Paul). *While there have been ongoing conversations within the Modern Languages Association for two decades about the nature of the discipline and the purpose of the doctorate (Delbanco* 2000*), the discussion does not appear to have been taken up with those outside of English (Graff* 2006*). Thus, institutional awareness of variation in disciplinary expectations of the PhD is not common.*

When asked whether these issues were discussed in the field, Maggie and Paul note the competition among the English departments for the best students:

> I went to a meeting of chairs of English…and the question came up of topping up students [ones who have already received funding council fellowships]—because departments compete to get these students. …And this wonderful guy from [X University] said maybe we should call a moratorium on this; and we all looked at him and said, "That's a wonderful idea but we are not going to do it." …And we all knew why we weren't going to do it… because it would disadvantage us. (Paul)…
> That's what you try and compete with. (Maggie)
> We want to attract the best students not just in Canada, but in North America and from Europe and so we want to do anything we can to bring them here." (Paul)…
> And usually that means money. (Maggie)

The challenge with increasing global competitiveness (e.g., the Bologna Declaration in Europe) is to find a way to preserve "an edge". Attractive funding packages offered by departments can be a deciding factor in choosing a program for many students.

Overall, these issues represent concerns about the future of the discipline and who controls it. *The issues are largely represented as difficulties with institutional and funding council expectations and how competition among programs seems to limit collective action. There was no reference to how changes in the nature of the field might influence the PhD, although Graff* (2006) *and Lunsford* (2006) *both point to the extraordinary changes in the field as a source of tension in and a motivation for the revision of the English doctorate.* We turn now to the students' perspectives.

The Students' Voices: Entering the Profession—Grooming Us for What? Where?

A month later, mid-December—again late in the afternoon, dark, it isn't snowing and the lights of the city can be seen from Lynn's window. Sitting at the table are Joel, Jenn, Janet and Lynn. During the next hour and a half, the conversation flows around the challenges and tensions they are experiencing as becoming academics.

Joel, who did his MA elsewhere and has just completed his first semester, begins:

> [I] was unsure if I would like teaching and found a sessional lecturer position. …By about the third year, I had absolutely peaked, hit the ceiling…I didn't really see any future…and I wanted to do some more research and writing and thought that the PhD would be a good place to start.

Joel represents an increasingly common career in English—sessional lecturer hired part-time or on an annual contract with no career prospects (Zimmerman 2006, January; Graff 2006)—though surely not the career envisioned by English faculty, whose focus is on preparing scholars, predominantly in literature.

Jenn, is a new post doc, having just completed her degree at McGill in four years. She "could have done a 'better' dissertation" if she had taken longer, but "basically I was speedy because of the money issue". Janet, who will finish shortly, has taken a bit more time than the five years named by the professors as "the time it takes":

> Fairly early on in my undergrad degree I had a feeling I would like to do a PhD and now… at the end of it…I am often in the position of evaluating what I thought it would be like with what it has *really* been like…certainly, my expectations have changed.

This launches us into a discussion of expectations. Why were they doing this? "Hoping for tenure track" (Jenn). …"Yeah" (Joel). "I thought of course I'd get a tenure-track position" (Janet). And, is this consistent with their program? "We're being groomed for tenure-track positions and they don't discuss other options" (Janet). Joel adds:

> Because there's a real competition among research-intensive universities. And that's the reason our departments are preparing us as researcher-scholars rather than teacher-scholars. So, we have virtually no attention paid in our school to teaching because they are working on the assumption that they're gearing us up as the next generation of research-intensive scholars.

This goal is reinforced by "a list going around the department of who has ended up where—you don't count if you ended up at a [junior college]…the faculty members don't give that the same validity" (Janet). *This lack of change to doctoral programs to incorporate alternate career prospects rather than a focus on tenure-track positions in literature has been described as quite common in English (Golde and Walker* 2006*) despite calls to reform programs (Graff* 2006*). At the same time, there are programs pursuing alternatives in composition and rhetoric, or English in the sciences. Yet, such program changes can be difficult given the general tendency to re-produce cultural patterns and practices; such change may engender departmental rifts as well as a major re-thinking of departmental priorities for hiring, supervision, etc.*

While the students' hope is—*was*—for tenure-track positions in research-intensive universities, they are aware that this is not, in fact, what the future holds. In a jumble of voices, this reality emerges. "There are maybe about half the tenure-track jobs available for those who graduate" (Janet). "And where you get those jobs may not be where you expect—they may not be at research-intensive institutions" (Jenn). Janet adds the facts (all three seem to know them) from the Modern Languages Association: in North America, there are something like 900 graduates

each year and 400 tenure-track positions—counting the "many, many liberal arts colleges…in small town no-wheresville" (Janet). Jenn asserts:

> Nor do they tell us that you are not likely to end up at a McGill because you can never go above your PhD, you can only go below when it comes to the job market. They didn't say that it is not McGill or [another Canadian research-intensive university] that's going to hire you.

Further, they know the department is hiring from outside the country; in fact, they researched the issue and found 80% of recent hires have been from the United States—"What message does that send?" (Jenn).

Academic hiring is increasingly international, so that graduates not only compete for positions with colleagues in Canada, but also from other countries, especially the United States. Bidwell (2005) *confirms the students' statements that only 50% of the individuals hired in Canadian universities into tenure-track positions that year had Canadian PhDs. This contrasts with contractual limited term appointments for which all positions were held by those with Canadian PhDs (Bidwell* 2005*). And their situation is not a happy one; Zimmerman (*2006*, January) notes the "humiliation of applying for work every year, the lack of security, the desire for 'new blood' in the department so graduates are not hired…some call it a feudal system" (p. 42).*

So, what of the future? In Canada with a small number of research-intensive universities, that leaves few options, especially as Jenn notes that the number of sessionals is increasing and now represents close to half of academic staff in some Canadian institutions. "You need to lower your expectations a bit" (Jenn). …accept the "realization that perhaps that ideal job in a research-intensive institution in an urban centre is not going to be as attainable as something…with a lower profile" (Janet). *This pattern also exists in the United States (De Naples* 2003*).*

On this depressing note, we shift to issues within the PhD:

> There's a lot of difficulty because of the funding. …Basically most of us realize we are going to sink or swim based on our funding. So if we don't get decent funding, we are slaves to [Teaching Assistantships] and other work, which is valuable work experience for most of us. But it's really valuable to the university because it's such cheap labour. They're [administration]…willing to exploit it to any extent possible without worrying too much whether a grad student should still be in university in seven or eight years. (Jo)

North et al. (2000) believe that universities have taken advantage of the lack of consensus within the discipline about the value of literacy and communication studies to hire part-time lecturers for the bulk of communication and writing courses. Graff (2006) echoes that analysis. The students reflect that same understanding:

> Yeah, and it's soft funding. (Joel)…
> Funding which is actually work and there's this awful distinction, which is not made, between funding and work. (Jenn)…
> Yeah, they call it funding but it means "slave labour"…what is really at issue here is not the unpleasantness of teaching assistantships—they're actually quite enjoyable!—but rather their capacity to suck all time and energy away from the research and writing a grad student is supposed to be doing. Thus, the administrative pressure to complete the degree in four years is unreasonable, given the hours of labour (many unpaid) that are involved in TA-ships, the only "guaranteed form of funding". (Janet)

TA-ships are the norm in English doctoral programs with more than half of reporting institutions offering them to all first-year students (Steward 2005). Indeed, time to completion ideals, likely derived from conditions in better-funded disciplines where students may work on their theses as research assistants in labs, assume a very different meaning in English, where funding is frequently less related to the student's research.

Key issues for the students are lack of career opportunities, which is linked to the ways in which their program does (or doesn't) prepare them for the future, and how teaching is a double-edged sword (necessary for survival and appreciated as a learning opportunity but taking time away from the PhD). *These students are experiencing what Graff* (2006) *has called a disciplinary "curriculum" that is a set of negotiated compromises that creates disorientation and confusion because of its mixed messages. Again, there was no reference to how changes in the nature of the field (as opposed to the job market) might influence their preparation.*

The Lived Experience: Mirroring the Larger Context

The conversations highlighted for us some of the tensions and pressures of the reality of English and the PhD in this department. How do these issues relate more generally to the field? The positioning of English as a discipline within the university clearly emerged as something that both groups—faculty and PhD students—agree is an issue. Their perspectives vary though, given their different roles, although they emerge with a consensus that the university does not understand or acknowledge the differences between the sciences and humanities and, in fact, may—as predicted by Lyotard (1984)—privilege the sciences over the humanities. As Hyland (2004) notes, the sciences have in many cases been very successful in articulating the relevance and value of their knowledge in postindustrial society. Delbanco (2000) is also concerned with institutional pressures. He decries the marketplace metaphor and managerialism of university; and, he affirms the lesser privilege of the humanities in this universe of fiscal reality, describing science envy as driving the institution.

While the students are receiving mixed messages from the university, they also feel they are receiving mixed messages from the department. They understand that the professors want this to be "the best years of your life". But the constant struggle for funds—doing the teaching, as well as trying to get published substantially before graduation if they are to have any hope competing for a tenure-track position—leads them to ask "where is the time to reflect, to enjoy?" Delbanco (2000) notes that those in research-intensive universities (e.g. McGill) are terrorized by publication schedules and graduate students are realizing that they are actually exploited employees mollified with false promises about their future. Folsom (2001) also describes the results of the shift to a more competitive research-driven environment, features of the field that concerned the McGill students (and to some extent the academics): toughening of tenure standards, pre-professionalization of the dis-

cipline with graduate students needing teaching and publication files equal to what was expected for tenure 15 years ago, and those hired into colleges having strong publishing rather than teaching records. These thoughts are mirrored by Graff's (2000) reference to the "ruthless productivity speedup" (p. 1192)—the need to have publications in order to even get an interview.

As regards tenure-track positions, again there is agreement among students and professors that such positions are the hope, but there is a certain disappointment and a sense of deception for the students since they see a reality that does not match either their hopes or what the department is preparing them for. Delbanco (2000) echoes the concern of the McGill students, noting that scholars who thought they would be professors at distinguished universities are poorly paid writing masters at colleges. Folsom (2001), former chair of the English department at Iowa State University (interestingly at a large research-intensive university), laments the present expectation of colleges competing with research-intensive universities and sees this shift originating in an administration with institutional goals often based on getting top class talent, thereby becoming a second-rate research-intensive university rather than a unique undergraduate one.

The Shifting Landscape of Knowledge Production

There was an issue we found in the literature that did not emerge in our conversations with the academics and students in the department: the shifting nature of knowledge production and its impact on the field of English. The shifting nature of knowledge production includes, for instance, radical changes in notions of literacy; new media and electronic technologies; divisions between literature and rhetoric, and between literature and cultural studies; theoretical rifts between traditionalists and post-"everything". How might changes in knowledge production form/transform disciplines? How might academics deal with potential disruption to disciplinary knowledge production if they wish to respond to changing external environments as well as remain stewards of their disciplines? Since we view such questions as influencing the nature and purpose of the doctorate, we consider them in some detail.

Interestingly, the English Department is situated in Quebec and thus in the educational context that gave rise to Lyotard's (1984) groundbreaking articulation of this changing environment as the "postmodern condition". As Lyotard noted, in post-industrial societies, under the conditions of global capitalism, "knowledge has become the principle force of production", resulting in a fundamental shift in which knowledge is valued and which isn't. Specifically, Lyotard noted that in post-industrial societies, knowledge will be valued increasingly for its instrumental and commercial value and less for its own sake or for the sake of social progress or for societal emancipation:

> Knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorised in a new production: in both cases, the goal is exchange. Knowledge ceases to be an end in itself; it loses its "use-value". (pp. 4–5)

There are perhaps few other disciplines that reflect the tensions emerging from this shift more acutely than English. On the one hand, traditional research concerns of the field, e.g., ancient or modern literary works, critical theory, literary hermeneutics, are not easily subordinated to the increasing emphasis on the exchange value of knowledge in postindustrial society. On the other hand, the shift in knowledge production and values is reflected in the emergence and recent boom of various sub disciplines such as Rhetoric and Composition, Literacy Studies, Cultural Studies, Media Studies, Technical and Professional Communication, and the Rhetoric of Science, all of which have extended the study of English from the English of novels and poems to the English of student writers in and outside classrooms; teenagers on the internet; professionals, e.g., engineers or managers, in workplaces; researchers across disciplines; and citizens in public arenas. Over the last 20 to 30 years, these subfields have grown tremendously, with numerous PhD programs, professional associations, large annual scholarly conferences, and numerous scholarly journals attesting to this growth. While the trend originally emerged in response to numerous social, political, and disciplinary exigencies in the United States, it has increasingly also developed in Canada.

When such programs arise, they often create considerable tension as curricular space and norms of scholarships are being negotiated between the emerging and the traditional forms of knowledge in English. It is in these emerging disciplines where much of the growth is occurring, where funding is often easier to obtain, and where the demand for job candidates is greatest, with many openings going unfilled because not enough candidates specializing in these emerging areas are available. However, not all English departments have embraced these emerging directions for numerous reasons, including perhaps the overall mission of their university, a sense of resistance to the shift in knowledge represented by these new areas of research, or a lack of resources. The challenge of being a steward of the discipline, entrusted with its care on behalf of those in and beyond the discipline (Golde and Walker 2006), is to reconcile the tension between conserving the essential features of the past while keeping the discipline relevant and current.

Co-Constructing a Discipline, a Program, and a Process—The Way Forward?

Within this shifting landscape, how might the purposes and practices of doctoral education change? As noted earlier, there has been an ongoing but unresolved dialogue about the purposes of the English PhD (for instance, a 1999 conference on the "Future of the Doctorate"). And, De Naples (2003), a graduate program director, asked: "What can graduate schools do to improve knowledge of our profession, and what should chairs and senior faculty members do to make sure their junior colleagues reach tenure and promotion?" (p. 40). His answer: Since students often find positions in a two-year college rather than a research-intensive university, they should be prepared to thrive in two-year colleges, to develop knowledge of teaching

and service in order to become better candidates and later more successful faculty members in these types of institutions rather than research-intensive ones. This is not a dramatic change, conceivably doable without substantial disruption to departmental practices.

What are some bolder images of possibility within the discipline for the issues documented above? North et al. (2000) believe what is required is a radical re-think, creating a new single entity distinct from the original components in the discipline; the rationale for this is that what has been tried so far—splitting off rhetorical and cultural studies or holding everything together through compromise to create an "integrated" curriculum—has simply not worked.

Similarly, Lunsford (2006) proposes English as encompassing literature, language, and writing (noting that separating them is counter-productive given the ways in which communicative acts are merging electronically). Programs should include a range of discourses and images of all kinds—film, video, multimedia and cookbooks, tombstone inscriptions. Equally important for her is modifying admission procedures to reduce exclusionary practices which have led to the under-representation of females and minorities. Lastly, she believes it is essential that students experience collaborative projects and, when possible, multi-disciplinary ones. She even recommends collaborative dissertations in order to prepare students for the changes that are occurring in society and in expectations for those who complete a doctorate.

Graff (2006) confronts the deepening ideological and methodological conflicts by proposing that the "contested issues of the discipline" should form the basis of the doctoral curriculum. For instance, introductory graduate courses could focus around disputed issues, e.g., What is English? What are the differences between the new and old ways of historicizing literature? How did the "publish or perish" system evolve? What is its rationale? What, if anything, should be done about it? He has other suggestions as well that would better integrate the range of fields within the disciplines. For instance, establish and promote alternatives for non-academic employment; and explore the common ground between the research and pedagogical aims of doctoral programs and English teacher education programs by offering jointly taught courses.

Closing

In this chapter, we have examined the nature of doctoral education in English—the "profession" as those who belong call it—from a Canadian and a North American perspective. We see the interconnected and contradictory world that professors and students are dealing with as they attempt to reconcile societal drivers, institutional demands, and disciplinary expectations in an ever-more complex world. The culture of English (and modern languages) is a "shifting and fragile homeostatic system—a particular and unique equilibrium of opposing forces, a method for avoiding or attempting to avoid…breakdown while evolving and adapting to changing environments" (Evans 1990, p. 275).

At the same time, the issues within English parallel those in other disciplines and may provide some insight for us. In fact, we were struck by the ways in which we could see parallels. For instance, in the social sciences there are concerns about the career pathways of new PhDs. In Education and other applied fields, there are efforts to create new kinds of doctoral degrees—ones that are deemed to better prepare individuals to engage in mode 2 knowledge construction (knowledge emphasizing societal rather than academic relevance, mode 1). Projects in the United States, such as Preparing Future Faculty and the Carnegie Initiative on the Doctorate, have provided support for departments and disciplines to rethink their doctoral curricula. And, a recent initiative by the Carnegie Foundation is directed explicitly at exploring the professional doctorate in Education as distinct from the research degree.

At the same time, a critique of the disciplinary work on rethinking doctoral education in the Carnegie Initiative (Golde and Walker 2006) brings to the fore the difficulties of change when undertaken from within. The proposals for change in the Golde and Walker book (2006) were written by respected disciplinary experts, and they are described by the editors of the book as representing incremental shifts rather than more radical re-articulations of what doctoral education might become. While such a stance might be interpreted as a desire to avoid breakdown while adapting to changing environments (Evans 1990), it may also represent the inherent stability and continuity of socio-cultural practices—in fact, the difficulty of not reproducing embedded ways of thinking and acting. Delamont et al. (1997) noted that in doctoral education there tends to be an intergenerational transmission of disciplinary knowledge and skills that results in the reproduction of academic practices. Further, academic knowledge is a cultural product mediated by a wider social context (Hyland 2004) and departments may be more focused on those outside the discipline, e.g., the institution in which they are situated, who are challenging established but different aspects of disciplinary/departmental practices—for instance, at McGill, the push by the institution for shorter times to completion. Yet, some of the examples of change proposed above by those in English represent more radical perspectives. And, they provide a set of broad questions, which could reasonably be addressed in all disciplines.

- How might changes in modes of knowledge production be forming/transforming disciplines? What new fields, ways of thinking, are lurking at the boundaries of the disciplines?
- How can we remain stewards of the discipline—both conserving the best in the discipline while responding effectively to these changing circumstances?
- How do the answers to these questions change the purposes and the practices of doctoral education?

Addressing these questions requires simultaneously co-constructing a discipline (a distinct culture of knowledge and ways of thinking, acting, valuing), a program (the doctorate) and a process (developing academic identities). In doctoral programs, both academics and students through their collective inquiries can form and transform the discipline, while finding ways to respond to, re-direct, limit or take ad-

vantage of institutional and societal influences. The challenge entails preserving respect for self, finding continuity in personal and disciplinary goals, and sustaining academic authenticity—both supporting the reproduction but also the transformation of identities and relationships of the disciplines. So, we end with Royster's (2000) still current and challenging question to his colleagues in English: "Given both our vital differences and our vital alliances amid changing material conditions, how…do we engage each other in meaningful and useful conversation…to negotiate both mutual and non-mutual actions?" (p. 1226)

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Part IV
Supporting the Doctoral Process Through Research-Based Strategies

Policies and practices within institutions are often built on taken-for-granted practices (without the benefit of evidence) or result from external calls for accountability (perhaps accepted without evidence to challenge such calls) that exacerbate the documented tensions and challenges reported by doctoral students and pre-tenure academics. We suggest there is a need for evidence-based perspectives to support the rethinking of certain doctoral policies and practices, and perhaps to challenge external drivers that are placing increasing demands on institutions and therefore academics. As researchers in this area, we believe that addressing this problem involves first engaging in well-designed research that produces grounded findings embedded in the day-to-day experiences of doctoral students and new academics and which can, upon further analysis, be presented in a way that informs and challenges taken-for-granted policies and practices.

Our research team is deeply committed to using research in ways that will ultimately influence the experiences of early career academics and this explains our choice in using an action research methodology. In the three chapters in this part of the book, we elaborate the conceptual, policy, and practical implications of our research. The goal in each case is to demonstrate how research can be drawn on for different purposes. In Chapter 10 (McAlpine and Amundsen) findings from across our research program are integrated and synthesized, with reference to the literature in the field, to develop a more robust conceptualization of the experiences of early career academics. We believe this chapter to be particularly useful for early career academics in reflecting on their experiences and considering ways in which they may be more intentional in crafting their futures. In Chapter 11 (McAlpine and Amundsen), we describe the results of a rethinking of the findings emerging from our research. The starting point was to re-examine the findings to see the extent to which they might call into question some of the taken-for-granted assumptions underlying doctoral education. Four examples of how research findings may stimulate more research-informed doctoral education practice and policy development are offered. These would be particularly relevant for policy makers such as Graduate Program Directors, Chairs, and Deans of Graduate Studies, as well as supervisors.

In the last chapter, Chapter 12 (Amundsen and McAlpine), the activities and processes we engaged in with research participants and with other members in our departments and institutions as part of the action research cycle are described. Included are focus group discussions, workshops, symposiums, and the development of a supervision handbook. As well, we describe our activities at the national and international levels to stimulate conversations about our research findings through conference papers, a website, and published papers. In all of this work, our intention is to examine our own practice and that of others and draw on these experiences to discuss how we all might take up these or similar findings in context-appropriate ways. This chapter is particularly pertinent for anyone responsible for providing support or training (e.g. Academic Developers, Program Directors, Chairs).

Chapter 10
Making Meaning of Diverse Experiences: Constructing an Identity Through Time

Lynn McAlpine and Cheryl Amundsen

The goal in this chapter is to integrate and synthesize the results of the research program as presented in the previous chapters in a way that can be particularly useful for early career academics. Our hope is to offer a means for individuals to reflect on their experiences and consider ways in which they might be more intentional in addressing their futures. Focusing on the intentionality of individuals through time provides a counter discourse to policy arguments which tend to privilege the expectations and regulation of different institutional roles.

We begin the chapter with a reminder of the differing perspectives that have been brought to bear in representing the experiences of becoming an academic. This provides the basis for exploring the threads we see that weave the different chapters together.[1] These threads foreshadow a description of a conceptual framework emerging from our research that can provide individuals with a tool for analyzing and reflecting on the disparate experiences of academic work in order to construct a meaningful academic identity-trajectory.

We are mindful that four of the chapters (2, 3, 4, and 6) were situated in Education, a field which could be construed as taking a more developmental or pedagogical approach to interactions and experience. And, it is the case that in the social sciences a close connection between academic learning and personal identity is often asserted (Green 2005). However, the evidence emerging from our research was similar in the three chapters situated in other fields, Physics (Chap. 7), Engineering (Chap. 8), and English (Chap. 9), and Chap. 5 which included doctoral students

[1] The discussion in the beginning of this chapter assumes the reader has read all of the previous chapters in the book. If this is not the case, the reader may want to begin reading this chapter at the second heading "Emerging Strands and Threads".

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from a range of disciplines. So, we believe the framework we provide here to be useful across a range of fields.

Different Stories: A Kaleidoscope of Perspectives

In Chap. 1, the overview of the higher education landscape reminds us that the academic workplace is changing and thus challenging all academics including those who are early career, to consider their possible careers in terms of being self-employed entrepreneurial knowledge workers (Baruch and Hall 2004). With this broader perspective as background, Chaps. 2 and 3 took up the experiences of doctoral students and pre-tenure academics as regards their academic work. In Chap. 2 we followed the day-to-day experiences of Education doctoral students over time as they pursued their degrees. The chapter explored the challenges and pleasures of the doctoral journey. Students often participated in activities not directly contributing to their degrees (e.g. teaching, consultancies), and these activities contributed to a richer and more complex sense of what it means to be a scholar in a chosen field. Particularly noteworthy were the breadth of relationships beyond the supervisor as well as students' own sense of personal responsibility for achieving their intentions. In Chap. 3, we saw the challenges and pleasures of another group of young academics, pre-tenure professors in Education. They were dealing with opaque departmental and institutional expectations while trying to fit in. They also reported a lack of departmental colleagueship in helping them to balance their responsibility to support doctoral students in developing their imagined futures while at the same time trying to progress their own careers. Of particular importance was the intersection of research, teaching, and service in the role of supervision.

In Chaps. 4, 5, and 6 we moved to a focus on academic writing, particularly that related to the dissertation and its defense. Each chapter focused on a different facet of this important doctoral task. In Chap. 4 we were introduced to the work of experienced supervisors in Education as they provided feedback to students in developing the intellectual contribution of their dissertation. The feedback they provided was not necessarily easily understood. In fact, when asked later about their feedback, they reported a general lack of understanding as to the source of their knowledge about dissertation writing and they were similarly inarticulate about the importance of writing as a means to an individual's intellectual understanding and learning. In Chap. 5 we heard students from a range of disciplines describe how they struggled with supervisory feedback, sometimes its lack and other times its inarticulateness. Writing brought forth negative affect; students generally lacked confidence and felt inadequate. Supervisors were reported as not seeing the development of writing as their responsibility—not understanding that writing was the means to developing students' intellectual thinking in their chosen field. Chapter 6 revealed how the dissertation text—the concrete evidence of the student's intellectual contribution to a field—intersects with the ability to represent in vivo the network of ideas and authors in which the dissertation is connected in an ongoing historical academic

conversation. We became aware of the meta-structure of questioning underlying the oral dissertation defense that assesses the student's ability not just to represent his/her work but to demonstrate affective maturity and intellectual resourcefulness in the face of challenges from the examining committee. The three chapters collectively document the living out of the dissertation, not just the document itself, but the repeated actions around it that accomplish what the particular community including the student want it to do, which is primarily to demonstrate the ability to make an intellectual contribution to a scholarly network.

In the next section, Chap. 7 took up the gendered nature of academic work in Physics; Chap. 8 explored how a pre-tenure professor in Engineering learned to master a new genre, that of grant writing; and Chap. 9 reported how both professors and doctoral students in English struggled with institutional and disciplinary expectations. In Chap. 7 we saw how students constructed their gendered identities in a traditionally male-dominated field, physics, which reifies a particular normalized notion of physicist. We were reminded of how our academic experiences are not just situated in past and present intentions and emotions but also in our embodied experiences of masculinity and femininity. In Chap. 8 the experiences of a pre-tenure professor highlighted the challenges of learning an academic genre, grant writing, one that is essential to developing an academic career, and in many cases key to gaining tenure. The difficulties were made more evident since the engineer was from a non-English-speaking country (an increasingly common phenomenon in today's world) so the taken-for-granted assumptions of grant writing were even harder to come by. Essentially, he needed to un-learn what he knew about the nature of the grant writing genre in his home disciplinary community in order to be successful in grant writing in the Canadian disciplinary context. In Chap. 9 we looked in on doctoral students and academics in English. They were dealing with the challenges of doctoral education both institutionally and in terms of the shifting nature of their discipline. While those in both roles agreed on the negative impact of the institutional pressures being placed on the department to reduce time to completion for doctoral graduation (which they described as a one-size fits all approach), the students expressed dismay as to the new disciplinary pressures influencing expectations of newly graduated PhDs. As in the social sciences, finding a position in a research-intensive university increasingly requires multiple publications pre-graduation.

Emerging Strands and Threads

In looking at this kaleidoscope of perspectives on the experiences of doctoral students and pre-tenure academics, individuals recounted a diverse range of activities and interactions across multiple contexts with many different individuals. Many of their experiences could be characterized as workplace learning or learning through participating in work (e.g. having a powerful conversation at a conference with someone previously not known). This workplace learning contrasted with more for-

mally structured activities named as promoting learning (e.g. courses, workshops). Through engaging in different workplace activities, often self-chosen, these individuals were learning what it means to be an academic. They expressed embodied intentions to learn in which past experiences, present motivation, and emotion were brought to bear in making decisions and taking action.

In other words, individuals in both roles brought with them a previous history of learning, both positive and negative, which they referred to and in some cases drew on. These past experiences could provide powerful personal resources (e.g. in Chap. 3 the experiences of the new supervisors of being supervised). However, equally, these past experiences and knowledge could prove to be counter-productive as in Grigory's previous experience of grant writing in Chap. 8. This was also the case in Chap. 7, where male and female Physics doctoral students brought with them to their studies their own personal histories of femininity and masculinity which they had to negotiate against the reified historical notion of what it is to "be a physicist". Across the chapters, individuals reported reflecting on both past and present experiences; they were in many instances being intentional in analyzing their experiences in order to enhance their understanding of academic work and generate possible future goals.

Carrying out these activities involved interacting with a range of different kinds of individuals. This network of relationships was most strongly articulated in Chap. 2 where over time doctoral students regularly drew on a range of relationships beyond their supervisors in furthering their academic work. These included doctoral peers, more senior academics (whether local or geographically and historically distant), university staff such as librarians, and friends and family. This constellation of role-relationships engendered different kinds of engagement and also carried different kinds of responsibilities. For instance, doctoral peer relationships were often characterized as reciprocal, and those with more senior academics provided affirmation of one's work, whereas supervisors were viewed as more directive and sources of institutional requirements. Family and friends, often part of earlier relationships, also brought responsibilities, such as childcare, in addition to providing emotional support.[2]

The importance of networking was also evident in a number of other chapters. For instance, April, a new supervisor, in Chap. 3 described her responsibility to introduce her students who wished academic careers to other academics. And, in Chap. 8, Grigory, a pre-tenure academic, engaged in discussions with individuals in his institution's research office, the research council, and his department between his first unsuccessful grant application and his second successful one. Further, in Chap. 4, one supervisor explained to the student the care with which external examiners needed to be chosen, that it was essential to propose individuals in the field who shared similar networks of ideas.

[2] Chapter 2 more than any other chapter emphasized the extent to which the personal and academic could not be separated. This is likely due to the way in which data were collected: students completed progress logs of day-today activities and interactions. This made it possible to see the intersection of paid work, academic activities, and personal responsibilities.

Networking contributes to situating an individual's intellectual location and thus a community to which it is possible to contribute through, for instance, publications and presentations over one's career. This, of course, is a central purpose of the doctoral journey as represented in the dissertation. The students in Chap. 2 invested much time in reading and writing and getting feedback on their work in pursuit of this goal. Student experience of the defense in Chap. 6 also made this central purpose of the doctorate apparent as students were faced with questions that challenged their thinking in order to demonstrate their scholarly abilities. Aside from the dissertation, the doctoral students in English in Chap. 9 were very aware that they needed to have demonstrated their intellectual contribution to the field through publishing pre-graduation if they hoped to find academic positions. And the challenges were similar for pre-tenure academics. Richard in Chap. 3 noted the advantage to his students of co-publishing with him, while for his own career path co-publishing with a colleague would be more advantageous. Grants also represented an intellectual contribution and this was why it was so important for Grigory in Chap. 8 to be awarded a grant. Both doctoral students and pre-tenure academics recognized the importance of these scholarly activities and were intentional in progressing them, though the journey was not always straightforward as they dealt with unclear, negative, or limited feedback.

Another feature of the learning for both doctoral students and pre-tenure academics was seeking to understand the institutional expectations and responsibilities. These expectations, whether related to institutional or departmental requirements, were often described as invisible or unclear and frequently existed as taken-for-granted practices that were not well articulated and frequently appeared inconsistent. Seeking clarity was sometimes risky business—drawing resistance from more senior academics. This was evident in Chap. 3 where, for instance, one pre-tenure academic came up against the ire of her Chair when she approached someone in another department to sit on a supervision committee. Pre-tenure academics were also trying to reconcile the imbalance between what they found themselves doing and what they would be evaluated on in their tenure dossiers. Doctoral students looked to their supervisors (both in Chaps. 2 and 5) to clarify institutional expectations for the doctorate. On the whole, as workplace learners, doctoral students and pre-tenure academics were invested in making sense of the local. They rarely appeared to take note of the broader societal drivers that created tensions and could disrupt individual efforts to achieve intentions unless these constraints were made visible. For instance, in Chap. 9, both doctoral students and professors were dealing with new institutional expectations created by external pressures to complete doctorates within a prescribed period, a requirement which they deemed to be more appropriate for the sciences than the humanities.

Part of the invisibility and opaqueness of the expectations and practices these individuals experienced is due to the relatively unstructured nature of academic work. This lack of structure offers potential freedoms to individuals in how they take up opportunities and organize their own work. Yet, this environment also calls for a high degree of tolerance for ambiguity and considerable resilience in order to maintain motivation and progress intentions. Thus, we believe engaging in and reflecting

on experience is essential, and as noted earlier individuals reported doing so. Such reflection can support the review of previous intentions as well as the construction of new goals; further, the process may enhance an awareness of how to negotiate with others in achieving these goals.

So far, we have foreshadowed, by weaving together the different threads across the chapters, a framework which we will describe more explicitly in the next section. This framework draws on previously published work (McAlpine et al. in press) to describe a conceptual tool that offers individuals a way to analyze and reflect on the various threads of their academic experiences, including intentions, emotions, and relationships through time.

Identity-Trajectory: Constructing and Weaving Together Strands Through Time

The notion of identity-trajectory emphasizes the integration of past-present-future in the experience of academic work, and the individual's desire to enact intentions and hopes over time. Present intentions, affect, and actions are influenced by the past and will in turn influence the future. Identity-trajectory recognizes that learning and identity are intimately linked—learning is embodied in the whole person and incorporates the past in the present (and thus the academic within the personal). Overall, this view emphasizes the learning processes that emerge from a multitude of contexts, both past and present. These are generally informal learning experiences, rather than institutional structures and processes that might include, for instance, required research methods courses for doctoral students and optional funding council workshops for pre-tenure academics. This form of learning emerges not just through doing work but also importantly from reflecting on work—learning that Clandinin and Connelly (1990) have called personal practical knowledge, or what Schon (1983) has called knowing-in-practice.

Overall, the identity-trajectory emphasizes the individual's movement through time (see Fig. 10.1). The academic identity-trajectory begins with years spent as a doctoral student (and perhaps even earlier) through the time as a new academic and on to more established academic status and is interwoven into the fabric of personal experiences and relationships. While individuals may intend to go in certain

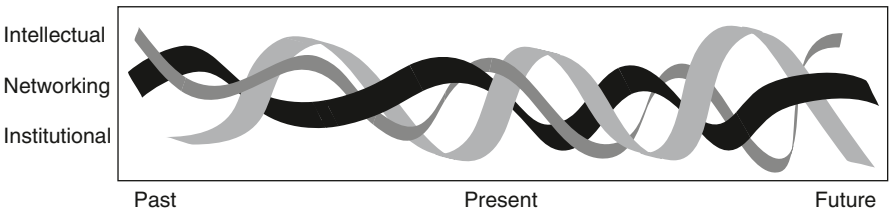

Fig. 10.1 The interweaving of trajectory strands

directions, unexpected events, and constraints (as well as serendipitous opportunities) may lead in different directions from those intended. Thus, one's experiences could become viewed as disparate and unconnected. However, reflection on one's trajectory may provide a way to draw together the past and present to inform new intentions and directions. Further, for analytic purposes, we identity three strands of the trajectory through time: intellectual, networking, and institutional. These three strands are asynchronous and historical, moving through time and space differently but intimately integrated in any individual's experience. Each strand varies (within and across individuals) in length, size, and impact. We believe these career strands provide a tool for individuals to conceptualize and analyze their identity-trajectories through time.

The intellectual strand represents past and continuing contributions to one's disciplinary specialism or field. The intellectual strand leaves a trail of artefacts, e.g., publications, citations, papers, course/curriculum design. These artefacts of thinking exist independently of the individual. How an individual's intellectual strand is seen and the efforts an individual makes to develop this strand are situated in trends such as recent funding council expectations of social impact, strategic grant calls, and expectations of collaboration resulting in increasing co-authorship internationally (Gingras 2002). Technologies have also altered how manuscripts and other intellectual contributions are created and communicated (Starke-Meyerring 2005). As noted above, our research suggests awareness of such trends is influencing doctoral student efforts to be published before graduation (McAlpine et al. 2008), and pre-tenure academic decisions to co-author with students in order to advance their own intellectual strand while advancing their students' simultaneously (Amundsen and McAlpine 2009). While these demands created tensions and concerns for participants in our research, individuals in both roles also reported occasions when they received emotionally rewarding affirmations for their accomplishments.

The networking strand represents the range of local, national, and international networks one has been and is connected with, and aside from personal networks includes: (a) research and publication collaborations with others; (b) cross-institutional course/curriculum design; (c) work with professionals if in professional schools; and (d) membership in disciplinary organizations and on journal boards. How an individual's networking strand is seen and the efforts an individual makes to develop it are situated in, for instance, technologies that enable more contact with greater numbers of spatially separate individuals (Menzies and Newsome 2007), and access to more publications. As noted above, our research suggests that students are intentional in developing and drawing on a range of relationships beyond the department and university, which they report as affirming and emotionally rewarding (McAlpine and Jazvac-Martek 2008). This may help explain why supervisors seemed less central to students' experiences than is often cited in the literature. While we have less evidence of the import of such networking for new appointees (due to our data collection procedures), what little evidence we have suggests that such relationships are also important to pre-tenure academics.

The intellectual and networking strands, representing one's scholarly interests, are reciprocal. Following on initial findings (McAlpine and Jazvac-Martek 2008)

as well as the research underpinning this book, we believe the networking strand plays a role in establishing the intellectual location for one's contributions, and begins earlier than the intellectual strand. At the master's level, for instance, an individual starts to develop a network of intellectual peers through reading in his/her chosen field. The intellectual and networking strands do not though directly provide an essential feature of work, namely, access to resources. This is provided by the development of the institutional strand which represents relationships and responsibilities wherever an individual is physically located. Responsibilities include teacher, supervisor, teaching assistant, research assistant, committee member, and administrative roles. How an individual's institutional strand is viewed and the efforts an individual makes to develop this strand are situated in the changing higher education context. This is exemplified in, for instance, the loss of support staff and subsequent increase in administrative tasks that were not formerly part of one's responsibilities, demands for increasing undergraduate enrolment, and shorter times to completion for doctoral students. It is also evident in calls for public accountability where external organizations (e.g. in Canada, *MacLean's* magazine; in the UK, the *Times Higher Education* supplement) set criteria by which institutions and therefore individuals in them are judged.

Institutional resources can support or constrain an individual's networking and intellectual strands. Evidence from our research supporting this view was pre-tenure academics' reports of tension in their desire to advance their own intellectual efforts to publish while also complying with departmental expectations to take on more supervision (Amundsen and McAlpine 2009). As for doctoral students, McAlpine and Asghar (2010) noted that while the institutional strand may be overlooked as a feature of doctoral experience, chances to develop it during the doctorate can provide experience of achieving goals through collective effort as well as a better understanding of institutional influences. A vital feature of the institutional strand may be the "rites of passage" marking one's changing status and thus potential to access more resources. The specific rites differ for doctoral students (e.g. dissertation defense) and pre-tenure academics (e.g. tenure and promotion). Yet, in both roles individuals were cognizant of how the judgements of others could both help them move forward in achieving their desires (and be emotionally affirming) as well as be potentially devastating in limiting their development. This perception of the import of others' academic judgements on individual sense of identity hinges on what has been called a "rejection environment" (Baruch and Hall 2004) in academia. What is essential in this environment is endurance and resilience, the capacity to adapt positively and successfully to, and to bounce back from, adverse circumstances by negotiating one's intentions, and sustaining socially positive relationships (Day 2008).

An individual's intellectual and networking strands are likely largely located beyond the institution in the sense that discipline can be viewed as a historically, spatially extended, and fluctuating territory through time and space (Becher and Trowler 2001; Zukas and Malcolm 2007). Yet, disciplines are also institutionally constituted within universities, each institution with distinct socio-historical structures combining "outposts" of different specialisms in institutionally coherent de-

partmental/school structures. So, in seeking a doctoral program or academic appointment, the issue is first an awareness of the degree of "fit" between what is personally desired and institutionally available, and second, the extent to which an individual views it as worthwhile to construct a match between the two. The intellectual and networking potential may not be ideal, (e.g. a "sociologist" within a health faculty), but features of the institution (e.g. location in proximity to family) may make it viable.

Further, not to be overlooked are the implications of this institutional home, for instance, the ways in which the intellectual and networking strands may come together with the institutional strand in "rites of passage", whether tenure or oral defense. For instance, the defense involves the supervisor (who has institutionally "approved" the dissertation), the Pro-Dean, and other university representatives outside the department (who ensure university procedures and expectations of doctorateness are maintained), local colleagues in the discipline (who are not necessarily specialists in the area but still within the intellectual network), as well as the external examiner (who knows the intellectual "in's and out's" of the dissertation field well).

Influencing the Future

With others (Leathwood and Hey 2009; Clegg 2005), we believe that attending to individual agency is essential in understanding academic practice. Similarly, emotion is often ignored in examining academic practice, yet there are calls to integrate this aspect of experience (Neumann 2006). By attending to agency and emotion, we focus on the individual's ability to interpret and respond, but also modify or resist practices and expectations with others across time and space. This perspective emphasizes what the individual brings as well as takes away from experiences of academic work. Conceiving of early career academic experience in this way offers a developmental lens. Identity-trajectory emphasizes the potential for growing negotiated agency and personal resourcefulness—as well as the contrary feeling of being unable to negotiate or draw on resources—in dealing with the challenges as well as pleasures in the construction of the intellectual, networking, and institutional strands of identity-trajectories.

Our hope is that the idea of academic identity-trajectory can be useful as a personal tool for reflection and analysis for early career academics. For instance, it can serve as a reminder of the incredible individual variation that exists in experiences and perceptions of academic work, so comparing one's own identity-trajectory with others may not be fruitful without understanding the different hopes and intentions that each brings to his/her learning. Further, the notion provides a structure to examine the influence of day-to-day experiences on one's learning. Analyzing the degree to which the respective strands have been developed or overlooked in relation to personal intentions as well as the ways in which they intersect or go in different directions can be personally meaningful and provide a means for re-thinking

one's intentions. We suggest it is important to find a personally comfortable balance amongst the three strands. For instance, some individuals will prefer to invest more in the development of their intellectual strand and others in their institutional strand at any one point in time with the idea of balance only obvious over time.

As well, identity-trajectory makes visible the link between intentions and the emotional ups and downs of involvement in academic work. While critical feedback is important, affirmation is also necessary in order to know how well one is doing. Yet, particularly in the institutional strand, the desire for affirmation and direction from others may coincide with the possibility of tensions with these same individuals. In other words, as individuals negotiate their intentions with those who may have different desires and more power, others' power may be constraining and distressing. Yet, our research suggests that on the whole individuals experience sufficient positive emotion to remain intrinsically motivated. We suggest watching for, valuing, and remembering such positive emotion given the inevitability of tensions and challenges; doing so may enhance the development and maintenance of resilience.

While we have focused on the value of identity-trajectory as a tool for early career academics, we also consider the concept a heuristic which others in positions to mentor early career academics might take up so that they may nurture their junior colleagues to be confident and resilient in their work for decades to come. Given the changing context in higher education, which many have described as challenging traditional values, a sense of personal agency is important if we are to collectively "push back" and bring our own intentions to influence the future.

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Chapter 11
Challenging the Taken-For-Granted: How Research Can Inform Doctoral Education Policy and Practice

Lynn McAlpine and Cheryl Amundsen

Wherever one looks in today's higher education world, global competitiveness and public oversight are fundamentally altering the context and practices of academic work. Such trends can have profound implications for those desiring academic careers, namely doctoral students who plan on pursuing an academic career and newly appointed academics who are trying to establish themselves in the academy (Enders 2007; Menzies and Newsom 2007). Thus, as noted in Chap. 1, it is not surprisingly that across the disciplines doctoral students and those in academic positions leading to permanence report isolation, a lack of clarity about expectations, and uncertainty as to whether their own values can be aligned with those of the academy (Bieber and Worley 2006; Reybold 2005). The extent to which they succeed in addressing the challenges and tensions they perceive in undertaking academic work will influence whether and under what personal conditions they remain in academia (Huisman et al. 2002). The tensions and challenges they perceive will largely emerge from their day-to-day experiences of academic work within particular institutional contexts.

The Taken-For-Granted

Policies and practices within institutions are often built on taken-for-granted practices (without the benefit of evidence) or result from external calls for accountability (perhaps accepted without evidence to challenge such calls) that exacerbate the

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documented tensions and challenges reported by doctoral students and pre-tenure academics. We suggest there is a need for evidence-based perspectives to support the rethinking of doctoral policies and practices, and perhaps to challenge external drivers that are placing increasing demands on academics (e.g. Menzies and Newsom 2007). As researchers in this area, we believe that addressing this problem involves first engaging in well-designed research that produces grounded findings embedded in the day-to-day experiences of doctoral students and new academics and which can, upon further analysis, be presented in a way that informs and challenges taken-for-granted policies and practices.

As noted in Chap. 1, our four-year program of team research[1], the basis for this book, examined the experiences of doctoral students and pre-tenure[2] academics from different perspectives. As we neared the end of the research program, we took time to review the studies in order to consider the extent to which they might contest some of the taken-for-granted discourses of academic work such as the mechanistic views characterized by a focus on "decreasing time to completion" for doctoral students, or for new academics "that having completed a PhD, one has the necessary knowledge to undertake all aspects of academic work". In this chapter, we describe some results of this analysis hoping to stimulate reflection on the importance for researchers of directing their own work towards institutional decision-makers in order to stimulate more research-informed practice and policy development. (We describe in Chap. 12 specific activities and processes we have initiated and supported at our two universities as part of this aspect of our research program.)

This chapter originated in a discussion amongst the team members as to the overall themes emerging from our data and interpretations across the research program that might lead us to question some of our taken-for-granted assumptions. The potential of the proposed themes to challenge assumptions was then verified through re-reading the collective corpus of reports and publications representing the research, and in some instances, returning to the original data to verify the robustness of the interpretations. The goal was to derive empirically based summaries (and associated excerpts) that documented our initial interpretation that there was evidence to challenge taken-for-granted practices and ill-informed policies. This was done for both doctoral students and pre-tenure academics. Two themes pertinent to each are reported here.

[1] The studies have led to a series of presentations and publications, a list of which can be found at http://doc-work.mcgill.ca.

[2] In Canada, and more generally in North America, full-time academics are often hired into "tenure-track" positions as assistant professors; these positions are secured 5–6 years later if the individual is deemed worthy of "tenured" status. However, the tenure system is coming into question and has been discontinued at some institutions in the United States.

Themes That Challenge Taken-For-Granted Assumptions

Doctoral Students

We explore first the following assumptions underlying doctoral practices and policies in many institutions: (a) time to completion needs reducing; and (b) the task of the dissertation is "writing it up".

(a) Time to Completion Needs Reducing

Internationally, funding councils are calling for shorter times for doctoral completion, regardless of the discipline. This may be partly a result of a realization that times to completion were unduly lengthy, often up to 7 years in the social sciences and humanities in the United States (Yeates 2003). However, the impetus for shorter completion times has also been characterized as an economic one: three to four years is deemed to be sufficient for students to meet doctoral requirements with funding and other kinds of support limited to that timeframe (e.g. fellowships). This stance overlooks the doctoral experience as preparation for academic work (Halse and Malfroy 2010; Austin 2002) or the importance of accomplishments (e.g. publications) during the years as a doctoral student when competing for an academic position. Further, doctoral students are still often stereotyped as relatively young with few responsibilities, yet this is not the documented reality of at least social sciences doctoral students (Hall and Burns 2009).

Our research provides further and distinct evidence to challenge the assumption that time to completion needs reducing. In our research students were highly invested in their doctoral work reporting spending long hours; they were not avoiding their doctoral studies or procrastinating as they balanced home and work responsibilities (e.g. McAlpine et al. 2009). For instance, while individuals reported some weeks in which they did minimal work related directly to their doctoral studies, there were also logs which reported 60 and 70 hours of work in the week. Barbara explains:

> And there's no end to it. You could be working 100 hours a week on it and never be done, so you need to develop a really good sense of time management. Decide what hours or what times you are going to work on it and then that's it. So it requires a lot of discipline that way.

Further, corroborating Hall and Burns (2009), students participating in our research did not match the traditional notion of a graduate student (elaborated in Chap. 2). Many had extensive work experience, were in their thirties, and a quarter had family responsibilities. Progress logs referred to caring for sick children and dealing with elderly parents, and there was at least one participant in our research who was a single parent with children.

About half referred to full-time work at various points and at least a third noted needing to work because they were not otherwise funded. Having funding would

have made their doctoral work easier since having to take on work unrelated to their studies imposed time pressures limiting their time to do doctoral work:

> Money would have helped with the [lack of] time issue. If I had funding, I wouldn't have to work part-time. That, in turn, might have helped with the writing as more time would have meant no excuse for not trying to get started! (Yvonne)

Not only were students dealing with family responsibilities and non-academic paid work, they were also engaged in a broad range of academic activities, such as teaching and committee work (e.g. McAlpine and Amundsen 2009; McAlpine et al. 2008). In Regina's description below, we become privy to this range of activities not necessarily formally incorporated into her doctoral program but essential in coming to experience and understand the nature of academic work:

> Writing, creating two posters, meetings (many!), attending our research centre knowledge fair, lab dinners, guest speakers, reading, meeting new people, attending a PhD defense dry run, also-instructed MEd class and supervised students' projects.

This engagement in a range of activities was consistent across doctoral students and included research tasks for others, different kinds of writing and presenting, committee work, research team and informal meetings, teaching, and attending and presenting at conferences. These activities were often described as motivating and fulfilling.

While engagement in these activities may extend time to completion, they support the development of students' intellectual networks, their knowledge of institutional resources and constraints and perhaps most importantly their understanding of the responsibilities and tasks that academics take on. In fact, some students were aware that involvement in these activities prior to graduation could be vital for positioning themselves for an academic position. Here, Linda, a doctoral student from English, characterizes the changes she has seen in expectations of new graduates:

> Much has changed; now you need more pubs, and sometimes a post doc is expected. You need a lot [of publications] to get hired in a research-intensive university. And, [yet] many [present academics] were hired with a master's, and a few pubs.

Not surprisingly then, some students expressed resentment that they were being called to complete their degree within four years (which they perceived as a natural sciences model), and that the same time expectations were placed on all disciplines.

Students appeared to be aware of the fact that they were learning informally and could benefit most if they took the time to examine the underlying meaning of their diverse experiences. Melissa comments, "I approach this [dissertation] as a very self-reflective learner…[because] I need to do the work and to show progress." And the results of this reflection enabled many to imagine forward in their careers. Val notes how her present membership on a Faculty committee has given her the opportunity to imagine undertaking a particular activity in the future:

> So, I can see myself later in my career in the university trying to do things like that, to improve a little bit the quality of life of the students, to improve the sense of belonging, really I like being part of the [organizing committee of the Faculty Seminar series]—learning to organize, being able to go and ask questions of some presenters—what are you going to present?

Overall, what we saw in our research was that students were invested in personally learning to think and act in ways that represent becoming an academic, and also to be recognized by others as academics in their work. Engagement in this range of activities is critical to future academic success, to the potential of finding academic positions, and as such needs to be viewed as curriculum enrichment, rather than a hindrance to completing the degree promptly. This evidence argues for a more thoughtful approach to creating policies and practices related to the time expected to complete a doctorate, one that takes into consideration the full range of things to be learned, the importance of experiential learning, the intersection of the personal with the academic, and the fact that lack of funding can re-direct attention as well as add pressure to individuals' lives.

(b) The Task of the Dissertation is "Writing It Up"

A common characterization of the role of writing is represented in the often heard phrase—"Writing it up." This phrase evokes the sense that the doctoral inquiry is first done and then comes the task of describing it in text. This overlooks the powerful, embedded integration of thinking, writing, and learning. This relationship has long been championed by those in genre studies (e.g. Kamler and Thomson 2006), yet those of us more generally researching doctoral student experience have not necessarily embraced the centrality of writing in terms of being and becoming an academic, particularly its integral role in developing the intellectual and networking strands of identity (Chapter 10 and McAlpine et al. in press). Note in the description below how Holly characterizes over time the locating of her intellectual network and their recognition of her contribution in her annual participation at a conference:

> The first year—I would listen…to the presentations…I didn't think I was a particularly stupid person but I just couldn't understand what they were saying…This last conference… I listened and I realized that I could understand everything that people were talking about. It was like "I UNDERSTAND! I KNOW WHAT YOU ARE SAYING!" …And so as you participate…you become more a part of the community…and everybody knows who I am and is really excited about what I'm doing.

The evidence emerging from our research program reinforces the centrality of writing, both in the student interviews and in their logs but also in innovative research as represented, for instance, in the work of one of our team members. Paré et al. (2009)—see also Chap. 4—documented conversations between supervisors and students about the student's writing. What became evident was the inarticulateness with which supervisors talked about writing and providing feedback. Here are three examples:

> Supervisor: That's a very interesting phenomenon. You should, if you could, pursue that because I really think it's quite rampant.
> …
> Supervisor: [Chapters should be] as long as they need to be, in a sense. There's no magic formula.
> …

> And, in response to a student question on "how much I need to report on previous research in institutional theory in my Conceptual Framework [section]".
> Supervisor: Well, enough so that we understand what you're using and what you're adding. So, I would say you don't have to be too verbose, but enough so that somebody can understand the pieces that you're putting together.

Bazerman (2007) has noted the challenge for academics to communicate about the writing process since they lack a vocabulary for doing so. Thus, although these supervisors had been successful in writing their own dissertations and other published papers and proposals, they lacked (through no fault of their own) an ability to articulate how reading, thinking, and writing are interconnected and how one writes oneself to meaning, to understanding. This may explain the origins of the prevailing view of "writing it up" or simply representing the study in text. Yet, this characterization often constrains the ability of supervisors to better help students.

We suspect that statements such as those above explain why students did not always find feedback helpful. As Wendy noted after a meeting with her supervisor, "Her feedback was vague: 'you need to do something else here', with 'else' left unarticulated. I didn't know what to do." Yet, students reported valuing feedback and seeking it out in a range of venues, e.g. at conferences. Further, they also described student writing groups in which they had powerful and positive experiences of receiving feedback. Here, Ginger describes what for her constituted good feedback:

> Good feedback is "This sounds good. You are on the right track but you need this, this, this. This doesn't make sense, you need this." Just sort of "Here's what's good—here's what's missing. Try this source. Try that source. You already knew about this why haven't you included it?"

Students sometimes reported receiving feedback from supervisors that was emotionally challenging. Here Nellie describes the experience related to a dissertation chapter she was particularly proud of. Fortunately, in this case her supervisor moved beyond the bad news to help her see a way to move forward; however, based on other student reports this kind of support was not always provided:

> [I] was devastated and floored when he told me, "I have never seen anything that bad before…it was awful…I've never seen you hand in anything that bad before." [But] he didn't just leave me there, [he talked to me about the] organization of my work, what makes the greatest impact, and how to say it in the best words.

What we would argue based on the evidence presented so far is that there is a clear need to help both doctoral students and their supervisors develop a discourse for talking about the writing process, particularly guidance as to the way in which to provide meaningful and constructive feedback. We move now to an additional point, one that we have rarely seen addressed in either genre studies or doctoral education more generally.

Specifically, we want to examine what we have learned about a related activity, that of reading. Students reported reading extensively, in fact, with the same frequency as reports of writing. There was a clear connection, a moving back and forth, between reading and writing that was essential to the development of clarity and progress in thinking. The prevailing emphasis on writing makes invisible the

intimate integration between reading and writing, that reading is the way in which one finds an intellectual home and "parentage" for one's writing.

Yet, evidence of the role of writing is embedded in students' descriptions of their work. For instance, if you look back to Ginger's comment above, she described how getting suggestions for further reading is part of good feedback; and earlier Nancy described how those more senior at a conference confirmed that the literature she had identified was comprehensive.

Further, John noted in one progress log that a specific author was the most important individual for him in that period, "[It was] a writer of the book I'm now reading…he provided a great context for understanding the 'drivers' of the phenomenon I am to study." And, Ken noted the integration of reading and writing in relation to his progress; reading helped him when he couldn't write:

> To create some space for myself, I went to the public library or to quiet cafes to read and write. I also bought a laptop, so that I could work away from home and from the university. As far as overcoming my writer's block, well, I haven't done anything special, other than read some more instead of forcing myself to write in vain.

A critical aspect of engaging in both reading and writing is exploring the historical and contemporaneous intellectual networks related to one's own interests and through this process ultimately situating oneself in a network of relationships that become one's intellectual home. Thus, Holly notes that having found her network she is never alone:

> Academia is very encompassing and you have to immerse yourself in it to feel a part of it—and the realization that I actually had a voice in a scholarly discussion happened when I was writing alone…I realized when one is writing, one is never alone.

Overall, we believe the present discourse misrepresents the role of writing as well as overlooks the importance of reading in the doctoral process. The evidence emerging from our research calls for a thoughtful re-examination of the pedagogies surrounding writing and reading. And, any strategies and policies need to go beyond a focus on the dissertation since there were other academic genres (e.g. research proposals) students were learning to construct. Further, as we noted earlier, there is student concern about the need to publish prior to graduation. A comprehensive reframing is called for, including how to help supervisors as well as students learn how to decipher and make meaning of feedback (Paré, in press), and what role peer-reviewed publication (and other genres) might play during the doctorate (Paré 2010).

Pre-Tenure Academics

We now explore two assumptions that we believe underlie attitudes and practices regarding pre-tenure academics: (a) that having completed a PhD, one has the necessary knowledge to undertake all aspects of academic work; and (b) career building is primarily attending to criteria for promotion and tenure.

(a) Having Completed a PhD, One Has the Necessary Knowledge to Undertake all Aspects of Academic Work

Most new academics come to their first academic position with experience in the context of only one or two universities and experience working with only one or two supervisors (although many students develop quite a network, as discussed in Chap. 2). In terms of the academic work they will undertake, much has been written about the lack of preparation for teaching (e.g. Warhurst 2008) and even for many research tasks (Austin 2002). Our own research investigated academic experiences in supervising graduate students, a role for which many felt woefully underprepared (Amundsen and McAlpine 2009, and see Chap. 3). There is gathering evidence that what doctoral students expect academic life to be like does not fit with the reality (for example, Bieber and Worley 2006). This is exacerbated by current trends and expectations—as outlined in the beginning of this chapter and in Chap. 1—that, it could be argued, change traditional ways of being in academia and ways of working. Yet with few exceptions, there is rarely any thought given to the formal preparation of doctoral students for the whole of academic work nor of pre-tenure academics once they are situated in their new institutional context (Golde and Dore 2001; Gaff 2002; Pichon 2010).

Participants in our research found the new academic and institutional environments in which they found themselves to be different than they had expected in many ways. Many commented on the heavy workload and the extreme diversity of tasks that was expected. Based on their own doctoral experiences, they knew that academic life was busy—but were taken aback by the reality. Kate describes her reaction which was similar to that of others:

> The workload is incredible. It just doesn't make sense. I mean I work fast and I am pretty result-oriented but when I came here I developed and taught four courses—since I've been here. You know, research applications—all the research projects coming in—and the PhD students—Oh, that's the other thing, people are saying "You're supervising how many?—You shouldn't be—You should wait until you get tenure." Then they are saying, "You should be director next" and I'm like "I don't even have tenure!" Like whoa! You know. The workload is incredible…I'm telling you I've done a variety of jobs [outside academia] and this one is pretty relentless.

Just gauging how much time certain tasks took was a surprise to many. June contrasts her perception as a doctoral student with her current experience as a new academic in terms of providing feedback to students on their writing:

> It's a lot more work than I ever anticipated! …I mean as a grad student you don't think about that. You think "Oh, here's my 30 pages, they can read it in two hours!" In order to do it [reading student work], right, it takes so much work and I really had no way of gauging that timing before. And so I guess I've come to appreciate how extraordinarily time intensive it is to do it right.

Only one of our participants, April, had had a first academic appointment at another university, a university that had less of a focus on research productivity and

in which senior faculty seemed to have had, at least informally, an understanding of the steep learning curve new academics faced:

> Just very different in terms of the pressures. …As a junior faculty member I really felt like a junior—like you were mentored. There were no expectations in terms of administrative duties—you weren't expected to be a coordinator of a grad program in your first year or those kinds of things. I mean I was the only person hired in our department in that year. So the senior people looked after all of that so they were like, "No, in terms of service get your name on an elected committee and do that" but there was definitely a much slower ramping up than here. Like I have said over and over to people [at my current institution], "I'm so glad this wasn't my first job."

In the two institutions in which we conducted our research, the situation seems to be quite different from what April describes in referring to her previous institution. Howard noted, consistent with other research participants, that "the mentorship has not been really strong. I think the written manual supports have not been really strong". Lack of ready guidance forced individuals to have to initiate questions with senior faculty and many were not comfortable with this. Karen describes her experience in trying to understand expectations for reading courses[3]:

> And I'm trying to hold the line [on expectations about reading courses] but there is no [line]—Where am I going to learn the context of what the line is 'cause there isn't one. And we don't talk about it. So then you have to go ask stupid questions to a senior faculty member. And you ask this person and you get one answer, you go over here and you get another. And then you still have to develop what is your inner integrity you feel comfortable doing.

Despite these unexpected challenges and expectations, most of the participants in our research were going about the work as best they could, drawing on their own experience as a doctoral student and learning as they went along. They drew on past experiences that were both positive and negative, as they moved to establish their own ways of working. This was especially apparent in the role of graduate supervisor, a role that was completely new for all of our research participants and for many it required a rethinking of the pedagogy of supervision now that they were "on the other side of the table". An important issue that came up was how soon new academics should be expected to take on the supervision of doctoral students. Amelia notes, "…untenured professors are supervisors the minute they come in the door, which is a huge responsibility before they have learned the game, learned how to manage their own career".

Interestingly, in both universities where we conducted our research, there had been at least the informal practice of a new academic successfully supporting one MA student to completion before taking on doctoral supervision. At the time of our research, this practice had been abandoned, perhaps because of institutional pressure to admit more doctoral students. Howard proposed something similar to

[3] Students sometimes approach professors to design an individual course involving just one student and the professor or perhaps two or three students and the professor. Usually this is done because the student has a special interest in a professor's area of expertise or it could be that a desired course is not available at that time.

the previous practice of first graduating an MA student although what he proposed was more short-term and therefore perhaps more doable, given current institutional pressures:

> To require that new faculty participate on a number of committees before becoming a senior supervisor so that they can see the process, get an idea of how it works, go through some defenses rather than just immediately dumping senior supervisor loads on them.

Given the lack of any preparation, we found that the participants in our research drew largely on their past experiences as a doctoral student. For example, Karen experienced something very positive during her doctoral education and wants to carry that on with her own students:

> I had a mentor [not my supervisor]…He invested in me as a person—invested in me, nurtured me as a thoughtful person, and it made the whole difference. And in my experience I was one of a very few if not the only in my cohort who had that experience. …What he was trying to honour in me and in my work was not understood by my senior supervisor. So what I noticed was that if you don't have a person who sees you, you cannot do the work. So I vowed to work to the ethic of my mentor. …So I keep going back to this experience and what was the value in it for myself and that experience was the only guidelines that I have in what I'm trying to understand and develop [with her students].

Richard's doctoral experience was not positive, yet he drew guidance in reaction to what was missing for him:

> I often reflect on my own experiences as a PhD student. …So many things were lacking. There was no mentorship. We never even had a coffee together over six years the three of us. My senior supervisor didn't let me know which conferences he was presenting at so I could go and he could introduce me to people. It was very much old school in a sink or swim—"You are here, when you produce the work, we will talk about it but we won't talk about helping you to produce the work." …So it's just sometimes students have no one to talk to.

In addition to drawing on one's own experience as a doctoral student—something one of our participants referred to as "n of 1"—those we interviewed were "learning by doing", drawing comparisons between experiences, determining what worked and what did not and for the most part working alone to figure this all out. As Valerie noted, "There's no lesson plan…so you pick it up a you go."

The majority of the learning about academic work that new academics in our research recounted could be characterized as informal learning—whether intentional or spontaneous. Professionals from a variety of professions report this type of learning as very significant and there is some evidence that it is valued over formal professional development (see Webster Wright 2009, for a review). This review of the literature takes as its starting place that professionals are agentic, self-directed learners. However, both an engaged professional and a supportive workplace are necessary for professionals to be able to most effectively engage in informal learning (Billett 2001). Often academic workplaces do not consciously value non-formal learning and are not organized to allow and support it (Eraut 2007). The workplace may actually, intentionally or not, present barriers that slow down informal learning and/or result in confusion and anxiety. This was the case with the workplace contexts described by many of our research participants. They used words like "confus-

ing", "it depends on who you talk to", "not black and white", "fluid and flexible" in describing the guidance that was available to them as they went about learning how to do academic work. Considerable energy was often expended and angst experienced because information was often not easily accessible; accepted ways of working were many times not transparent and often explained and interpreted differently depending on whose advice was sought.

The lack of clarity applied to the smallest administrative details as well as to more substantive issues such as the role of committee members and readers of comprehensive exams and quality expectations of theses. Admittedly, the academic workplace is somewhat unstructured and many of us prefer it that way, but for the new academic, we need to understand that it can be confusing. Richard notes referring to comprehensive exams and working with colleagues on various aspects of graduate education:

> It would be helpful if someone got a hold of these issues and actually just wrote down some clear guidelines, even if that means saying they are flexible and to be negotiated, present them to the faculty because, you know, ambiguity breeds insecurity and it breeds confusion and it leads to difficult situations where people unintentionally trot on toes.

All participants spoke to the lack of transparency around expectations surrounding graduate supervision, especially frustrating because, as mentioned above, this was a new role that the new academics in our research were trying to learn. Karen said in frustration:

> I find it very confusing…about what is acceptable. Even from supervisor to supervisor [it varies], right. …There is almost like polar opposite experiences as to the whole setup of how it is enacted let alone the expectations of quality.

Kate echoes the same frustration:

> Same thing with the PhD supervising. So I sort of started asking around like is there a handbook or are there guidelines? I mean I based it on my experience. Obviously that's the only sample—one—that I know of. But my colleagues were really helpful. But again, no standards.

Some of the pre-tenure faculty we interviewed did go to more senior faculty with questions and they reported their colleagues to be helpful in most cases, even if they did not find the clarity they sought. There were other reported occasions when the willingness to discuss things was not forthcoming, as with Kate's experience when she tried to raise some issues about doctoral education in a departmental meeting:

> Some resistance to standardizing anything in terms of what we do with doctoral students. …People go back and entrench themselves in their usual way of being and their positions and I know there is a strong resistance to standardizing what we do with doctoral students. And people get very upset.

Our research findings showed pre-tenure academics coming to their new posts with little preparation for the whole of academic work and often unrealistic expectations of what it would be like. Once in their new institutional context, they were mostly on their own, left alone to learn and figure things out. Guidance in the way of written documents or mentorship was largely unavailable. Senior faculty were often,

though not always, helpful if approached, but many of those in our research were uncomfortable in taking the initiative to approach them. Simone and Kate's suggestions were reflective of the type of collegial guidance that others also wanted:

> I always have to do things the long-way, the hard way—you know—and on occasion I get somebody [a senior colleague] who really is very helpful and sort of consistently helpful, right. So I think that could be expanded—small groups—like a group of four or five with one mentor. (Simone)

Kate reported initiating just such a group:

> I suggested that "It's probably not appropriate to bring this up in the department meeting"—by then three other newbies were besides me—and I said, "I wonder if you would consider having like a more informal meeting where some of the newer staff could maybe talk with some of you that have had much more experience supervising PhD's so that we are kind of on the same page and consistent." And that came about and that was very good. Professor X was the mentor and we said to him. It's not just flattery but we said, "We want to be like you. You are doing something right so we want to learn from you and if you wouldn't mind kind of sharing some your thoughts and your experiences and things." But we kept it very informal—just kind of peer-to-peer.

Overall, these are not weighty or overly time-consuming requests for collegiality, yet such opportunities for interaction rarely occurred; we suggest this may be due to the assumption on the part of more senior academics that pre-tenure academics are prepared to do academic work and coupled with this, that we don't want to appear condescending in offering support. This research evidence reminds us that informal learning opportunities are important to pre-tenure academics who want to know what we senior faculty think and why we do what we do; who want to know how certain practices came about; and who want to discuss with us their thoughts, worries, and concerns in establishing themselves as the kind of academic they want to be. They may also, and well they should, challenge certain practices and policies. Eraut (2004) notes the importance of developing confidence to both learn and contribute and its link to perceived support:

> Much learning at work occurs through doing things and being proactive in seeking learning opportunities, and this requires confidence. Moreover, we noted [in our research] that confidence arose from successful meeting of challenges in one's work, while the confidence to take on such challenges depended on the extent to which learners felt *supported* in that endeavour [italicized in the original]. (p. 269)

As well, Austin (2002) reminds us of the learning and development benefits for we more senior academics when we undertake to systematically support our junior colleagues:

> Socialization is not a static process in which newcomers only receive the imprint of the organization. It is a dynamic process in which the individual newcomer brings experiences, values, and ideas into the organization. (p. 97)

Some institutions offer centralized (often required) orientations for new faculty that range from an information day to more comprehensive programs (for example, Savage et al. 2004). These are undoubtedly useful as an orientation to the institution and generic aspects of academic work. But as we have seen, most of what new

academics are trying to learn is specific to their academic unit and their closest colleagues and can be characterized as informal learning. While most senior academics might agree, if asked, that there is a lot to learn as a new academic, they may not be conscious of the steep learning curve, the attendant tension and anxiety, or the new academic's strong desire for more guidance and support. Therefore, the assumption that new academics are prepared to undertake all aspects of academic life is the operating assumption as reflected in the lack of attention, in most academic workplaces, to explicitly supporting pre-tenure faculty to understand the workplace and the expectations surrounding academic work—be they clear or not.

(b) Career Building: Institutionalizing the Scholarly

New academics taking up their first academic appointment bring with them intrinsic scholarly values and an intellectual passion for their field of study (Neumann 2009). As these scholarly attributes are enacted by the individual in the institutional context, they are shaped by or at the very least overlayed by institutional demands on the new academic's time and activity. Some conflict is inevitable and even more so in the current context of higher education which has been described as being more attuned to the performativity associated with institutional concerns than with traditional scholarly autonomy and ways of working (Clegg 2008; Enders 2007).

A number of researchers have reported the tension experienced by early career academics between the intrinsic motivators in the vocation of the work itself and extrinsic motivators in the conditions under which the work is done (Schrod et al. 2003; Olsen 1993). Reybold (2005) investigated the conflict narratives of newly appointed academics in relationship to careers and found that:

> Personal experiences of professional conflict correspond to an individual's motivating force (source of meaningfulness) and disrupting force (interruption to meaningfulness). (p. 107)

There is also evidence that conflicts, tensions, and challenges are differentially perceived and reacted to by each individual. These instances can be a source of growth or disillusionment as the new academic tries to establish a sense of the academic they want to be and the ways of working that are meaningful to them. In other words, while challenges are inevitable, there are certainly individual differences in how this plays out. Some individuals may adopt quite a strategic approach and be able to "compartmentalize" how they think about academic work. For example, that which they see most closely related to their scholarship (e.g. research, publication, working with graduate students) reflects most strongly their closely held scholarly values. Other aspects of academic work (teaching and service) required by the institution may be less reflective of these values. For others, they seek to inculcate all of their work with the scholarly values they hold dear, seeking personal and professional meaning in all aspects of their work. Where an individual "places" themselves from this perspective may correlate with the tension or degree of challenge they feel in meeting and integrating various institutional demands on their time and activity.

Our research findings add additional insight into the forces that disrupt meaningfulness for new academics. While different individuals in our research reacted differently to similar situations, they all spoke of how they were making and seeking meaning in their work with students and colleagues. In particular, all spoke of the pleasure involved when their work was consistent with closely held scholarly and sometimes personal values. Yet this was often disrupted by perceptions of an overly administrative environment, an underlying politic, and a lack of clarity surrounding promotion and tenure.

Many of those we interviewed were disturbed by the predominance of administrative concerns as the driving force behind certain practices that were, in their opinion, at odds with good academic practice. For example, the practice of giving pre-tenure faculty doctoral students to supervise before they even "get their feet on the ground" is driven by the administrative push to admit more students and graduate them faster. At one of the two universities where we conducted our research, three of our participants were in program areas with no senior faculty because of the administrative push for expansion of programs. As well, many of those we interviewed lamented the lack of scholarly discussion, something they had expected, because of the overriding administrative focus. Simone reflects on this:

> The general atmosphere of the Faculty is that we are all—at least my experiences with the Faculty—is that it is so administratively focused. Whenever we meet it is always to talk about some sort of administration. Like even in our own program area it's not to talk about ideas so much it is like, "Okay, what do we need to do for the program and what about this and all these students are having a problem and blah, blah, blah." And, you know, when it's a faculty meeting or whether it is a faculty forum most of the time it is information-based and one-way…and so what I would like to see happen is that not only our program area but also the Faculty move towards more substantive or content-oriented things.

Perceptions of an overly administrative focus in which conversations about issues of a scholarly nature do not often happen make it difficult for the pre-tenure academic to connect personal and scholarly values with the institutional context. This is compounded by the perception of an underlying politic that is inevitable in an environment where there are more and less powerful individuals. Karen explains this clearly:

> I don't mind trying to learn the culture, but the repercussions for your community involvement are big when you are trying to figure this all out. You are trying to navigate it but you understand that it is all connected to the so-called criteria for your employment. So then you can't enter into dialogues with people—Because if you question them when you are new, you get into that whole thing of kind of politic around issues. So I sense there is a politic as I'm trying to navigate and I try to be respectful of that. But, I'm also trying to develop an integrity—a kind of professional integrity where I have to make my decisions on my own, I think, and try to carefully develop that at the same time as I'm trying to navigate [the community].

A third potential disruption is the widespread and longstanding perception that the institutional criteria for promotion and tenure are vague, ill-defined, and unevenly applied (Austin and Rice 1998). New academics, who participated in our research as well as other research, expressed concern that their scholarly vocation will be

assessed institutionally, in fact, by some of their more senior peers, in ways that (a) they do not understand; and (b) they may not agree with or value. Kate compares her perception of the promotion and tenure process with her experience in industry:

> Well, there is so much that is not clear. That surprised me. That really surprised me. Not that it [in the business world where she worked before] is so much clearer but I find out it's easier to find out what is expected of you. And it is a bit of an anomaly because I find you are evaluated so intensely [in academia] and yet the criteria are vague. I mean something like tenure which I mean in private sector is unheard of—I mean you either do the job or you are fired or—you know what I mean—but this is kind of like all or none. I was expecting like a template or just a table of contents and it was like "No, some people do it like this; some people do it like that"—And I'm like "Yeah, but, isn't this at the core of what you are saying—like it's a six-year probation which typically in the private sector you might have six months and it was just—that part surprised me.

At both of the universities where we conducted out research, there exist institutional level and department level documents that are meant to provide guidance about promotion and tenure, but those we interviewed still seemed to be unclear and we asked them about this. The confusion centred most on work other than research and publishing. How and how much did teaching "count"; how much service is enough and what about supervision? It was felt that the criteria are focused on outcomes and not process. For example, how many students one graduates is counted with little attention to the learning experience a professor provides for her or his students. Janet queried, "I don't know what a reasonable amount is…the workload that I should carry…there's no clear cut ways of evaluating that."

The point we want to make here is the problem of disrupting the developing and personal sense of what it means to be an academic. Our participants talked to us about working to develop their academic practice so that it was consistent with the particular values they held but this was often disrupted by a perceived need to instead attend to sometimes conflicting institutional practices and expectations. While it is true that sometimes the resulting conflicts were instructive and that some individuals took them in stride and were not discouraged, all of our participants wished for more discussion with colleagues to make sense of these practices and expectations from the point of view of the academic work one does. Richard expresses his frustration about the tension between the scholarly work of graduate supervision and the institutional expectations overlaying it:

> You [the interviewer] are the first person I've talked to about supervision, which is interesting in itself. …there aren't many conversations like this going on in the faculty and it [supervision] is quite a core thing. I remember our last Dean was constantly talking about numbers of students being produced per year but we never talked about the issues in-depth about why we are producing more or fewer PhD graduates and what the factors are that can actually do that.

Pre-tenure academics we interviewed wanted to understand academic practice and to have the opportunity to influence it in ways that made sense to them. They also desired scholarly conversations in relation to institutional responsibilities and tasks where the intrinsic passions and values that held meaning for them could be dis-

cussed and understood in the workplace they found themselves in. We senior academics need to find time for this. We need to engage new academics in discussing their sense of the academic they want to be and how they can accomplish this in light of the pressures of academic life.

Conclusion

In this chapter we have drawn on evidence emerging from our research program to construct arguments that challenge some of the taken-for-granted assumptions underlying institutional policies and practices related to doctoral education. Our goal has been to model an approach to inquiry that involves researchers in re-analyzing and reflecting on their findings in light of potential institutional policy and practice implications, particularly in ways that may challenge or disrupt the taken-for-granted. We have found this approach revealing, enabling us to understand the results of our research in a different way. What we have learned from this process is that we see differently when we approach the data from the perspective of a contribution to policy-practice rather than to the scholarly research literature. The challenge of course is then to find ways to engage those responsible for policy and practice in our respective institutions in taking under consideration these challenges to taken-for-granted and sometimes ill-formed practices and policies. And, we have been able to some extent to do this in both faculties of Education and respective universities (see Chap. 12).

Overall, these challenges to the taken-for-granted assumptions underlying doctoral student and pre-tenure academic experience argue for pedagogies that emphasize the "tools of being" rather than the "tools of doing" (Shambough 2000). While we recognize the economic imperative for efficiency, we suggest that the results emerging from our work can help counter these misinterpretations of the nature of academic workplace learning and hopefully support resistance to some of the pressures.

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Chapter 12
Moving from Evidence to Action

Cheryl Amundsen and Lynn McAlpine

We began our research with the purpose of better understanding the reasons for the high non-completion rate amongst doctoral students, especially in the social sciences. Our long-term goal was to improve doctoral completion rates by rethinking existing policies, practices, and pedagogies based on our research evidence.

Despite the substantial and pressing problem of non-completion in the social sciences with attrition rates in the United States ranging from 30% to 50% depending on the subject area (Yeates 2003), previous research tended to be either institutional and relatively atheoretical or theory-driven and focused on individual factors (e.g. supervision). Common were large correlational survey studies of doctoral students across multiple institutions. We recognized the need for a more integrative and coherent perspective from which to conduct inquiry. To frame our thinking, we incorporated the current research about the factors influencing attrition—which students leave and which remain—into an initial model of nested contexts (McAlpine and Norton 2006). We were thus able to theoretically locate the problem within the constellation of six factors falling across societal, institutional, and disciplinary contexts that research indicated were more central than student ability in determining which students leave and which remain. This model provided us with a shared vision and discourse and a conceptual framework for the inquiry which we conceived of as action research.

We began the investigation with some team members collecting monthly progress logs from doctoral students, and in most cases interviewing them once after a year or more, and interviewing about a quarter of them a second time a year or so later (see Chap. 2 for more detail). About midway through the first year of the study, given what we were learning from the student logs and given that most of our participants imagined academic careers, we realized the importance of also investigating the experiences of pre-tenure academics, especially in their role of

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graduate supervisor. We were interested in how they understood and learned the work of supervision, in the broader context of undertaking to establish themselves as an academic (see Chap. 3). At the same time, another member of our research team with expertise in writing studies was directly documenting the interactions between supervisors and students regarding the writing of the dissertation as well as the perceptions of these supervisors as to their role (see Chap. 4). And, another was documenting the perceptions of doctoral students about their writing in general (see Chap. 5). We realized, at this point, that our initial focus on non-completion was changing and that while we were still committed to understanding why students did not complete, this was only part of a now broader focus on learning, specifically learning how to do academic work and the development of academic identity. We began to conceptualize the movement from doctoral student to pre-tenure academic as an identity trajectory (McAlpine et al. 2010, and see Chap. 10). Commensurate with the notion of an identity trajectory, we returned to already collected data to look for evidence of agency and developing academic identity. In so doing, we became acutely aware of the perceived facilitators and barriers to learning and development in the institutional and disciplinary contexts in which we worked. This led to a further series of studies: (a) doctoral students in Education who felt their experiences to have been particularly rocky; (b) doctoral students in Physics; (c) doctoral students and academics in English; (d) a pre-tenure international academic in Engineering; and (e) doctoral student experience of the oral defense in Education.

In this chapter, we first review action research as a methodology and discuss how we incorporated it into the initial as well as the evolving design of our research program. We then focus on the actions (processes and outcomes) that we initiated and/or supported, as part of our research. We explore this in four different contexts: (1) the individuals who participated in the research; (2) the departments and faculties where the research took place; (3) the two universities in which we conducted our research; and (4) externally on the national and international scene.

Action Research and Our Research Design

Herr and Anderson (2005) note that while there is disagreement on many key issues about what constitutes action research, there seems to be agreement that action research is:

- Inquiry that is done *by* or *with* insiders of an organization or community, but never *to* or *on* them.
- A reflective process, but is different from isolated, spontaneous reflection in that it is deliberately and systematically undertaken.
- Oriented to some action or cycle of actions that organizational or community members have taken, are taking, or wish to take to address a particular problematic situation.
- Undertaken to produce change either within the setting and/or within the researchers themselves. (paraphrased from pp. 3–4)

Action research has been compared to interpretive traditions of research as sharing the same purpose (i.e. capturing and interpreting the experience of the self or other), but in the case of action research, the purpose is extended to include direct action in generating plans, projects, programs, policies, etc. that follow from and are implicated by research evidence (Stringer 1999). However, McNiff and Whitehead (2006) would disagree that action research can simply be "mapped" onto interpretive research traditions with the extension of direct action. They acknowledge that the purpose of interpretive research and action research is to understand what is happening in a social situation and to negotiate meaning, however, they point out that in interpretive research traditions:

> The people in the situations offer and negotiate their own understandings of their practices with the interpretations of external researchers, but it is still the external research's story that goes into public domain. (p. 40)

This is an important distinction to understand given the social justice and equity focus of much of action research. McNiff and Whitehead (2006) instead suggest that action research developed out of critical theory with its focus on relationships of power and control and the idea that social situations are constructed by people and can be deconstructed and reconstructed by people. So a critical question in action research and one that is a point of contention is "Who is the researcher?"—is it the self or other. A third possibility suggested by Stringer (1999) is to position oneself as a researcher to assist others in describing and interpreting their own experiences, supporting them to have a voice in the interpretations of events and working with them to identify key issues that are carried forward, in their words, to those who can lead change.

In our case, in the particular research study that forms the basis for this book, the question of the position of the researcher is an interesting one. We were a team of doctoral students and senior academics engaged in inquiry about doctoral education. We made the decision early on that the doctoral student members of the team would be the ones to interact with student research participants and that the academics would interact with other academics and administrators who were research participants. We adopted this way of working from the beginning realizing that our participants (i.e. doctoral students, pre-tenure, and more experienced academics) were "living" in a professional context that they likely perceived as having conflicting values and an unequal distribution of power. And, given that we were working principally in relatively small contexts (two mid-sized Faculties of Education), this practice contributed to our guarantee of confidentiality and our commitment to provide a comfortable space for the participants to report their experiences freely. It turned out to be much more than that.

It was clear that we (doctoral students and senior academics) were the researchers, but we were also all fully active members in the same context as most of our research participants. In particular, the doctoral student team members were on an "equal footing" with the doctoral students whose experiences they investigated. Not only were these doctoral student team members responsible for data collection from doctoral student participants, they also had a hand in developing the research instruments (i.e. monthly progress logs, pre-interview questionnaires, and interview

protocols) and in analyzing and reporting the findings. They were thereby integrating, at least to some extent, views from their vantage point of important aspects to investigate that might have been overlooked by senior academic team members. This situation might arguably be characterized as "self-study" with doctoral student team members being at once researcher and participant. In the case of the senior academic members of our research team interviewing pre-tenure academics, the relationship cannot be characterized in the same way if only because of the obvious difference in academic status. Yet—senior academic members were led, because of the research tasks (data collection, instrument development, analysis, and reporting), to reflect on their own experiences as pre-tenure academics and as supervisors, and generally on how they went about accomplishing the various aspects of academic work—in this way, a case for self-study could again be claimed. A possible outcome of self-study, taking an ontological view, is that it influences how we perceive others and our environment which in our case was an impetus to the types of action initiatives undertaken by our team members that we describe later in the chapter.

That the members of our research team are members of the same professional communities as our research participants is no small point and is consistent with what some would characterize as an essential ingredient of action research. Action research given the social justice roots attributed to it aims to understand "what *I/we* are doing, and not only what *they* are doing" (McNiff and Whitehead 2006, p. 26). The potential of changing the thinking and actions of *I/we* is far greater than changing how *they* think and act.

Yet at the same time, action research is value-laden with researchers bringing, in our case, our own values to the context we shared with research participants, not just during the life of the research, but on a day-to-day continuing basis. As researchers, we were not distant from our purpose—we were committed to the initial value of understanding non-completion and taking action to address it and we are now committed to more broadly understanding and taking action to support learning to be an academic and the intellectual and affective aspects of developing academic identity. We needed to be and must continue to be cognizant of overly influencing the action research process.

Action research emphasizes inclusive and relational values and as researchers, our values, our ideas, and our actions must be viewed in relationship to those of others. Knowledge is collaborative and variable, and often subjective and will have to be negotiated with others. Consistent with this assumption underlying action research, our first step was to determine and negotiate meaning with a variety of individuals. Specifically, we:

- discussed with departmental and Faculty leaders the nature of the research so that (a) they were informed; (b) we could benefit from their initiatives and interests; and (c) we could know how best to recruit participants;
- in one university, negotiated that one of our team members would be the academic co-ordinator for an initiative that we recommended, a student-facilitated series called "The ABC's of the PhD";

- asked doctoral students to provide feedback on the nature and extent of the questions in the progress log and made changes based on their suggestions;
- asked students to report any potential value or detriment to completing the progress logs; the logs were invariably described as extremely useful as tools for self-reflection;
- asked both doctoral student and pre-tenure academics to complete pre-interview questionnaires before the interviews and then used those responses (and the progress logs of doctoral students) to structure the interviews, probing more deeply the experiences related in the pre-interview questionnaires (and progress logs in the case of doctoral students);
- returned interview transcripts asking if the interviewee had anything to add or delete;
- sent conference papers with our initial analyses to pre-tenure faculty participants asking if our interpretations made sense to them and, if not, why not;
- provided all participants with lists of resources that might be useful for them;
- held focus groups in which all doctoral students in the faculties were invited to review the findings related to the facilitators and barriers to learning as perceived by doctoral student participants—we asked for their impressions, comments, and recommendations for changed policies and practices; a goal here was to encourage students to be more agentive, we also provided lists of resources and strategies for action;
- held focus groups in which all pre-tenure academics were invited to review the findings related to the facilitators and barriers to learning as perceived by pre-tenure academic participants—we asked for their impressions, comments, and recommendations for changed policies and practices;
- held focus groups with experienced doctoral supervisors to seek their comment and explanation of the findings related to the interactions of supervisors and students around the dissertation; and
- developed reports based on the recommendations developed in the focus groups, circulated these reports back to focus group participants for final comment.

Our purpose in undertaking the actions listed above was, as mentioned, to develop and negotiate meaning, but it was also to model and encourage democratic knowledge development, a basic assumption underlying action research (Herr and Anderson 2005). In so doing, we were encouraging individuals to place the "I" in the company of "others", to place their values and ideas in the public domain for consideration, and to take responsibility for the present in order to craft their future. The recommendations that emerged from the process described above varied between the roles (doctoral student, pre-tenure academic, experienced supervisor), but the discussions shared distinct similarities.

The students began the focus group session paying particular attention to the barriers to learning and development (and progress) perceived by research participants. They were quick to accentuate the "other" in their discussion and in their additions to the research findings; highlighting what "others" were doing or not doing that affected them both personally and specific to their work, generally in a negative

manner. But as the session moved on to a more problem-solving tenor, facilitators to learning and development identified in the research crept into the discussion and the resulting recommendations included not just actions that "others" should take, but also more of a personal (individual and group) responsibility was reflected.

The flow of the focus group discussions conducted with pre-tenure academics was similar. What was noteworthy to us about these focus group discussions with doctoral students and pre-tenure academics, given our interest in agency and identity development, was the shift from a concentration on the "other" to a sharing of that spotlight with "self", thereby taking a more active role in one's current situation and future.

The nature of the focus group discussions with experienced supervisors reflected that of the pre-tenure academics in that the first focus was on trying to help students. Then came the realization of the learning that would be required of themselves in order to be more effective and supportive.

Our initial purpose for the focus groups was to develop and negotiate further meaning of our research findings, but this added dimension of supporting developing agency (in doctoral students and pre-tenure academics) is one that we will "mine" more as we seek, in the next iteration of our research, to more intimately integrate the assumption of learning with social intent that underlies the action research process. Stringer (1999) takes the position that the goal of action research:

> Is not the production of an objective body of knowledge that can be generalized to large populations. Instead, its purpose is to build collaboratively constructed descriptions and interpretations of events that enable groups of people to formulate mutually acceptable solutions to their problems. It is oriented toward ways of organizing and enacting professional and community life that are democratic, equitable, liberating, and life enhancing. (p. 188)

We turn now to a consideration of the institution and institutional structures as the focus of action research. This aspect is critical if action research is to result in change beyond the individual. We concur with Argyris and Schön (1974, 1991), who use action research (they prefer the term "action science") in investigating organizational and professional development, that organizations are self-correcting and therefore learning systems, but with a strong status-quo that often needs to be disrupted for change or learning to occur. Because these status-quo patterns are taken-for-granted, often with accompanying internalized values—the personal responsibility for maintaining this situation must also be confronted (Argyris et al. 1985). Often we accept institutional practices as the normal way that things are done and don't stop to question how effective or in some cases, how detrimental they may be to accomplishing the ways of working we value and the type of workplace we want to be part of (Stringer 1999).

Robinson (1993) argues in relationship to the importance of Argyris's work that:

> Much research has failed to influence educational problems because it has separated problematic practices from the pre-theorized problem-solving processes that gave rise to them and which render them sensible to those who engage in them. Once practice is understood in this way, the theorizing and reasoning of practitioners becomes a key to understanding what sustains problematic practice. (p. 256)

During the course of our research, we found evidence of certain assumptions underpinning taken-for-granted practices (see Chap. 11) that ran counter to the values and "wished for" ways of working held by members of our research team, expressed by our research participants and exemplified in the professional literature. For example, the mechanistic views characterized by a focus on "decreasing time to completion" for doctoral students or for new academics "that having completed a PhD, one has the necessary knowledge to undertake all aspects of academic work". We became keenly aware of the necessity to bring these to public attention and to work to develop a consciousness of how these contradictions develop and are maintained. We have so far done this through a conference paper presented at the American Educational Research Association (AERA) (McAlpine and Amundsen 2010) and as part of workshops and symposia held at our local institutions. We recognize how critical this piece is and are consciously planning how to better and more thoroughly address it in the next iteration of our research.

Other Direct Actions Taken

In addition to the direct actions taken as part of our research process and as explained above, we also consciously planned and implemented direct actions flowing from our research at the faculty, institutional, national, and international levels. We briefly describe some of these initiatives below.

Faculty Level

We forwarded the reports described above to the Graduate Program Directors and Deans in the respective faculties. As noted above, we had earlier met with these individuals to describe the purpose and goals of the research. The reports with recommendations coming out of the focus groups generated, in one Faculty, a subcommittee of the Graduate Program committee to develop a handbook on graduate supervision and a Faculty Forum on supervision is planned for the Fall of 2010. Not incidentally, the reports also initiated further conversations between one of our researchers and both the new director of Graduate Programs and the Dean. And, at the other university, we were asked to act as expert consultants to a specially constituted faculty committee addressing doctoral education.

Institutional Level

Both the authors of this chapter have met with the Deans of Graduate Studies at their respective institutions to discuss the findings of our research (we had also met

at the beginning to explain the purposes and goals of the study) and to gather their thoughts about how and where to conduct the next iteration of our research. Additionally, team members have undertaken a series of university-wide initiatives, such as, workshops on writing for supervisors, courses on writing for doctoral students, and support to develop a website on supervisory practices in which excerpts from the research will be included.

National and International Levels

Our work was presented and discussed at several of the annual meetings of both the Canadian Society for Studies in Higher Education (CSSHE) and the Canadian Society for Studies in Education (CSSE). Of particular note was the presentation jointly to both of these societies in 2010 based on the contributions of the doctoral students on our research team. Our goal in this session was to make the work of the academic less opaque and to provide tools to enable younger academics to be agentive.

At the international level, we have focused on building strong networks of individuals interested in the same type of work. For instance, team members were instrumental in initiating a new Special Interest Group (SIG) of the AERA on doctoral education. This new SIG has the distinction of being the fastest growing SIG in the association and one of the most international—one indicator of current interest in doctoral education in the field of Education. We were also instrumental in the creation of the International Doctoral Education Research Network (IDERN), which held its inaugural conference at McGill University, has an active listserv, and just held its second conference.

We have, of course, also presented our research to a number of international societies and organizations including the European Association for Research on Learning and Instruction (EARLI), the International Council of Educational Developers (ICED), and the International Symposium on Genre Studies as well as many regional conferences in various countries. Finally, we have routinely published research findings as they are available in the usual academic outlets. Conference papers and citations to published papers and chapters can be found at our website: http://doc-work.mcgill.ca/

Concluding Thoughts

We recognize that in our conduct of this research, we have taken a particular epistemological stance that not everyone shares. That is, we have a particular understanding of what knowledge of academic work is and how individuals engage in it with a focus on the developing academic identity. We embrace the often contradictory and perhaps more traditional academic values of the autonomous yet engaged academic,

the independent yet socially embedded academic, and the academic who is agentic yet desires guidance and mentorship.

As senior academics thinking about supporting academic development that is consistent with this view, we are given "cause for pause" in considering the following aspects:

- Our relationship to the emerging academic is a long-term and negotiated relationship that begins long before the doctoral research actually starts and continues after it ends.
- We need to pay attention to the interests and intentions of the different players involved in doctoral education and consider our work with them an investment in the preparation of those who follow us.
- We must recognize that we benefit as well and will be able to apply our learning to our various academic roles (researchers, supervisors, teachers, program directors).
- This approach to knowledge and identity development has the potential to bring about individual change in ways of thinking and acting—even if institutional change is not yet an outcome.

In closing, when this book was conceived, we hoped it would also serve as a vehicle for change, that it might through the sharing of the research findings contribute to more democratic and equitable opportunities for knowledge and identity development amongst early career academics. Only you will know if we have succeeded.

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