A Contextual View of Support for Graduate Students’ Scholarly Teaching

by

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Abstract

Graduate students' teaching contributes to undergraduate education throughout North America (Park, 2004), the United Kingdom (Muzaka, 2009), Australia (Kift, 2003), and New Zealand (Barrington, 2001), particularly in first-year courses. Mandatory and voluntary training programs, courses, workshops, and certificate programs have been implemented centrally (Mintz, 1998) and departmentally (Ronkowski, 1998) to develop graduate students’ knowledge and skills and improve their teaching. Research assessing outcomes of these programs indicates improvements in individuals’ conceptions about teaching (Saroyan, Dagenais, & Zhou, 2009), but limited impact on practice (Buehler & Marcum, 2007). A potential explanation for this discrepancy is that current individual-focused support for graduate students is not sufficient; rather, teaching and teaching development are influenced by local disciplinary and institutional culture (Taylor, 2010; Trowler & Bamber, 2005). Literature on graduate studies completion further indicates the role of informal supports in graduate students’ academic success (e.g., Lovitts, 2004). This mixed-method research sought to widen the traditional research focus regarding support for graduate students’ scholarly teaching by examining: (1) how support is characterized and described in official visioning documents, policies, and websites at a single institution; (2) how graduate students at this institution generally viewed department and institution-wide supports listed on past surveys, and (3) how current graduate students and supportive individuals from the same institution described available and desired supports. Four themes emerged during analysis of the survey and interview data: formal support, informal support, communication/collaboration, and feedback. These themes were sometimes echoed and sometimes absent in the official documents and existing literature on graduate students’ teaching, which primarily focused on formal supports. Throughout this research, support was explored
within the contextual reality in which graduate students learned and taught by examining the sources of such support across the social ecological layers of sector, institution, department, courses, faculty members, peers, and the individual. By broadening the conceptualization of support beyond formal programming, a single social ecological layer, a small group of official support providers, or a one-time event, this study expands both the depth and breadth of possibilities for resource planning within institutions, and future research on teaching supports and graduate student experiences.
Dedication

This document is dedicated to the many inspirational graduate students and supportive individuals whose lived experiences are a testament to the beauty and power of support and commitment to teaching and learning.
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Thank you to the graduate students and supportive individuals who shared their insights, experiences, and hopes with me so openly in interviews. I am grateful to their willingness to reveal their often-personal journeys, and who in doing so sparked new understanding about graduate students and teaching within a university context. I am also appreciative of the individuals who completed and gathered the survey data with its many graduate students’ voices, and those whose prior research rooted this work.

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Chapter I: Introduction

As both a graduate student and an educational developer supporting graduate students’ scholarly teaching, I have shared in discussions from these two distinct views regarding support for graduate students’ teaching. My own reflections, as well as conversations with my fellow graduate students, suggest how graduate students feel pulled in multiple directions, of which teaching is only one tug. Moreover, each graduate student’s needs are neither static nor identical to others’ concerns. The resulting collection of needs and relevant supports is not a simple consistent hierarchy but a shifting jumble of priorities.

Support is equally complex. Workshops and formal resources comprise only a small part of the rich network of support that encompasses friends, peers, families, colleagues, mentors, students, books, websites, instructors, administrators, postings, and emails. Expectations and norms expressed for or against seeking support for teaching further complicate what might appear on the surface to be a simple choice about whether or not to access teaching-related programming, such as workshops.

In roles with titles such as teaching assistant associate, graduate student coordinator, and educational development associate, I have worked to develop resources for teaching assistants and graduate students who are currently teaching or interested in teaching. When I first began, I would sometimes hear the responsibility of low attendance laid at the feet of graduate students or the programming. This individual-centered approach led to questions about session timing, content revisions, and program evaluations that seemed to provide an incomplete explanation. More recently, discussions have shifted to consider our higher education contexts including departmental, institutional, and higher education priorities and culture. I also began to understand
just how interconnected and embedded within this larger context are efforts to support graduate students’ scholarly teaching.

This critical reflection about who I am allows me to articulate my “brought self” (Reinharz, 1997). In this research, I also have my “research self” (Reinharz, 1997) as a researcher and an instrument in this research (Guba & Lincoln, 2005). With a background in quantitative research and training in qualitative methods, I seek to explore how support for graduate students’ scholarly teaching is perceived and experienced within a single institutional context. Existing surveys provide information on how graduate students on average use and rate the quality of supports that are known *a priori* to exist, such as planned official programming. The inclusion of interviews in this study provides an opportunity to learn about what graduate students experience as support beyond the constraints of what I suspect to be available based on my singular experience and the literature. Qualitative interviews allow insight into how several graduate students and individuals providing support perceive current challenges or opportunities within a single institutional context.

Graduate students are a unique population within the general higher education context. In addition to being students and apprentices of their discipline, they are frequently teachers of that same field, contributing as lecturers, teaching assistants, and lab instructors for nearly 40% of undergraduate courses in higher education institutions (Marincovich, Prostko, & Stout, 1998). The majority of doctoral students (53.6%) in the United States are required to be teaching assistants, particularly in science disciplines such as chemistry (83.8%) compared to social science and humanities fields like history (36.4%; Golde & Dore, 2001).

Ensuring that graduate students become informed and effective instructors is important for their own professional development, their students, and the institution. Teaching is one of the
professional development skills expected for graduate students in Canada (Canadian Association for Graduate Studies [CAGS], 2008) and needed for academic careers (see Preparing Future Faculty Program; Pruitt-Logan & Gaff, 2004). Teaching provides an opportunity for professional growth as well as a means to improve research skills, such as hypotheses and design development (Feldon et al., 2011). If graduate student instructors were to become expert teachers, their students would likely have a different classroom experience as expert teachers’ cognitions and behaviours differ from those of student teachers (in K-12 classrooms; Westerman, 1991). An instructor’s approach to teaching also affects student learning through the quality of teaching (Chalmers & Fuller, 1996) and the inclusion of active learning opportunities, respect for students’ diversity, communication of high expectations, goal-directed practice, appropriate feedback, and an inclusive course climate (Ambrose, Bridges, DiPetro, Lovett, & Norman, 2010; Biggs, 1999; Chickering & Gamson, 1994). Effective teaching, including by graduate students, is required for institutions to meet student learning goals and growing external demands for accountability (e.g., Ryan & Fraser, 2010) and quality (e.g., Smith, 2005).

To develop graduate students’ teaching for reasons of professional development, educational excellence, and institutional accountability, institutions offer mandatory and voluntary initial training programs, courses, workshops, and certificate programs centrally (Mintz, 1998) and departmentally (Ronkowski, 1998). Resources and efforts devoted to designing training programs for the past three decades produced measurable impacts on graduate students’ conceptions of teaching (Saroyan, Dagenais, & Zhou, 2009); however, research also indicates limited impact on graduate students’ teaching practices, even when beliefs and conceptions about teaching change (Buehler & Marcum, 2007; Morris, 2001).
A potential reason for the disconnect lies in how these programs focus primarily on supporting individuals’ skills and knowledge. The historical assumption that providing training to individuals will result in changes in their teaching "commits the error of 'methodological individualism'; it exaggerates the power of agency over that of structure, seeing individual actors as the prime movers and shakers in social change" (Trowler & Bamber, 2005, p. 85).

Those who teach within higher education develop and apply their skills within a local context of policies, norms, and resources that shapes how they access and experience opportunities to learn about teaching, and how they apply new teaching skills and approaches (Trowler, 2005; Trowler & Bamber, 2005). For graduate students, the local context involves institutional policies, administrative resources, discipline-based norms, and departmental expectations (Golde & Dore, 2004; Lovitts, 2004; Walker, 2004), as well as a social and interpersonal milieu of supervisors (Barnes & Austin, 2009; Fagen & Suedkamp Wells, 2004), faculty, staff, course instructors, senior graduate students, and peers (Austin, 2002). Beyond central and departmental programs and resources (see Marincovich et al., 1998; Park, 2004), these individuals and groups can provide support for teaching assistant training and professional development (Barrington, 2001; Fagen & Suedkamp Wells, 2004), suggesting that support for graduate students’ teaching within higher education contexts may be broader than previous evaluations of formal programming would imply.

Context also matters for support. Regarding educational development efforts, Baume and Kahn (2004) have highlighted "the vital importance of attention to the many and different contexts and environments in which development is undertaken" (p. 187). Similarly, Taylor (2010) notes how disciplinary contexts further alter what supports are appropriate and relevant.
Purpose of the Study

In recognizing the potential for diverse and multiple sources of support and the importance of context for teaching and teaching development, a wider perspective on graduate students’ experiences is needed to understand existing resources and gaps. Graduate students can provide valuable insight into their own experiences (e.g., Wulff, Austin, Nyquist, & Sprague, 2004); however, their context may be shaped by policies and resources of which they are only minimally aware. Individuals who support graduate students in and beyond their official institutional roles not only share this context, but may shape the policies and resources underlying supports for graduate students’ scholarly teaching.

Research highlights the complex interpersonal context of graduate students’ teaching (e.g., Austin, 2002; Golde & Dore, 2004; Lovitts, 2004; Walker, 2004) and suggests that a context-sensitive approach is needed to understand current supports to address the discovered disconnect between graduate students’ teaching beliefs and their practice in classrooms (e.g., Trowler & Bamber, 2005). The purpose of this study was thus to explore how graduate students’ scholarly teaching is supported within the context of a single higher education institution. To examine general trends, lived experiences, and official resources related to such support, this research drew on both quantitative and qualitative methodology. The quantitative analysis of existing survey data identified how previous cohorts of graduate students perceived, experienced, and evaluated support provided by formal programming and through their teaching roles. Qualitative interviews explored how support was perceived and experienced by graduate students at this institution, and by individuals who supported graduate students’ scholarly teaching as part of or beyond their official roles. Analysis of institutional documents
complemented these sources by identifying what were the official recommendations and resources for supporting the graduate students’ scholarly teaching within this institution.

**Overview of This Dissertation**

This dissertation constitutes nine chapters. Chapter I provided a brief introduction to the higher education context in which continuing efforts have sought to support graduate students’ teaching to meet educational, institutional, and professional development goals. The literature review of Chapter II further describes existing supportive efforts and the resulting impact on graduate students within a contextual framework that organizes supportive approaches and outcomes by contextual layers. Chapter III describes the methodology for studying what recommendations were made in official documents, how graduate students in general evaluated central programming at their institution, and how a sample of graduate students and supportive individuals from the same institution perceived and experienced initial and ongoing support for graduate students’ scholarly teaching. The first set of results in Chapter IV reviews the official documents for the goals of support for graduate students’ teaching, and the existing and recommended supports noted. The next four results chapters each explore one theme across all surveys and sets of interviews: Chapter V describes the existing and recommended formal supports; Chapter VI contrasts supportive individuals’ and graduate students’ perceptions of informal supports; Chapter VII examines the networks and desire for communication and collaboration; and Chapter VIII investigates the nature and need for feedback. The threads of these themes, the documents, and the literature are woven together in Chapter IX, the discussion.
Chapter II: Literature Review

Existing research describes a diverse population of graduate students who develop and practice professional skills, including teaching, within their groups, departments, and institutions. How graduate students seek and make use of these supports and the types of supports they have available depend on their individual characteristics, the opportunities provided by their groups, and the resources and norms of their institutional context.

Specifying Key Terms

Reviews of this literature are hindered by the lack of consistent terms and comprehensive definitions (Shannon, Twale, & Moore, 1998). Existing terms, such as “training” or “development,” have been criticized for their focus on competency (Land, 2001; 2004) and for implying “mindless, routine practice more appropriate to an assembly line than to a classroom” (Shulman, 2008, p. ix). In contrast, the concept scholarly teaching refers to the practice of using research to inform teaching in a manner that supports students' learning (Richlin, 2001).

Focusing on scholarly teaching could address concerns around the quality of teaching. According to Kreber (2002), who proposed the concepts of teaching excellence, teaching expertise, and scholarship of teaching and learning, if graduate students become scholarly (expert) teachers, they will be effective (excellent) teachers through informed practice.

Scholarship of teaching and learning (SoTL) [originally scholarship of teaching (Boyer, 1990; Kreber, 2002) until critiques of ignoring learning resulted in a name change (see Boshier & Huang, 2008)] involves engaging in research on teaching and learning and contributing to the growing literature on effective practice. Although scholarly teaching represents a notable long-term goal for graduate students, they may not have the resources or permission within teaching assignments for teaching and learning research; however, the concept of scholarly teaching can
provide an awareness of the methodologies, concepts, and ongoing discussions in the field, thereby laying the foundation for future SoTL endeavours.

This focus on scholarly teaching to enhance opportunities for students’ learning (Richlin, 2001) aligns efforts to support teaching with Devlin and Samarawickrema’s (2010) definition of effective teaching as “teaching that is oriented to and focused on students and their learning” (p. 112). Moreover, this concept is consistent with the paradigm shift in higher education where teaching is seen as producing learning rather than providing instruction (Barr & Tagg, 1995), facilitating learning instead of transmitting knowledge (Gow & Kember, 1993), and being student-centered in place of teacher-centered (Åkerlind, 2003; 2007; Samuelowicz & Bain, 1992). With these criteria, the phrase “supporting graduate students’ scholarly teaching” was chosen for this research to reflect the common focus of supportive programming on growth, informed practice, and the diversity of graduate students’ career paths, especially given that most phrases evoking career paths, including “professional development” and “future faculty,” problematically ignore the rich diversity of careers that today’s graduate students are seeking and finding within and outside of academia (Wulff et al., 2004).

The choice of “graduate student” also requires careful consideration. There is no universal term for individuals engaging in full-time master's or doctoral studies, who also teach in various roles or are interested in teaching. The internationally-recognized term of graduate teaching assistant (GTA) refers to those in specific, official, and sometimes unionized roles. The term “graduate students” is encompassing but not ideal as it is rooted in North American culture, with parallel terms such as “postgraduate research students” (PGRs) in the United Kingdom, and “tutors” in Australia and New Zealand. As this research involves participants located in North America, the phrase “supporting graduate students’ scholarly teaching” was chosen to
encompass resources and opportunities whereby master’s and doctoral students learn and practice skills and knowledge related to teaching within an institutional context.

**Trends**

The nature and focus of support for graduate students’ teaching have evolved over the past two decades of creating and redesigning professional development initiatives. Supportive efforts were first concerned with addressing graduate students’ needs for confidence and competence, then shifted to improving awareness of and access to resources and programs, followed by graduate students’ change in conceptual thinking about teaching, and most recently moved to a focus on changing actual teaching practice.

The initial professional development response in the 1990's stressed supporting graduate teaching assistants by raising their competence and confidence. Articles reported details about training programs where experts taught necessary skills to graduate students. A 1998 book edited by Marincovich and colleagues, as well as Park's (2004) review of North American programs and research regarding graduate teaching assistants, contained overviews of programs to prepare graduate students for their roles as teachers. Included in these reviews were primarily descriptions of courses (Marincovich et al., 1998), centralized programs (Mintz, 1998), certificate programs (Tice, Featherstone, & Johnson, 1998), and role models (Knotts & Main, 1999), with a focus on designing programs (Burk, 2001). Programs were provided to address graduate students’ competence in answering questions, facilitating discussion, and other classroom management skills (Goodlad, 1997). Research examined participants' responses as outcomes within these programs or simply described program components with limited connections to the wealth of existing learning theories or educational theories.
More graduate students reported being confident as an outcome, than well-prepared, by their programs for teaching discussion sections (83.7% versus 57.9%), lecture courses (69.1% versus 36.1%), and labs when relevant (70.4% versus 44.7%), as well as for creating inclusive classroom environments (60.0% versus 28.0%: Golde & Dore, 2001). Noticeable cross-discipline differences were found in lower preparation levels in molecular biology and geology than other disciplines. Graduate students perceived themselves to be better prepared than their advisors perceived them to be (Walker et al., 2008) and more satisfied with preparation than their chairs were satisfied (McGoldrick, Hoyt, & Colander, 2010). However, despite the positive report for feeling satisfied with preparation, nearly half (47.4%) of graduate teaching assistants did not receive any preparation (McGoldrick et al., 2010). Thus graduate students were more confident and satisfied with their preparation than their advisors, chairs, and actual attendance at training sessions indicated.

When teaching development programs were created, there was an expectation that most graduate students who were teaching would readily attend them. The reality was that fewer than half did. Attention thus shifted near the end of the 1990’s to considering why only a subset of graduate students were attending, with a focus on addressing their awareness and access. Half of doctoral students surveyed had support available to develop their teaching skills, through discipline-specific workshops (51.2%), scaffolded teaching roles with progressively increasing responsibility (49.8%), or a term-length or longer teaching assistant training course (46.4%). However, only two-thirds of the doctoral students who were aware that these supports were available were actually encouraged to engage in these opportunities (66.9%, 64.0%, and 73.6% respectively for workshops, scaffolded roles, and training courses), even though three-quarters of doctoral students accessed these opportunities (72.3%, 72.9%, and 68.9% respectively; Golde &
Dore, 2001; 2004). Golde and Dore’s survey showed disciplinary differences with graduate students in science having fewer of these supportive opportunities, despite greater teaching assistantship requirements. Awareness of resources, including teaching development centres, also appeared to be problematic with individuals from the same campuses disagreeing over the existence of institution-wide opportunities (Golde & Dore, 2004). Within one institution, 40% of graduate teaching assistants surveyed by Barrington (2001) were unaware of a central certificate program and in some departments were not even being told about training opportunities.

Although researchers failed to reach a clear resolution for how to increase attendance in such teaching support programs, research recently has examined what happens to those who do attend and the outcome of change in practice. If teaching practice is to change after graduate students acquire new knowledge and skills during courses or training, what is the mechanism? How could existing or new initiatives support change in graduate students’ teaching practice?

One potential mechanism focuses on graduate students’ conceptions about teaching and learning. If a graduate student conceives of teaching as a one-way transfer of knowledge, whereby the teacher imparts facts to the note-taking students, then that graduate student’s actions in the classroom would likely resemble a scene of student-scribes receiving knowledge. On the other hand, if the graduate student’s conceptions of teaching were to change, then that scene is predicted to change. The first relevant assumption is that a program or training opportunity could change graduate students’ teaching. The second is that, once the conception is changed, teaching practice will adjust to be consistent with the new conception of teaching.

Providing support for this first assumption, a qualitative comparison of written responses before and after training showed that graduate students \((n = 88)\) were more likely to conceive of teaching and learning as promoting course and life-long learning, and were less likely to hold
conceptions based on transmitting knowledge and preparing context/managing instruction (Saroyan et al., 2009) after training. Different lengths of training (6-week or 13-week courses) produced the same direction of change, but different degrees of change: the longer course showed a greater degree of shift from a lack of conception or the first conceptual stage (transmitting knowledge) to the third (promoting course learning), than the shorter course, which only had movement from the same initial first stage to the second (preparing context/managing instruction).

The second assumption does not receive such clear support for impact on teaching practice or even memory. Fewer than half of graduate students trained in one certificate program (n = 49) were able to later recall key concepts such as reflective practice, constructive alignment, student-centered learning, and scholarship of teaching and learning (Kandlbinder & Peseta, 2009). In a related study, graduate students were uncertain about their memory for what was covered in workshops about students’ learning (Seung, Bryan, & Haugan, 2012). Those who had completed either noncredit or credit training during their doctoral studies reportedly did not differ from those without training in perceived preparation to teach, according to McCoy and Milkman’s (2010) retrospective survey. Graduate teaching assistants in another study perceived departmental or institutional training to have limited impact on their teaching effectiveness when surveyed (Russell, 2009). Even when biology graduate teaching assistants expressed similar conceptualizations of the value and purpose of effective socio-scientific issue instruction during interviews, there was disparity in their teaching of students during an observed laboratory session as the TAs seemed to be “unsure of how to enact this type of curriculum” (Gardner & Jones, 2011, p. 1045). These findings suggest that having the opportunity to learn is not sufficient to impact teaching practice.
When evidence for success from training in general does exist, it further suggests that typical training is not sufficient. Individuals with typical training or prior TA experience were rated by students as less effective than teaching assistants with a prior degree in education or teaching experience in either K-12 or college settings, based on between-group comparisons of teaching assistants' effectiveness in the classroom (Shannon, Twale, & Moore, 1998). Even when beliefs changed, they did not appear to be implemented in practice according to studies showing disparity between graduate students' teaching philosophies and practice based on classroom observations in a small pilot study (Buehler & Marcum, 2007), and teaching beliefs and practice based on multiple qualitative data sources (Morris, 2001). Combined, these findings suggest that, to address the under-preparedness of graduate students for teaching, supports for implementation and change in teaching practice must be considered.

Difficulty in implementation could be due to the wider culture. Locally-constructed cultures in departments with traditional teaching conceptions may be unwilling to welcome innovative ideas or to support the enactment of newly learned approaches and knowledge about teaching and learning (Trowler, 2005; Trowler & Bamber, 2005). Additionally, institutional or sector-level cultures may operate to support or hinder changes in graduate students’ teaching that training or other supports encouraged. In seeking to support graduate students' teaching, the context within which they train and teach must be considered. To facilitate a deeper understanding of this context, I propose an ecological conceptual framework based on a synthesis of ideas from already published frameworks.

**Conceptual Framework**

A challenge in this literature is how to capture the variety of activities intended to support scholarly teaching in general, and graduate students’ scholarly teaching in particular. The recent
widening of focus has shifted efforts beyond just working with individuals. Educational developers are now seen as engaging in the process of shaping policies, funding, and priorities at the institutional and sector levels, including national and international bodies. Understanding the contextual layers surrounding individual graduate students and other educators avoids the historically erroneous assumption that providing training to individuals will necessarily result in changes in their teaching.

Considering a learner’s social context extends back to Bronfenbrenner’s (1979) ecological systems theory and his conceptualization of children’s educational environment as containing distinct types of systems: 1) Microsystems as “interrelations within the immediate setting” (p. 6); 2) Mesosystems of “linkages between settings … in which the developing person actually participates” (p. 6); 3) Exosystems as “linkages between settings … in which the developing person … may never enter but in which events occur that affect what happens in the person’s immediate environment” (pp. 6-7); and 4) Macrosystems as “overarching patterns of ideology and organization of the social institutions common to a particular culture or subculture” (p. 7). The higher education sector operates primarily as a large cultural context. Institutions also act as macrosystems through their norms, resources, and policies, yet also contain institution-wide committees and services that could be considered as separate mesosystems or exosystems.

Graduate students are embedded within an institutional structure and a higher education sector. Fraser, Gosling, and Sorcinelli’s (2010) framework categorized the broader range of educational development approaches as occurring at the individual, institutional, and sector levels. To provide such a framework for examining support for graduate students’ scholarly teaching within this multi-faceted context, I expanded Fraser and colleagues’ three-level framework to include departmental and group levels, thereby addressing Trowler’s (2005) call to
recognize “the meso level” of local groups and departments as well as additional relationships with individual faculty members and peers. The resulting contextual framework for examining support for graduate students’ scholarly teaching encompasses five layers: (1) individuals; (2) faculty, peers, and groups; (3) departments or disciplinary units; (4) institutions; and (5) sectors. Efforts to support graduate students’ scholarly teaching are aimed at each of these interconnected layers: providing information through workshops to individual graduate students, facilitating feedback among a course’s teaching assistant (TA) team, engaging in discussions within departments about assigning roles with progressively more responsibility, advocating for institutionally recommended teaching effectiveness feedback, and engaging in local or national discussions of key professional skills. Courses could be conceived of as microsystems, with a set of students and a graduate student instructor; however, many courses involve multiple overlapping relationships among the graduate student, his or her students, course coordinators, other graduate students as teaching assistants, and graduate or faculty instructors. Similarly, the relationship between lab mates or with a mentor could be seen as a microsystem or part of a mesosystem. For the purpose of this literature review, departments, courses, peers, and faculty were all considered as mesosystems, akin to Trowler’s (2005) conception.

Characteristics of and variation within each layer are expected to influence how such efforts manifest within that level and across other layers. Support initiated at one layer may be enacted at another layer, such as an institution’s training being developed and provided within departments (Taylor, 2010). Institutions’ policies can also be influenced by sector-level pressure, such as demands for accountability (Ryan & Fraser, 2010) and quality (e.g., Smith, 2005). As institutional support is so closely tied with departmental and sector-level support, this current research considers these layers within one contextual slice. Thus this literature review explores
existing research on support for graduate students’ scholarly teaching and the higher educational context in which graduate students learn and teach across the levels of individuals, groups, and institutional contexts.

**Individual Graduate Students**

The more than 160,000 current Canadian graduate students (Statistics Canada, 2010) and the over 40,000 American doctorates who graduate each year (Walker et al., 2008) are each unique individuals, but share a number of similarities. Even through graduate students usually are accepted on the basis of good grades, “simply knowing the … content is not sufficient to be an effective instructor. Complex knowledge bases were involved in TAs’ teaching, and these knowledge bases were developed (and continue to be developed) over time in multiple learning-to-teach experiences” (Seung et al., 2012, p. 22). Their diverse backgrounds, goals, and motivations appear to influence the support graduate students need and receive. Graduate students differ in their previous teaching experiences, with a prior degree in education or teaching experience in either K-12 or college settings predicting more effective teaching (Shannon et al., 1998), and prior training providing graduate students with strong support and relevant opportunities (Wulff et al., 2004). Their future career paths also vary. Although the majority of doctoral students are interested in academic careers (Golde & Dore, 2004) and academic careers are the still most attractive of all sectors for graduate students (Gemme & Gingras, 2012), not all graduate students maintain a desire for faculty careers in research institutions and may end up preferring to teach at liberal arts colleges, working as consultants outside of academia, or pursuing flexible career plans (Wulff et al., 2004). Such diversity in their intended academic and career paths appears unevenly addressed by their institutional contexts, as some students are unclear about expectations and how to be successful within and after their
When their goals differ from those of current faculty members, graduate students’ individualized goals may not be acknowledged or supported (Fagen & Suedkamp Wells, 2004).

Individual graduate students’ motivations to engage in teaching are similarly diverse and appear to run the full gamut along Ryan and Deci’s (2000) continuum. Some graduate students are intrinsically motivated to teach for the love, enjoyment, satisfaction, and pleasure experienced when teaching students (Barrington, 2001; Smith, 2001). Some experience identified regulation when they value teaching for the long-term impact that knowledge and engagement in a topic can have on people (Smith, 2001). They are also externally regulated to teach by financial rewards and compliance with departmental requirements (Gustafson & Branch, 2002) and to attend departmental training they perceive as mandatory or as a way to survive teaching (Barrington, 2001). Individual graduate students may hold multiple motivations for their teaching and other responsibilities, which can overlap, for example, when research in a content area they love builds confidence in their teaching (Wulff et al., 2004).

Being self-efficacious (i.e., believing that one is able to accomplish what one wants to do; Bandura, 1997) appears beneficial to overall doctoral success (Franco-Zamudio, 2010). Training can improve students’ self-efficacy (Young & Bippus, 2008), confidence (Salinas, Kozuh, & Seraphine, 1999), cultural awareness (Kaufman, Brownworth, & Burton, 2006), and conceptions of teaching (Saroyan et al., 2009). One study showed that, in coming to understand their students’ multicultural and learning needs, graduate students felt more positively about working with their students and better understood them (Smith, 2001). Graduate students also benefit from learning how to manage their time, reflect on teaching, document successes, and develop clear goals and priorities (Smith, 2001).
Individual characteristics influence how graduate students can access these opportunities and how they grow as scholarly teachers. Individuals willing and able to take the initiative to improve their own teaching are able to access more supports (Smith, 2001). Age, personal fit with academic culture, educational background (e.g., type of college attended in undergraduate), and career goals are some of the factors contributing to graduate students’ non-linear paths to understanding the teaching process and their role in it (Nyquist & Sprague, 1998; Wulff et al., 2004). Given their diverse goals, backgrounds, and motivations, how do graduate students in general and as individuals experience and perceive support?

**Peers and Faculty**

Support of graduate students' scholarly teaching can occur through individuals as well as informal and formal groups to which graduate students belong within or across departments, centrally at a teaching unit, or even across institutions. These groups involve peers and may also but not necessarily involve faculty or staff leaders. As Wulff et al. (2004) found, "conversations in TA offices among peers were the most prevalent sources of influence" (p. 56). Shared office space, TA or teaching teams, research groups, labs, teaching centre groups, and scholarship of teaching communities provide graduate students with a sense of community, and opportunities for attending teaching conferences, engaging in scholarship of teaching and learning, and publishing in teaching journals (Smith, 2001). Teaching, and graduate studies in general, can be isolating; however, these groups provide opportunities to feel less alone (Barrington, 2001) and to learn about relevant expectations and resources through conversations and ‘scuttlebutt’ (Lovitts, 2004).

Teaching assistantships provide graduate students with opportunities to not only practice teaching skills, but also to interact and learn from faculty and senior graduate students about their
programs (Lovitts, 2004). Peers, TA mentors, teaching workshop presenters, and faculty mentors act as role models (Smith, 2001) and support graduate students’ teaching (Gaia, Corts, Tatum, & Allen, 2003) and their self-reflection and awareness of teaching strategies (Bell, Mladenovic, & Segara, 2010). Meeting in teams of graduate students with a faculty mentor, as well as in a large group, appears to support graduate students' teaching (Gaia, Corts, Tatum, & Allen, 2003). Feedback by supervisors on graduate students’ teaching can provide additional support for graduate students' growth as scholarly teachers, but is not always available, leaving graduate students to rely mainly on students' feedback and performance for indication of their teaching ability (Wulff et al., 2004). Students, course instructors, and teaching assistants appear to have divergent perceptions, including of teaching assistants’ knowledge, with instructors in one study rating TAs more knowledgeable than the TAs themselves did who rated themselves more knowledgeable than their students did (including on tasks the TAs were not responsible for completing; Tulane & Beckert, 2011). To better access such perceptions, tools are being created to collect multidimensional formative and summative feedback for graduate teaching assistants based on qualitative, quantitative, and observation data from students and supervisors, thereby encompassing these divergent perspectives (Cox et al., 2011).

Support varies by disciplines with the tendency toward labs and teaching groups within science disciplines providing more regular opportunities for graduate students to interact and discuss teaching. Fewer science graduate students seek centralized opportunities for such connections compared to students in the social sciences and humanities, which have traditions of independent scholarship (Regan & Besemer, 2009). Access to such support appears to additionally vary based on characteristics of the individual graduate student. Students who are already marginalized or socially distanced based on part-time status, ethnicity, gender, or
membership in a racialized group can experience more negative relationships with peers (Sato & Hodge, 2009), and are further isolated by their limited access to the ‘scuttlebutt’ (Lovitts, 2004). Even graduate students who are well integrated in their programs and groups may not receive support for their teaching from senior colleagues who may discourage engagement in professional development or teaching opportunities (Barrington, 2001). Friends and family are both a source of support and of change for graduate students, who may then require additional support from their groups or institutional context (Sweitzer, 2009).

Thus the literature indicates that graduate students can experience support from their groups; however, this support can be influenced by their individual characteristics, their colleagues’ values, disciplinary differences, and institutional opportunities. Do graduate students and supportive individuals perceive these groups as sources of support? If so, how is this group-level support experienced within an institutional context?

Departments

Departments and disciplines shape the experiences and expectations of their members, including graduate students: "scholarship and teaching in any field reflect the character of inquiry, the nature of community, and the ways in which research and teaching are conducted in that particular discipline or disciplinary intersection" (Shulman, 2008, p. xii). Graduate students are being socialized into their disciplines through the unique local culture and traditions of these departments (Lambert, 1993), where the accepted approaches to teaching and scholarship reflect the nature of community, inquiry, and dialogue of that discipline (Shulman, 2008). Therefore, effective support for teaching development necessitates awareness of and adaption to disciplinary differences (Taylor, 2010). Although some departments have long traditions of commitment to their graduate students’ growth as scholarly teachers (Smith, 2001), many
departments do not (Wulff et al., 2004). Such disciplinary or departmental differences may suggest advantages of offering disciplinary-specific support, however, such support is not a panacea for struggles related to centralized supports, as it presents its own challenges, at least for faculty, related to creating a professional development culture, engaging new and continuing individuals, and developing a language of teaching practice (Blanton & Stylianou, 2009).

Graduate teaching assistants perceived limited encouragement from their departments: in Barrington's (2001) survey, only 41% reported feeling encouraged by their department to complete departmental or central training. In departments where GTA coordinators organized or facilitated discipline-specific training, graduate teaching assistants reported being strongly encouraged to attend to the extent that some viewed attendance as mandatory. Some departments demonstrated "a long commitment" (Barrington, 2001, p. 109) to supporting graduate students’ teaching and providing resources for teaching, including discipline-specific resources.

Departmental differences exist in levels of preparedness, availability of training, and opportunities to teach, and thus in the amount of support locally available for graduate students (see, for example, Golde & Dore’s, 2004, national study comparing English and Chemistry disciplines). Depending on departmental priorities and resources, graduate students are supported through training, practical experience, and feedback (Smith, 2001). However, fewer than half of doctoral students receive training, feel prepared, or are supervised in their teaching roles (Fagen & Suedkamp Wells, 2004; Golde & Dore, 2004), with most receiving little feedback beyond students’ evaluations (Walstad & Becker, 2010; Wulff et al., 2004). Just half of graduate students are encouraged to continue developing their teaching skills centrally (Fagen & Suedkamp Wells, 2004) or are aware of such opportunities (Barrington, 2001) with some graduate students even being encouraged to engage less in teaching (Smith, 2001; Wulff et al., 2004) or to ignore
student evaluations (Smith, 2001). This lack of departmental communication on teaching resources appears to increase the amount of time required by instructors to find information, thereby increasing classroom management issues for them and reducing later academic career success (Smith, 2001). Departments also play a role in providing feedback though annual formal evaluations of graduate students’ teaching based on students' ratings (Walstad & Becker, 2010).

According to Fagen and Suedkamp Wells (2004), when departments determined assignments, 4 of 10 graduate students felt that their interests and needs were not considered with less than half being assigned progressively more responsible roles. Opportunities to increase responsibility through such a progression of roles could improve their knowledge, teaching strategies, and ability to teach their own courses (Golde & Dore, 2004; Walker et al., 2008; Wulff et al., 2004). Even when given responsibility for courses, ambiguous responsibilities and dual roles within their departments created additional challenges for graduate students who were teaching, including added confusion and lack of authority (Muzaka, 2009), divergent perceptions of their teaching role (Baume & Kahn, 2004), and conflict, time constraints, and disconnect between teaching beliefs and methods (Morris, 2001).

**Institution**

Graduate students are supported by an institutional “culture of respect for students and for the TA role” (Smith, 2001, p. 105); however, institutions differ in how teaching is represented and positioned within the institution’s mission and priorities. Some institutions provide recognition and validation of the value of teaching through university-wide teaching and TA awards (Smith, 2001) and training program certificates (Barrington, 2001). These and other official institutional messages on the value of teaching can be incongruent with the messages graduate students hear from administrators and faculty members, resulting in uncertainty rather
than confidence in the impact and importance of their teaching efforts (Wulff et al., 2004). The degree of incongruence between the expressed value of teaching and the level of support for graduate students’ scholarly teaching could vary depending on an institution’s priorities and policies related to teaching, how teaching is viewed as a component of faculty members’ academic positions, and senior academics’ ambivalence toward teaching (Barrington, 2001). For institutions to rely on graduate teaching assistantships in a sustainable manner, institutional planning must take into account graduate students’ financial and development needs, including time constraints and the resulting pressures (Park, 2004), particularly in the social sciences where time pressure was the most common problem reported by GTAs and observed by academic staff (Muzaka, 2009).

Drawing on research of higher education institutions in general provides further insight. Institutions are more than simply policy-setting entities or providers of central programming and funding; higher education institutions are also organizations, whose learning encompasses but is "more complex and dynamic than a mere magnification of individual learning" (Kim, 1993, p. 40). As large and growing organizations, institutions establish "standard operating procedures" that must be observed, assessed, discussed, and addressed for change to be supported. In addition to research on the socialization of graduate students, who are learning to be members of higher education institutions (Austin, 2002), newly applied theoretical frameworks provide exciting potential directions for research on institutions as complex organizations. To examine relevant systemic tensions, Hopwood and Stocks (2008) drew on activity theory to situate individual graduate students' experiences and supports within the relationships between the individuals, their resources, and their focus when engaging in professional development.
Drawing on complexity theory, Reid and Marshall (2009) suggested conceptualizing universities as complex organizations that function through the work of numerous individuals, groups, and units with varying yet interconnected roles, responsibilities, expectations, and needs. No person or group acts (or changes) in isolation within a university, as "almost anything can affect anything else in collective activity, generating causal knots that are hard to untangle" (Bolman & Deal, 2008, p. 31). From this perspective, supporting graduate students’ implementation of student-centered teaching beliefs within an institution requires acknowledgement of the interconnections among their teaching practice, the concerns and expertise at the group and departmental levels, and the goals and strategies at the departmental and institutional levels. McClellan (2010) delved deeper into complexity theory's conceptualization of universities to conceive of institutional-level change in a new way, in contrast to traditional models of strategic planning and growing administration: "the multiple perspectives that exist regarding issues and concerns ... are of tremendous importance if the system, as a body of collective actors, is to comprehend itself and adapt in mutually beneficial ways" (p. 38). Lastly, institutions as organizations grow and learn through the contributions of its communities of development. Blackmore (2009) developed a method of modeling such developing communities for comparison and analysis along four dimensions: integration, strategy, inclusion, and scholarship. Each type of community has benefits and issues for supporting development and change within universities. Institutions face the challenge of determining a developmental approach that is best suited for them. A single or central approach is unlikely to be sufficient to provide inclusion, strategy, integration, and scholarship, while a pluralist approach risks having multiple detached and organizationally isolated development communities.
Higher education institutions shape scholarly teaching experiences and support directly through centralized resources and opportunities and indirectly through policies and funding implemented by departments or teaching support units (Trowler & Bamber, 2005). With growing concern over the quality of teaching within their undergraduate programs, institutions are increasingly engaged in needs assessments and efforts to improve preparation of instructors and teaching assistants, including graduate students (Commander, Hart, & Singer, 2000).

**Higher Education Sector**

Sector-level pressures to improve quality of teaching add impetus for supporting graduate students’ teaching at the institution and other levels. National movements toward quality assurance (Smith, 2005) and accountability (Ryan & Fraser, 2010) in Australia and similar movements in the United Kingdom (Gosling, 2004) require institutions within the sector to demonstrate improvements in effective teaching based on specified indicators. In North America, institutions are increasingly compared based on the National Survey of Student Engagement (NSSE). Locally, new laws place additional legal requirements on public institutions requiring instructors, including graduate students, to develop new awareness and skills (e.g., Accessibility for Ontarians with Disabilities Act, 2005).

In addition to concerns about students’ quality of education, doctoral students are increasingly expected to demonstrate scholarly teaching as a component of their studies. Society and academia are transforming and now require a broader range of skills and roles than those for which previous doctoral students, including current faculty members, have traditionally been prepared (Wulff et al., 2004). The skill of teaching competence is recognized as one of four such graduate student professional development skills with a “high likelihood of success in implementation in the university context” (CAGS, 2005, p. 6). Increasingly, teaching is included
as an important component of doctoral education (see Preparing Future Faculty Program, Pruitt-Logan & Gaff, 2004) and academic socialization and training (Austin, 2002). This more holistic approach is also reflected in the recent funding for programs in Canada (e.g., Collaborative Research and Training Experience program) and major national studies in the United States, funded by the Pew Charitable Trusts and the Carnegie Foundation for the Advancement of Teaching (Golde & Dore, 2004; Walker et al., 2008).

Regional governments create additional variability in the sector through legislative requirements, such as the recent Accessibility for Ontarians with Disabilities Act (AODA, 2005), placing additional legal requirements of awareness and appropriate response on graduate students when employed by public institutions to teach. For a theory-based understanding of sectors, future research might extend Reid and Marshall’s (2009) or McClellen’s (2010) conceptualization beyond the institution to add another potential level of interconnection that encompasses a wider system of collective actors within the sector.

Given the sizeable role graduate students play in undergraduate education and the more holistic focus on doctoral studies, graduate students will likely experience increasing pressure (and hopefully support) to develop their teaching within their doctoral programs and to improve their students’ evaluations and performance as higher education institutions seek to meet raised sector-level standards and new legal requirements.

Thus support for graduate students’ scholarly teaching may be targeted at the individual, group, department, institution, or sector level. However, graduate students’ experiences of support from any level appear influenced by characteristics of each of these other layers. For example, how graduate students perceive the availability, quality, and existence of support within their institutional context is connected to their own strengths, values of their groups, and
the messages, priorities, and resources of their institutional context. External and internal forces shaping experience vary across institutional contexts, indicating the need to understand the breadth and quality of support occurring within a single institution. The current research sought to understand how support for graduate students’ scholarly teaching is evaluated in general by recent graduate students, described in official documents, and experienced and perceived by graduate students and supportive individuals within one institutional context.
Chapter III: Research Method and Methodology

This study drew upon document analysis, quantitative surveys, and qualitative research to examine how graduate students’ scholarly teaching was supported within the context of a higher education institution. The iterative mixed-method design began with the selection and analysis of publicly available institution- and sector-level documents related to graduate students and teaching support. A quantitative analysis of existing surveys was conducted next to assess the average levels of support across the institution. Interviews in the qualitative phase followed, asking how current graduate students and supportive individuals at the same institution perceived and experienced support for graduate students’ scholarly teaching.

The survey data, including open-ended written responses, were the analyzed more deeply to identify survey themes. Based on these thematic codes, analysis of supportive individuals’ interviews, and an intensive review of the recordings of graduate students’ interviews, four main themes were identified across datasets: formal support, informal support, communication and collaboration, and feedback. The graduate students’ interviews were the last dataset analyzed in-depth with initial content analysis followed by thematic coding guided by these four main themes. By drawing on multiple approaches that fit the aim and subject matter of interest (Bodgan & Biklen, 1998), this study provides a rich portrait of the support available within one institutional context.

Researcher Background

For the past 5 years, I have continually played dual roles of being a graduate student and supporting graduate students in an official role. In the second year of my master’s program, I was hired as the university-wide Teaching Assistant Associate (TAA) for the Teaching Support Services after seeking out supports to help myself and my fellow TAs survive during my first
year. My life as a graduate student was officially separate yet deeply connected with my TAA position. What I heard as a graduate student from colleagues informed my passion and my actions as the TAA; my knowledge of wider resources informed my personal actions as a TA and as a colleague. With my doctoral studies, the two halves of my life became more intertwined as I worked at the Centre for Teaching and Learning 10 hours each week on initiatives related to teaching and learning while completing doctoral studies in the Faculty of Education. At the start of my second year, I became the Graduate Student Coordinator with responsibilities for certificate programs, weekly series, and later the recruitment of presenters for the Teaching Development Day for Students and Post-Doctoral Fellows. I was professionally responsible for many of the centralized formal supports for graduate students' scholarly teaching on campus.

From this experience and from reading previous studies in educational development, I know that formal supports exist to provide support for graduate students. My personal experience as a graduate student and my collegial conversations with fellow students showed that this research picture was incomplete. Missing were the officemates, faculty mentors, lucky breaks, roommates, role models, family members, personal reflections, books, and more that also shape graduate students' knowledge about teaching and learning. The idea that informal supports exist is not new; even award-winning instructors speak of inspirational teachers, helpful colleagues, and constructive student suggestions that are informal sources of motivation and information.

My personal experiences walking between the dual roles in my academic life, suggested that we, as educational developers, were missing something important and ubiquitous. With the aim of supporting others in their teaching and learning, I believe educational development professionals cannot remain solely focused on formal supports as they risk limiting their understanding of graduate students' experiences and the rich venues of support that exist.
Coding Disciplines

To maintain anonymity yet show the diversity of disciplines, participants’ programs were identified using the Biglan-Becher categorization of disciplines broadly according to ‘hard’, versus ‘soft’ and ‘applied’ versus ‘pure’ (Biglan, 1973; Becher, 1989; Becher & Trowler, 2001). These categories are based on epistemological differences in the nature of knowledge across disciplines including distinctions in “characteristics in the objects of enquiry; the nature of knowledge growth; the relationship between the researcher and knowledge; enquiry procedures; extent of truth claims and criteria for making them; the results of research” (Becher & Trowler, 2001, p. 36). The applied – pure division reflects a distinction between functional and utilitarian knowledge and discovery explanatory knowledge. The hard – soft categorization refers to the degree of the variability of methodology (little or a lot) found within a discipline. Specifically, hard pure includes “pure sciences (e.g., physics),” soft pure “Humanities (e.g., history) and pure social sciences (e.g., anthropology),” hard applied “Technologies (e.g., mechanical engineering, clinical medicine),” and soft applied “Applied social science (e.g., education, law, social administration)” (Becher & Trowler, p. 36). Detailed descriptions of each area are found in Becher and Trowler (2001) including hard pure, which is defined as: “Cumulative; atomistic (crystalline/tree-like); concerned with universals, quantities, simplification; impersonal, value-free; clear criteria for knowledge verification and obsolescence; consensus over significant questions to address, now and in the future; results in discovery/explanation” (p. 36). In contrast, soft applied refers to “Functional; utilitarian (know-how via soft knowledge); concerned with enhancement of [semi-] professional practice … results in protocols/procedures” (Becher & Trowler, p. 36). With these definitions, the 54 programs in the Student Services Survey and the
programs of interviewed graduate students and supportive individuals were classified into the four categories through an iterative process of comparison and review (see Appendix A).¹

**Method - Document Analysis**

To complement the interviews and surveys, a qualitative analysis was conducted on publicly-available institution- and sector-level documents including promotional webpages, policies, and reports related to graduate students’ teaching. Identification of relevant and appropriate documents through purposeful but nonsampling selection (Miller & Alvarado, 2005) was based on the experiences of the researcher reading reports and attending conferences regarding graduate students’ teaching, a search engine review of the institutional website for terms such as “graduate students” and “teaching,” a manual search of institutional-units websites, a search-engine search of similar terms within Canada and Ontario, and a manual search for documents mentioned on higher education blogs and news reports (no provincial documents were found in the search). These documents were produced to convey the goals, needs, and existing supports by associations for the higher education community or by committees or units for members of the university including faculty, staff, and graduate students. Given the focus of this research on support for graduate students’ teaching, and the relevancy of the original purpose, context, and intended audience, these documents were appropriate, authentic, and useful sources of data (Berg, 2004; Bowen, 2009).

The documents were taken at their face value and treated as formal records and resources (Hodder, 2000). Using Atlas.ti (6.2.15, 1993-2012, ATLAS.ti GmbH), analysis involved an iterative process of identifying and gathering relevant passages (content analysis) and of coding and categorizing these selected passages to uncover themes (thematic analysis; Bowen, 2009).

¹ The exit survey asked about degree program and department but shorthand was coded in the data file so could not be sufficiently interpreted without the loss of some of the data.
The initial review of these documents identified existing and proposed supports that were coded based on the social ecological framework. The review raised questions about the goals of such supports and who was seen as responsible for providing those supports. Further content analysis revealed passages related to aims and responsibility that were then thematically analyzed for these themes and for divergent conceptualizations. The main approach to analysis was etic, from an outsider perspective that did not presume prior knowledge of the documents, with a content analytic strategy whereby documents were treated “as independently adequate resources for understanding some aspect of social practice and meaning … container[s] of static and unchanging information” (Miller & Alvarado, 2005, p. 35). The focus was thus primarily on the content of the documents, while still drawing partially on a contextual analytic approach to raise questions as to the rationale and use of these documents during comparisons of goals, responsibilities, and supports as well as in the dissertation discussion chapter, particularly for consecutive institutional policies and linked websites (Miller & Alvarado, 2005).

To hide the identity of the institution in this study, pseudonyms were used throughout the document with the use of pseudonyms within quotes denoted by angle brackets. Generic names were used to replace the university’s name with “the university” or “<the university>” in quoted text, the individual names with the person’s role (e.g., peer, faculty member), and the unit, program, or committee names with generic names (e.g., teaching support centre, certificate program, and Academic Senate Committee). After deep reflection on where to draw the ethical line between hiding identity and providing sufficient quoted text as evidence for readers to draw their own conclusions, I decided to include illustrative quotes (Labuschagne, 2003) while replacing the identifiable university, unit, and committee names in the titles of the documents with pseudonyms, and not providing the URL’s of websites within this research. The decision to
use generic pseudonyms for concealing identity was implemented for the other data sources as well.

**Method - Quantitative Surveys**

To determine how graduate students evaluated supports within their university, particularly formal supports listed in typical surveys, descriptive analyses of items and thematic coding of open-ended questions were conducted on two existing datasets. Both datasets were sampled from recent cohorts of graduate students across disciplines at the same institution and were similar to prior research on a smaller set of disciplines across institutions, which found moderate levels of awareness and use of available supports (e.g., Golde & Dore, 2001; 2004; McGoldrick, Hoyt, & Colander, 2010). These three prior studies focused on general trends within one or several disciplines across multiple institutions; in contrast, this study examined graduate students’ perspectives across disciplines within a single institution to describe their experiences of support within a multi-disciplinary context.

Ethics clearance was received to analyze items on two existing surveys related to graduate students’ teaching roles and use of services and programming (HOESSLER GEDUC-527-100; see Appendix B). Both datasets were kept secure in an encrypted file folder on a password-protected computer. To maintain anonymity, names were not listed in the dataset. Confidentiality was ensured to the best of the researcher’s ability by reporting aggregated quantitative data and removing names of persons or units from relevant open-ended quotes for the four main themes: formal support, informal support, communication/collaboration, and feedback.
Exit Surveys

The first dataset consists of exit surveys completed by 1,221\(^2\) master’s and doctoral students who graduated in 1996 to 2005. Upon graduation, individuals were sent this survey as an opportunity to reflect on their experiences as graduate students at this institution, and provide suggestions for “new and better ways of doing things.” Analysis focused on items related to the graduate students’ teaching experience. Degrees were used to identify graduate students’ disciplinary grouping rather than department as the data were entered from open-ended responses in short-hand codes that were not entirely interpretable. Of the 1,221 graduate students who completed the exit survey between 1996 and 2005, most (77.1%) had graduated with a Master of Science (M.Sc.; 36.1%), a Master of Arts (M.A.; 17.8%), or a doctorate degree (Ph.D.; 22.0%), none of which specified disciplinary group. Soft applied master’s degree programs (22.1%) included Master of Public Administration (MPA; 7.4%), Master of Education (M.Ed.; 5.9%), Master of Industrial Relations (MIR; 4.5%), Master of Planning (MPL; 3.1%), Master of Laws (LLM; 0.9%), and Master of Art Conservation (MAC; 0.9%). Master of Engineering (M.Eng; 0.2%) was the only specified hard applied degree and was excluded from cross-tabulations due to small observed numbers (N = 3) and thus small expected values (Conover, 1980); M.Sc. likely included hard applied students too.

Male (49.7%) and female (48.6%) graduates equally responded to the survey (1.7% did not complete the question); however, they did not equally complete specific degrees (\(\chi^2 (3) = 34.608, p < .001\)). Gender differences in degrees were tested using the flexible and most commonly used post hoc test, Bonferroni (Keppel & Wickens, 2004), with a Bonferroni alpha of 0.046 for a two-sided z-critical of 1.995 that was compared to the standardized residuals. The

\(^2\) The sample size was 1,221 after removing duplicate entries from the original dataset of 1,335.
post hoc analysis found more female than male M.A. (60.8% vs. 39.2%, Std. Residual = 2.4),
and soft applied graduates (58.5% vs. 41.5%, Std. Residual = 2.1) and fewer female than male
Ph.D. graduates (39.8% vs. 60.2%), with observed counts significantly below or above the
expected values (see Table 3.1).

Table 3.1

**Cross-Tabulation of Degree Program and Gender**

<table>
<thead>
<tr>
<th>Degree program</th>
<th>Gender</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>Count</td>
<td>162</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>% within degree program</td>
<td>60.2%</td>
<td>39.8%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>2.2</td>
<td>-2.2*</td>
</tr>
<tr>
<td>M.Sc.</td>
<td>Count</td>
<td>245</td>
<td>196</td>
</tr>
<tr>
<td></td>
<td>% within degree program</td>
<td>55.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>1.5</td>
<td>-1.5</td>
</tr>
<tr>
<td>M.A.</td>
<td>Count</td>
<td>85</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>% within degree program</td>
<td>39.2%</td>
<td>60.8%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>-2.4</td>
<td>2.4*</td>
</tr>
<tr>
<td>Soft Applied</td>
<td>Count</td>
<td>112</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>% within degree program</td>
<td>41.5%</td>
<td>58.5%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>-2.1</td>
<td>2.1*</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>604</td>
<td>593</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>1197</td>
<td></td>
</tr>
</tbody>
</table>

After graduation, approximately 1-in-13 graduate students who responded (n = 93; 7.6%) were employed as faculty members, with doctoral students filling many but not all (76.3%) of these positions. Of these faculty positions, 48.4% of all graduates and 54.9% of Ph.D. graduates held a tenure-track position. Most of the responding graduates were employed in professional positions (39.9%), research associateships (16.3%), research (20.4%), or other non-academic

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3 Other faculty positions were not listed.
positions (11.5%). In addition, at the time of the exit survey, 25.3% reported seeking employment.

Overall, of the graduates who completed the exit survey, 69.4% had held teaching assistantships. However, teaching assistantships ($\chi^2 (3) = 486.144, p < .001$) and study status (part-time, full-time, or mixed; $\chi^2 (6) = 165.755, p < .001$) were not evenly distributed across degrees (see Table 3.2). Post hoc analyses of standardized residuals (Bonferroni alpha = 0.046; $z$-critical = 1.995) indicated that soft applied graduates completed more part-time studies and held fewer teaching assistantships, while their Ph.D., M.Sc., and M.A. colleagues completed fewer part-time studies and held more teaching assistantships than would be expected by chance.

Table 3.2

<table>
<thead>
<tr>
<th>Degree program</th>
<th>% completely part-time</th>
<th>% mixed studies</th>
<th>% full-time (no part-time)</th>
<th>% (N) with teaching assistantships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.</td>
<td>.4%</td>
<td>37.2%</td>
<td>72.5%</td>
<td>89.7% (245)</td>
</tr>
<tr>
<td></td>
<td>-3.8*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.Sc.</td>
<td>1.8%</td>
<td>17.7%</td>
<td>80.4%</td>
<td>78.8% (349)</td>
</tr>
<tr>
<td></td>
<td>-3.7*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.A.</td>
<td>2.8%</td>
<td>16.7%</td>
<td>80.5%</td>
<td>90.4% (198)</td>
</tr>
<tr>
<td></td>
<td>-2.0*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft Applied</td>
<td>22.6%</td>
<td>12.3%</td>
<td>65.1%</td>
<td>15.0% (40)</td>
</tr>
<tr>
<td></td>
<td>10.5*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As program length and part-time status might impact the availability and frequency of teaching assistant assignments based on funding packages and individuals’ availability, I tested the potential relationship between study status and teaching assistantship. A Chi-square revealed that teaching assistantships were not evenly distributed across study status ($\chi^2 (2) = 168.309, p < .001$), with a disproportionally low number of teaching assistantships held by part-time students (Bonferroni alpha = .0244 for two comparisons; $z$-critical = 2.25) as shown in Table 3.3.
Table 3.3

Teaching Assistantships and Status as a Part-Time or Full-Time Student

<table>
<thead>
<tr>
<th>Study Status</th>
<th>TA?</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Completely part-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1</td>
<td>71</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>% who were a TA</td>
<td>1.4%</td>
<td>98.6%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Std. Residual</td>
<td>-6.9*</td>
<td>10.4*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>165</td>
<td>50</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>% who were a TA</td>
<td>76.7%</td>
<td>23.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Std. Residual</td>
<td>1.3</td>
<td>-1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely full-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>642</td>
<td>235</td>
<td>877</td>
<td></td>
</tr>
<tr>
<td>% who were a TA</td>
<td>73.2%</td>
<td>26.8%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Std. Residual</td>
<td>1.3</td>
<td>-2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>808</td>
<td>356</td>
<td>1164</td>
<td></td>
</tr>
<tr>
<td>% who were a TA</td>
<td>69.4%</td>
<td>30.6%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

To test the possibility that the distribution pattern of teaching assistantships occurred at the individual level within a program rather than at the level of departments, frequency of teaching assistantships were examined within a single program that had reasonable cell sizes for part-time, mixed, and full-time as well as a near-even split between teaching assistants and non-teaching assistants. The significant Chi-square and post hoc analyses again indicated significantly lower teaching assistantships for part-time students ($\chi^2 (2) = 15.830, p < .001; \text{Bonferroni alpha} = .0244, z\text{-critical} =2.25$; see Table 3.4). Thus part-time students were less likely to have teaching assistantships.
Table 3.4

*Teaching Assistantships and Status as a Part-Time or Full-Time Student in One Program*

<table>
<thead>
<tr>
<th>Study Status</th>
<th>TA?</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>Total</td>
</tr>
<tr>
<td>Completely part-time</td>
<td>Count</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>% who were a TA</td>
<td>0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>-2.6*</td>
<td>2.3*</td>
</tr>
<tr>
<td>Mixed studies</td>
<td>Count</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>% who were a TA</td>
<td>55.0%</td>
<td>45.0%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>.7</td>
<td>-.6</td>
</tr>
<tr>
<td>Completely full-time</td>
<td>Count</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>% who were a TA</td>
<td>60.0%</td>
<td>40.0%</td>
</tr>
<tr>
<td></td>
<td>Std. Residual</td>
<td>1.3</td>
<td>-1.1</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>% who were a TA</td>
<td>44.6%</td>
<td>55.4%</td>
</tr>
</tbody>
</table>

**Support Services Survey**

The second quantitative data source was a graduate student survey \((N = 530)\) distributed as part of an internal needs assessment of several centralized support units during the 2007-2008 academic year. Graduate students were invited via email by the graduate student association to offer their feedback on supports and services at this institution. My analysis focused on items related to demographics, awareness and use of teaching supports, initial training, and challenges as teaching assistants or graduate teaching fellows. As the original dataset had separate variables for each categorical answer (e.g., one column for male, one for female, and one for other), the data were reorganized into single variables with values for each response (e.g., 0 for male, 1 for female, and 2 for other) to allow for quantitative analyses. A randomly selected subset of the data was manually compared to original data to verify accuracy prior to running descriptive statistics, ANOVAs, Chi-squares, and open-ended coding.
Of the 560 student services survey respondents, 59.1% were master’s students and 40.0% doctoral students. Nearly all were full-time students (94.1%) with few part-time students (5.9%). Most were young adults under 25 years (40.4%) or between 25 and 30 years (37.5%). The survey offered three options for gender with 54.7% identifying as female, 43.8% male, and .5% other. Regarding teaching experience, 63.8% of respondents had been teaching assistants, while 1.4% had been graduate teaching fellows, 7.9% had been both, and 23.9% neither. For future careers, 33.3% intended to seek employment in academia, 15.0% in private industry, 11.2% in government, 2.4% in not-for-profit, and 8.7% in any sector, while 29.5% were uncertain.

As teaching assistants, they were responsible for marking (59.5%), leading tutorials (40.5%), demonstrating lab techniques (31.8%), lecturing (19.3%), monitoring discussions (8.2%), and other duties (7.7%), such as “office hours (for individual tutoring/consultation)” (n = 15), “managing all <learning management system> file uploads, marks, communication” or website maintenance (n = 4), and supervising students (n = 3, e.g., “project TA”) or TAs (n = 3, e.g., “Head TA”). Individuals noted a wide range of responsibilities: “answering email; individual consultations; photocopying; attending lectures and circulating during group work; giving presentations,” “handling emails, assisting during office hours, participating in and assisting with field excursions, attending classes,” and simply “various odd jobs, including some lecturing and demonstrating.” Of those who were lab demonstrators, tutorial leaders, lecturers, and discussion monitors, nearly all were responsible for marking (91.6%, 94.3%, 96.3%, and 97.8% respectively) as “Marking is related to the tutorial.” Just 10% of graduate TAs had marking as their sole responsibility based on analysis of a conditional variable I created to compare marking-only and mixed responsibilities. Just 47 were graduate teaching fellows with full responsibility for a course or section of a course.
Testing relationships between these demographic variables required careful consideration of requirements as significance testing cannot compare groups with low observed numbers (e.g., part-time or “other” gender respondents) and thus low expected values. The threshold for Chi-square tests with small tables, such as 2 x 2 or 2 x 3, is a minimum expected count of at least 5 in most cells and at least 1 in all cells; larger tables have a less conservative minimum as expected counts “may be as small as 1.0 without endangering the validity of the test” (Conover, 1980, p. 156). Where possible, relationships between demographic variables (study status, degree level, gender, and teaching roles) were examined. Male and female students ($\chi^2 (3) = 5.031, p = .170$) were equally engaged in master’s and doctoral degrees, as were part-time and full-time students ($\chi^2 (3) = 1.334, p = .721$; smallest expected cell count was 12.8). Master’s and doctoral students equally served as teaching assistants and/or fellows ($\chi^2 (4) = .768, p = .943$; GTF’s cell counts of 4 and 3 were permissible as the table was 2 x 4).

Teaching assistantships were unequally distributed across the four disciplinary categories ($\chi^2 (6) = 87.763, p < .001$; z-critical of 2.075 for post hoc tests). Soft applied disciplines had fewer graduate students in teaching assistantships and more with no teaching role than would be expected by chance (Std. Residuals of -4.1 and 5.5), while few soft pure graduate students had no teaching role (Std. Residual of -3.9). Soft pure graduate students also were more likely to have both teaching assistantships and fellowships, while hard pure graduate students were less likely to have both than expected by chance (Std. Residuals of 2.9 and -2.7). Thus graduate students in soft pure programs were more likely to engage in teaching compared to other disciplinary categories. Graduate students with roles just as GTFs could not be analyzed due to low numbers.
Survey Data Analysis

Descriptive statistics were computed using SPSS to determine the average (mean) level of and variation (standard deviation) in graduate students’ preparation, challenges, feedback, resources, and use and awareness of programming related to teaching. Means and standard deviations were calculated for the entire institution, and for disciplinary groups based on the Biglan-Becher categorization of discipline for the purpose of broad generalizations (Becher, 1989; Becher & Trowler, 2001). Possible differences based on demographic factors, such as gender and level of study (master’s or doctoral), were tested using Chi-squares. Potential relationships between items, such as training and challenges, were identified using logistic regressions. Responses to open-ended survey questions about support from all graduate respondents were open-coded, categorized, and reported as four main themes. For example, the exit survey analysis had 80 initial codes closely mirroring responses, such as “clarity of expectations,” “clarity and guidelines regarding marking,” “closer relationship with instructor,” “course instructor more organized, prepared and helpful,” “less … marking” and “want to teach courses.” These codes were combined into 13 families, such as “greater clarity – roles, responsibilities,” “course instructor,” and “more advance responsibilities” that became part of the formal and informal support themes.

Method - Qualitative Interviews

To provide a rich description of support for graduate students’ scholarly teaching within the context of one institution, the qualitative phase of this research aimed to explore questions within this institutional context: (1) How are existing supports for graduate students' scholarly teaching perceived and experienced?; (2) What are perceived or prescribed sources of support?; (3) What challenges and needs are experienced when seeking or providing support? This
qualitative analysis drew on (i) interviews with 13 graduate students within one institution; and (ii) interviews with 8 individuals involved in supporting graduate students’ teaching and teaching development within the same institution (ethics clearance: HOESSLER GEDUC-556-11; see Appendix C). The four themes arising across these and the quantitative data sources are reported within the results and explored further within the discussion section.

Data Collection with Graduate Students

Recruitment. Graduate students from across departments and programs were invited to participate in interviews (see Appendix D for demographics). I requested that the invitation be posted in the institution-wide graduate student association’s newsletter; it was posted in the fall term newsletters (see Appendix E). The purposeful sample encompassed male and female graduate students in research-based programs, with preference for students who were in their second or upper year and thus were more likely to have experience with teaching supports.

Interviews. Thirteen interviews were conducted with graduate students in a quiet space on campus that offered privacy and met with that participant’s approval. Individual interviews provided a measure of privacy for graduate students to share their personal experiences of support. Participants were provided with the Letter of Information and copies of the Consent Form to sign and to retain before participating (see Appendices F and G). Graduate students who participated might have benefited from this opportunity to share and reflect, just as participants in Wulff et al.’s (2004) interview study reported benefiting. Each interview was scheduled for an hour to provide sufficient time; some took less time to complete.

To provide a balance between breadth and focus, these semi-structured interviews had an interview guide of open-ended questions that were focused and directed, yet with the flexibility to allow for a natural order and depth of topics (Charmaz, 2002). Initial and intermediate
questions were designed to “tap individual experience” (p. 679) and perceptions of the students’ own actions as individuals and their communities’ collective actions (Charmaz, 2002). Concluding questions provided a natural positive closure. Using this technique, the interview questions first asked about how graduate students’ teaching was supported generally at the institution and specific sources of that support. Follow-up intermediate questions asked about personal experiences and views on available supports, existing challenges, and needs. The concluding questions refocused on the positive by asking what was the most valuable source of support, and any questions or reflections on the interview (see Appendix H). Prior research on graduate student support using interviews (e.g., Wulff et al., 2004) had not published their interview guides, so these questions were adapted from Charmaz’s (2002) sample questions. Member-checking with some graduate students and supportive individuals (including my committee) helped to refine the questions.

**Data Collection with Supportive Individuals**

A second perspective was sought from eight individual faculty or staff members in departments and service units within this context who supported graduate students. From their experiences, they were anticipated to have similar yet divergent perceptions and awareness of supports for graduate students’ teaching. Of the eight faculty members and staff, four worked within institution-wide units and four were located within specific departments across the university (see Appendix D for demographics).

Purposeful sampling (Patton, 2002) was used to select individuals who had supported graduate students’ teaching development as a part of or beyond their official roles by being TA coordinators, sitting on teaching and learning committees, organizing orientations, and presenting workshops in their departments or as part of centralized programming. These
individuals were listed on publicly available promotional materials and webpages. An initial list of these potential individuals was created based on such public information. With the aim of interviewing a wide range of supportive people, care was taken to invite diverse participation across the disciplines and institution-wide units. Email invitations to participate (see Appendix I) were initially sent to six of the eight participants. Based on responses (and one lack of a response), a second round of invitations was sent to three individuals with appropriate roles and locations. Supportive individuals interested in being interviewed were provided with copies of the Letter of Information and Consent Form (see Appendices J and K). The Consent Form was signed prior to the semi-structured interview. The interview guide (see Appendix L) mirrored the graduate student interviews with open-ended questions, although about providing or seeking support for others rather than for themselves.

**Recordings**

To improve transcription accuracy and quality, each interview was audio recorded (with consent from the participant) on a digital recorder placed on a stable surface close to the respondent (Poland, 2002). As the recorder was battery-powered, fully-charged batteries were used for each interview and extra batteries were available. Recording clarity was checked before each interview, after the first question, and at the end of the interview. The recorder’s visual display, which indicated the level of volume being recorded, was periodically checked to ensure recording. I transcribed one graduate student and one faculty interview with the remaining sets of interviews typed by a hired transcriber who signed a confidentiality agreement.

**Interview Data Analysis**

The qualitative analysis iteratively combined an inductive approach for discovery with a deductive approach for verifying themes, as suggested by Guba (1978), to identify patterns that
were readily found in the data and meaningfully related to teaching support within this context. The transcripts were viewed as “window[s] into human experience,” according to the sociological tradition (Ryan & Bernard, 2000). To be open to multiple ways in which support might be experienced and perceived, I drew on some of the ideas from grounded theory (Charmaz, 2002; Glaser & Strauss, 1967). My initial inductive open-coding involved reading the transcripts to identify overlapping ideas and create collections regarding the forms, challenges, and experiences of support mentioned by each person or document. A code-based theory building program, specifically Atlas.ti (6.2.15, 1993-2012, ATLAS.ti GmbH), was used to store, retrieve, and display data; link data with categories; and show patterns in codes across data sources (Weitzman, 2000). Transcripts were numbered and marked with the person’s role as a graduate student, a supportive individual in an institution-wide unit, or a supportive individual in a department, to help examine similarities and differences across these groups. Electronic and paper copies were kept organized in clearly labeled folders for each data source and chapter. In the words of Glaser and Strauss (1967), the aim of the analysis was for all uncovered categories to “fit” the data and “work” in this context. To determine the boundaries of each category (Guba, 1978), I sought instances that did not fit with existing categories, in addition to those that did fit.

This qualitative phase provided an opportunity to explore how support for graduate students’ scholarly teaching was expressed, experienced, and perceived within one institution by graduate students, supportive individuals, and institutional documents. Each of these multiple perspectives “provides a rich and complex picture of [the] social phenomenon being studied” (Mathison, 1988, p. 15). Based on their disparate roles, histories, and foci, individuals in this study were anticipated to provide distinct yet complementary perspectives. In addition,
documents and the other data sources (surveys and interviews) were anticipated to show similarities and differences, given inconsistencies previously found between institutional statements and implicit messages about the value of teaching (Wulff et al., 2004). Rather than a simplified convergence, data and method triangulation were expected to provide a more complex, and thus more appropriate, portrayal of this multi-layered context.
Chapter IV: Document Analysis Institution-Wide

This document analysis identifies the stated goals, recommended support, and existing support for graduate students’ teaching and teaching development found in national vision documents, and policies and websites at this institution. The selected documents were publicly available and discussed graduate students’ teaching roles or development. The 10 documents, shown in Table 4.1, spanned sector, institutional, and course levels to provide insight into the context shared by all graduate students and supportive individuals in this institution.

Table 4.1

Public Documents Analyzed in This Study

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Focus</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NSERC Working Document V2.0 Professional Skills Development From Ideas to Action, February 2007</td>
<td>Vision</td>
<td>Sector-wide</td>
</tr>
<tr>
<td>2</td>
<td>Canadian Association for Graduate Studies – Professional Skills Development for Graduate Students, November 2008</td>
<td>Vision</td>
<td>Sector-wide</td>
</tr>
<tr>
<td>3</td>
<td>&lt; Academic Senate Committee&gt; Sub-Committee on the Training of Teaching Assistants, 2002</td>
<td>Policy</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>4</td>
<td>Teaching Assistants at &lt;the university&gt;, May 2005 (2009 revised)</td>
<td>Policy</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>5</td>
<td>Collective agreement (as of Fall 2011)</td>
<td>Policy</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>6</td>
<td>TA Agreement (May 2005 version)</td>
<td>Form</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>7</td>
<td>&lt;Teaching support centre&gt; Website</td>
<td>Resources</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>8</td>
<td>&lt;Graduate studies office&gt; – Graduate Support Information Webpage</td>
<td>Resources</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>9</td>
<td>&lt;Academic skills support centre&gt; – TA and Instructor Resources Webpage</td>
<td>Resources</td>
<td>Institution-wide</td>
</tr>
<tr>
<td>10</td>
<td>New Faculty section of the &lt;Faculty recruitment and support centre&gt; website – Resources for TAs/Graduate Students Webpage</td>
<td>Resources</td>
<td>Institution-wide</td>
</tr>
</tbody>
</table>

The Documents Analyzed

Sector Level

The national conversation about graduate students historically showed limited consideration of professional skill development until 2007 when Pierre Bilodeau of the national
Natural Sciences and Engineering Research Council (NSERC), a major Canadian granting agency, wrote the NSERC working document V2.0 *Professional Skills Development From Ideas to Action* (called NSERC working paper in this analysis [Document 1]). This document was a call for conversation and recommended a meeting about the skills that graduate students and other new researchers needed to develop. In response, the Tri-Council of the three major Canadian research agencies, the national Society for Teaching and Learning in Higher Education (STLHE), and the Canadian Association for Graduate Studies (CAGS) held a joint workshop during the summer of 2007 that “kick started the discussion of professional development for new researchers” (CAGS, 2008). This workshop resulted in a set of nine areas for professional skills development, continued work by CAGS to create a short list of four feasible areas, and the publication of the Professional Skills Development for Graduate Students document in 2008 (referred to as the CAGS paper in this analysis [Document 2]). This CAGS document was an “important document … [with] the potential to be a revolutionary one” (Steele, 2009) in the national landscape of graduate education and appeared to partially address the NSERC working document’s second recommendation that “CAGS and the granting agencies should join forces in developing a statement of principle on professional skills training to reflect their common understanding of what are the most important non-technical skills” (NSERC, 2007, p. 4).

This NSERC working document also aimed to highlight professional skills development, promote potential approaches, and inspire institutions at a time of growing recognition of the need for graduate students’ professional skill development. National granting agencies, including NSERC, were becoming increasingly aware of the importance of professional skills for new researchers including students, post-doctoral fellows and new faculty members [and] … intend to propose concrete actions to promote the development of these
skills and to encourage Canadian institutions to develop the resources needed to train new researchers in these skills. (NSERC, 2007, p. 2)

CAGS’ (2008) Professional Skills Development for Graduate Students document presented a vision and the foundation for further discussion, consensus building, and planning around how core skills for graduate students could be supported at all Canadian post-secondary institutions. The stated purpose of this paper was:

   to begin the process of understanding the current landscape of professional skills programs in Canadian universities, to identify a small core of areas of common interest, to identify gaps in the current delivery of such programs, and to begin to develop a national strategy for ensuring that all graduate students have access to at least a core set of programs. (CAGS, 2008, p. 8)

To identify the small core areas, this document drew on (a) prior working documents, such as the NSERC document, (b) the nine professional skills areas derived at the joint workshop with STLHE, CAGS, and Tri-Council agencies, and (c) the requirement that immediate implementation of identified areas be feasible. Four broad areas of graduate student development were selected: communication skills, management skills, teaching and knowledge transfer skills, and ethics in research. The Teaching and Knowledge Transfer Skills area, the main focus of the present study, was described as:

   Graduates are expected to be able to explain complex concepts related to the content, skills, and processes of their discipline in various workplace contexts. Graduate students planning on a variety of careers need experience in identifying the learning outcomes as well as in selecting appropriate content and delivery models. They also need experience adapting their instructional, outreach, and dissemination activities for different contexts to address different learning styles, motivations, backgrounds, and experiences. (CAGS, 2008, p. 7)

   New national funding by NSERC for its specialized Collaborative Research and Training Experience program (CREATE) provided resources for institutions to develop for graduate students and other new researchers training opportunities with a professional skills component. The description of professional skills on the CREATE program description on the NSERC
website (NSERC, 2012) was similar to the NSERC (2007) working paper in not mentioning teaching specifically, just “areas such as communication, collaboration and professional skills” (NSERC website).

4

**Institution-Level Policy**

Movement at the sector level has sparked increasing program and policy growth at the institution level across the country. In a quote reported by Galt (2011), Dr. Douglas Peers, past president of the Canadian Association for Graduate Studies, said, “Over the last two or three years, [skills development] has become much more of a topic for graduate deans everywhere, so there are a lot of initiatives happening” (para. 8). The increase in the university focus on skills development for graduate students is exemplified by the institutional policies and websites selected for this document analysis. Policies were selected to provide information on the requirements and expectations for support within the context, while websites overviewed existing supports for a specified audience.

At this institution, three consecutive institution-level policies approved by Senate or the university’s bargaining unit determined the goals, recommendations, and existing resources related to graduate students’ teaching. The first document, a report, was written by the Sub-committee on the Training of Teaching Assistants. This sub-committee was established in June 2001 by the Senate Committee on Academic Development after low evaluations of graduate students’ teaching were reported: “the results of Exit Poll surveys which indicate a somewhat troubling level of dissatisfaction with Teaching Assistants among the undergraduate student population” (Sub-committee report, 2002, p. 1). Within its mandate, the sub-committee reviewed

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4 During targeted searches of provincial higher education bodies and online searches with key words, any provincial-level documents found regarding graduate students did not mention teaching even when specifying educational goals or degree outcomes.
prior non-public reports, existing training at the institution, and training at other institutions to create the resulting 2002 Report of the Sub-Committee on the Training of Teaching Assistants to the Senate Committee on Academic Development (referred in this analysis as Sub-committee report [Document 3]). The recommendations and survey of existing supports within this sub-committee report became the foundation for the 2005 Senate policy that was in effect until shortly after the Collective agreement for graduate teaching assistants and teaching fellows was reached in 2011. The Collective agreement is currently the sole institution-wide policy in effect and still publicly available, while the prior two documents, the Sub-committee report and the Senate policy, are no longer public (but were retrieved when still publicly available online).

The Report of the Sub-Committee on the Training of Teaching Assistants to the <Academic Senate Committee> (2002) provided an overview of existing support through training and nine specific recommendations for support based on a review of existing training, other institutions’ practices, and three prior reports within the institution written for the graduate studies office in 1993, for the undergraduate student association in 2000, and for a conference in 2000, all of which were summarized in the sub-committee report (but are not otherwise available).

Following the 2002 report, a new institutional Sub-Committee on Teaching Assistants drafted the Teaching Assistants at [Institution] policy (Senate policy [Document 4]) that included many of the Sub-committee report’s recommendations and received Senate approval in May 2005 with revisions in January 2009. From May 2005 until summer 2011, the Teaching Assistants at [Institution] Senate policy served as the central document outlining the support expected for undergraduate and graduate students in teaching assistantships, including training,
rights, responsibilities, and processes. The policy was written for teaching assistants, course
instructors hiring teaching assistants, departments, and institution-wide groups with the aim:

- to provide a common frame of reference with respect to the hiring and funding of
  Teaching Assistants (TAs) at <the university> as well as the rights and
  responsibilities of TAs and the University. In general, it is intended that the
  guidelines and procedures articulated in this document enhance the graduate and
  undergraduate learning and teaching environment. (Senate Policy, section I)

With unionization of graduate students in teaching assistantships and teaching
fellowships in Spring 2010 with certification on April 13, 2010, negotiations for a Collective
agreement occurred. By the end of summer 2011, a Collective agreement [Document 5] was
reached between the union representing graduate students in teaching roles at the university and
the university effective May 1, 2010 to April 30, 2013. As just graduate teaching assistants and
fellows were in the union, the policies in this agreement applied only to graduate students, and
not to the undergraduate students included in the previous Senate policy, when the Collective
agreement became the main institution-wide policy on graduate students’ teaching at the start of
Fall term 2011.

Similar to the Senate policy, the Collective agreement focused on the rights and
responsibilities of graduate student teaching assistants and teaching fellows as employees with
the aim of creating a professional relationship with its goals “to establish an orderly collective
bargaining relationship … to ensure the prompt and peaceful resolution of disputes and
grievances, and to set forth an agreement covering rates of pay and other working conditions”
(Collective agreement, p. 3). Absent from the Collective agreement was explicit mention of
teaching or learning, which was present in the previous Senate policy.

Both the Senate policy and Collective agreement included forms for teaching assistants.
The original Teaching Assistant Agreement and Teaching Assistant Evaluation Form of the 2005
Senate policy was posted as a stand-alone document on websites such as the teaching support
centre. This form was the basis of conversations between TAs and course instructors from 2005 until 2011 [Document 6]. Jointly created by several institution-wide bodies including the undergraduate and graduate students’ organizations, the teaching support centre, and graduate studies office, this form highlighted the topics of responsibilities, hours, training, and feedback for discussion between course instructors and graduate students working as TAs.

**Institution-Level Existing Resources**

Four institution-wide websites on campus communicated existing supports for graduate students’ teaching to graduate students, TAs, instructors, new faculty, and others in the institution. These websites were identified by an online search with the institution’s internal search option, an online search with an external search engine for graduate student teaching within the institution’s domain name, and a manual search of likely sources’ websites. The only resource listings found were webpages from the <teaching support centre> [Document 7], the <graduate studies office> [Document 8], the <academic skills support centre> [Document 9], and the New Faculty Handbook [Document 10].

In Fall 2011, the teaching support centre revised its website and streamlined all existing supports into webpages highlighting Programs and Services, Awards, and Resources. The graduate studies office, as the central body responsible for graduate education across the institution, provided a detailed summary of programs, services, and resources available across campus from institution-wide supportive units on its graduate support information webpage. The institution's academic skills support centre highlighted supports on a “T.A. & Instructor Resources“ webpage, encompassing a mixture of formal programs, informational resources, and communication tools. The final institution-wide webpage, the Resources for TAs/Graduate
Students section of the online *Handbook for New Faculty*, aimed to provide new faculty with knowledge of services available to students they would mentor.

Policy documents and websites from disciplinary units or from individual courses were not included in this study. While analysis of this rich diversity of support could provide insight into how institutional policies were interpreted and enacted locally, this complexity was beyond the scope of this study due to the limited access to documents located on online learning communities or secure areas, and the large anticipated variability that would make ensuring a representative review difficult. Thus the current document analysis focused on describing 10 publicly available sector and institution-wide documents and websites to highlight the stated goals, existing support, and recommended support for graduate students’ teaching and teaching development.

**Stated Goals**

Four components are critical in examining how goals for support of graduate students’ teaching are described in the 10 documents: who was being supported; what were the types of support; what were the benefits; and who was responsible for providing support. While the documents did not reveal any complete vision statements covering all four goal components, most documents had separate descriptions of the target, type, benefits, and responsible parties regarding support. Few of the documents contained all four components; most of the institutional websites, for example, had few or none of these components stated.

**Who Was Supported?**

In writing about support, the national documents focused broadly on all graduate students (CAGS and NSERC) and all "new researchers" (NSERC, 2007, p. 2) encompassing undergraduate and graduate students, post-doctoral fellows, and new faculty members. In
comparison, the institutional policies and forms focused specifically on teaching assistants (as appeared in the titles of the Senate policy, Sub-committee report, and Collective agreement), defined, for example, by the Senate policy as any students “serv[ing] under the supervision of a course supervisor in one or more of the following capacities: marker, laboratory demonstrator, tutorial leader, or other supporting role in the delivery or preparation of degree-credit course” (section I) or graduate students who were “teaching fellows” (Collective agreement, p. 1). The institution-wide websites showed a mixed focus on graduate students and TAs, with the teaching support centre website offering programs and services to individuals who taught including “everyone” and “graduate students, undergraduate students and post-doctoral fellows,” and the academic skills support centre webpage listing resources for “T.A. & Instructor.” Focusing on all graduate students, the graduate studies office webpage welcomed readers “as a graduate student” and the New Faculty webpage’s header highlighted “Resources for TAs/Graduate Students.” This diversity in language suggests that support for graduate students’ teaching available to individuals existed throughout their studies or varied depending on if they were in specific teaching roles, such as teaching assistantships, at that time.

Adding further complexity, the terms ‘teaching assistants’ and ‘graduate students’ do not represent homogeneous groups; rather these individuals are diverse in their responsibilities, areas and levels of study, and career goals. A wide range of teaching responsibilities was acknowledged in the documents as "TAs play different roles in different faculties and departments, typically they lead tutorials or labs, mark exams and assignments and hold office hours … they also write and present lectures, monitor course websites or listservs and supervise group projects” (Sub-committee report, 2002, p. 2). Graduate students serving as teaching
fellows also had “major responsibility for planning, teaching and evaluation in an undergraduate or graduate course” (p. 3).

Beyond their immediate roles, graduate students’ diversity of careers was reflected in the statement that “The target audience for professional skills development includes all graduate students and includes the range of different career paths they may follow whether in the academic, private, public, or not-for-profit sectors” (CAGS, 2008, p. 4). Even teaching and knowledge transfer skills were notably not limited to just graduate students with a particular career path. The range of their long-term careers encompassed academic, and public, private and not-for-profit sector positions (CAGS, 2008). The goals for support also depended on the discipline with initiatives to be “appropriate to the needs of different student communities, according to discipline and program, taking into account level of study (Masters/PhD)” (CAGS, 2008, p. 4). Graduate student diversity and its effect on support were also found in the Senate policy’s description of the university’s ongoing responsibility “towards TAs with respect to their scholarly development and professional preparation for academic and non-academic careers … [including by continuing] to encourage and support program-specific and university-wide TA training initiatives” (section III, Senate Policy).

**What Were the Types of Support?**

The second component of stated goals, the nature of support provided to graduate students, took the form of skill development in sector-level documents and primarily the form of training in institutional documents. Nationally, the CAGS document defined support as professional skill development that was “complementary to not instead of academic credentials” (CAGS, 2008, p. 2; emphasis original). Such professional skills were defined as “skills that are complementary to disciplinary knowledge and that will enhance the graduate’s ability to be
successful in the transition from academic to work life” (CAGS, 2008, p. 3). Teaching was highlighted as one of four such professional skills, along with communication, management, and ethics that were feasible as they “have high likelihood of success in implementation in the university context” (CAGS, 2008, p. 6).

Across all institutional documents, stated support primarily took the form of training that was defined in multiple ways and accompanied by a variety of additional forms of support. The 1993 report to the Dean of Graduate Studies, as summarized in the Sub-committee report, 2002, purportedly conceived of training as “opportunities to develop competency and expertise in teaching” (Sub-committee report, 2002, p. 2), while the 2002 Sub-committee report on TA training specified such training opportunities in the following fashion:

Preparation for a TAship should include, but not be restricted to, practical hands-on training for specific duties. It must also include mentoring and monitoring and other forms of support for the continuing development of the TA’s instructional abilities. (Sub-committee report, 2002, p. 5)

The Senate Policy’s stated forms of support encompassed training, feedback, and clarity of responsibilities in the main document and the appended TA agreement form. The rights and employee benefits covered in the Senate policy were noted in greater detail in the Collective agreement. The Collective agreement also noted that all required training was to be paid and a mid-point meeting with employment supervisor was to occur. Feedback was specified in the “Evaluation of practice and continuing professional development” section of the Collective agreement’s teaching fellow form. Websites listed formal programs, services, informational resources, and communication tools as supports. Thus the stated types of support for graduate students’ teaching were skill development and training, as well as mentoring, monitoring, feedback, clarity of responsibilities, formal programs and services, informational resources, and other tools.
What Were the Benefits?

All of this support raises the important question: to what end? According to these documents, the beneficial outcomes of such support for graduate students’ teaching and the opportunity to teach were threefold in providing important benefits for the individual, for the institution, and for the sector and society.

Individual graduate students engaged in teaching development and training gain skills, financial benefits, and employment benefits, as well as professional development and apprenticeship opportunities. According to the national CAGS document, “The benefits to graduate students are many: increased confidence in approaching their first job [citing Jaschik, 2008], personal reflection on managing the academic to work life transition, and engagement in a process of self-motivated learning of professional skills” (CAGS, 2008, p. 7).

Graduate student teaching roles served both individual graduate students and the education commitment of their institutions and departments:

the enrichment of the professional development of Teaching Assistants and the enhancement of the apprenticeship aspect of their experience as they develop skills for their future endeavours, as well as the improved delivery of the academic program to undergraduate students. (Sub-committee report, 2002, p. ii)

The Senate policy similarly reported the benefits of teaching assistantships as:

serving three valuable functions: A teaching assistantship provides teaching support to undergraduate courses; it is a significant component of financial support for a considerable number of graduate students; and for many students it is an important — in some academic disciplines even necessary — component of their professional development. (Senate Policy, section I)

Society and the sector were viewed as benefiting from graduate students with strong professional development who were the “highly skilled people needed to thrive in a knowledge-based economy and to make meaningful contributions to society, both nationally and
internationally” (CAGS, 2008, p. 2). The NSERC working document similarly highlighted this need for skilled personnel by society:

Canada needs a workforce which is both highly educated, and skilled to compete in the knowledge economy … [with] a strong technical proficiency … [and] graduates need to be adaptable, flexible and to develop a broad skill set (e.g. communications, project and intellectual property management, entrepreneurship) … In the global, knowledge-based economy, Canada faces growing competition from both established and emerging economies with excellent educational systems and large numbers of qualified people. (NSERC, 2007, p. 2)

The complete threefold benefit across the individual, institution, and sector/society was expressed in the Sub-committee report description of teaching assistantships as providing “teaching support for undergraduate courses … a basic component of financial support for many graduate students and an important form of professional development for them, especially in terms of preparing future faculty for their teaching responsibilities” (Sub-committee report, 2002, p. 2).

Who Was Responsible?

With the envisioned targets, forms, and outcomes of support for graduate students’ teaching identified, the question of who is responsible for providing support becomes the last key piece for support implementation. The short answer appeared to be everyone but primarily someone else, as sector-level documents pointed to institutions with just some advocacy role placed at the sector level, while institutional documents pointed to the department level. The sector-level CAGS and NSERC documents placed responsibility for support at the level of institutions, while acknowledging challenges that required support from sector-level resources. Implementation of support in the CAGS document focused on the role of institutions by stating “The university is responsible for providing graduate students with the best possible preparation for their future roles whether within academia or in other sectors. This responsibility extends to
developing professional skills” (CAGS, 2008, p. 4). The exact approach to implementation was left as the responsibility of individual institutions in the statement: “Ultimately, each university makes the final determination, within its own context, of how to select, resource, and implement the development and delivery of individual professional skills programs” (CAGS, 2008, p. 8).

This institution-level freedom might reflect the practical challenges institutions face when planning and implementing supports with limited financial and temporal resources as highlighted in both sector-level documents.

The challenges and opportunities inherent in [universities’] dual mandate of research/inquiry and teaching/learning … [is] further exacerbated by the funding structures of post secondary education (PSE), partially due to substantial declines over the past several years in funding for teaching alongside much needed increases in funding for research. (NSERC, 2007, p. 3)

In seeking feasible plans for skill development, the CAGS document recognized the current Canadian and general fiscal contexts by stating “with the reality of resource limitations at all academic institutions, … success going forward will be achieved only by capitalizing on current programs and current expertise as we identify priorities and gaps” (CAGS, 2008, p. 1).

The challenge of “finding the necessary resources” (p. 8) suggests institution-level concerns as well as a potential role for sector-level bodies to provide resources and advocacy for additional resources.

In Canada, sector-level support, including resource support, is notably complex as higher education is the domain of provincial governments leading national sector-level bodies to be notably hesitant: “federal granting agencies have been quieter towards identifying professional skill training as a priority, primarily because of the training component which in the Canadian landscape is seen as closely associated with education, a responsibility of provincial governments” (NSERC, 2007, p. 3). Yet the NSERC working paper placed responsibility for promotion jointly on several federal sector-level bodies including CAGS and the granting
agencies such as NSERC to champion the issue of professional skills development by “recommend[ing] that CAGS and the granting agencies join forces in developing a statement of principle on professional skills training to reflect their common understanding of what are the most important non-technical skills” (NSERC, 2007, p. 4).

Beyond finding resources and identifying skill areas, institutions face the challenge with support and related curriculum planning, including: “being explicit in the learning objectives and expectations” (CAGS, 2008, p. 7); “avoiding extending the length of graduate programs” (CAGS, 2008, p. 7); and “balancing voluntary with compulsory” (CAGS, 2008, p. 7). As curriculum planning is often the domain of departments, institutions need to “identif[y] the unit or units on campus responsible for development and delivery of programs” (CAGS, 2008, p. 8) and then shift responsibility for the planning challenges to the departmental level. The role of departments was solidified in the institutional Sub-committee report that stated “TA development and training is primarily a departmental responsibility at [institution]” (p. 3).

Institutional documents also shifted responsibility for communication down the levels from institutions to the course and individual levels. Communication through agreement forms (Senate policy, Collective agreement) and mid-point reviews (Collective agreement) was placed at the course level with course instructors or course supervisors responsible for discussing hours and responsibilities, feedback (old TA agreement form and the Teaching fellow form), and training (section of old TA agreement form, checkbox of the new TA form, and the Teaching fellow form).

At the individual level, graduate students were responsible for being aware of their rights, according to the graduate studies office webpage statement: “It is important that you make yourself aware of [these supports] … as early as possible.” Individuals were made responsible
for declining excess work in the Collective agreement “where a graduate student is offered work that would result in the total hours of work exceeding the maximum allowable hours of work, it is the graduate student’s responsibility to decline such work” (p. 14). In conclusion, responsibility for support advocacy and resources was placed at the sector level, providing and planning support at the institutional and department levels, communicating support at the course level, and awareness and fairness of opportunities at the individual level.

**Existing Supports**

Multiple supports for graduate students’ teaching development exist within Canadian universities:

While universities are clearly responsible for the discipline-specific skills, they have become more involved in the broader skill development, whether this development is overt and intentional or not. Currently, many of the resources, courses, and programs mentioned in this report already exist in pockets within university communities. (CAGS, 2008, p. 3)

Most supports for graduate students’ teaching within the institution studied were provided by the teaching support centre (based on an analysis of institutional documents and websites) as summarized in Table 4.2. The programming and services of this centre were highlighted in the Sub-committee report and Senate policy and represented the totality of supports advertised on the New Faculty’s TA/Graduate Students section, and the majority of teaching-related supports on the graduate studies office’s graduate support webpage and the academic skills support centre’s “TA & Instructor resources” webpage. The teaching support centre provided a course on teaching and learning for all graduate students, a course on communication in teaching for international students, a certificate program, a teaching development day filled with workshops in September, a workshop series throughout the fall and winter terms, consultations, a resource library, online topic-specific informational resources, a teaching dossier handbook, and a TA handbook (Table 4.2 indicates which documents mentioned each of these supports). A detailed
description of each program and service is provided in the glossary (Appendix M). According to the service section of the centre’s website, consultations included teaching observations in the classroom, curriculum and course planning, resource recommendations, and help with feedback collection and interpretation.
Table 4.2

*Existing Supports Across All Institutional Documents*

<table>
<thead>
<tr>
<th>Source Level</th>
<th>Institution-level policy</th>
<th>Institution-wide existing resources</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate Program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching Development Day</td>
<td></td>
<td>Old name</td>
<td>Old name</td>
</tr>
<tr>
<td>English Assessment &amp; Course</td>
<td></td>
<td>Old policy (“required”)</td>
<td>✓</td>
</tr>
<tr>
<td>Teaching &amp; Learning Course</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Teaching Development Workshop Series</td>
<td></td>
<td>✓ “TA programs”</td>
<td>✓</td>
</tr>
<tr>
<td>Consultations</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TA awards</td>
<td></td>
<td>✓ dept.</td>
<td>✓ dept. Inst.</td>
</tr>
<tr>
<td>Resource library</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Info on teaching topics/website</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Teaching Dossier handbook</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>TA handbook</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Department Training</td>
<td>3 hour minimum</td>
<td>3 hour minimum</td>
<td>Paid if required</td>
</tr>
<tr>
<td>Mentoring by instructor</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Feedback</td>
<td>sample forms, peers</td>
<td>TF form - evaluation of teaching option</td>
<td>✓</td>
</tr>
<tr>
<td>Students in Distress information</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&lt;Academic Skills Support Centre&gt; services presentation</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>&lt;Academic Skills Support Centre Stickers&gt;</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Payment Process</td>
<td></td>
<td>✓ via dept.</td>
<td></td>
</tr>
<tr>
<td>Form - duties, hours</td>
<td>✓</td>
<td>✓</td>
<td>✓ new</td>
</tr>
</tbody>
</table>

Additional supports for graduate students’ teaching noted included sector-level funding; institutional informational resources on rights, responsibilities, and feedback; departmental
training; course-level discussions; and mentorship by instructors and peers, each of which is explored separately.

Support at the sector level was limited to funding and programming for skill development, specifically:

programs that help provide those skills … additional opportunities for students and [post-doctoral fellows] to further develop those skills through direct industry interactions. Another recent initiative is the joint NSERC-FQRNT Industrial Innovation Scholarships program, which will offer a $2,500 supplement towards the acquisition of professional skills. (NSERC, 2007, p. 5)

National funding, such as this program, was typically provided to institutions to support select groups of graduate student (and other) trainees.

**Institution-Wide Informational Resources**

At the institution level, the teaching support centre’s initiatives were complemented by information about campus services for their students, graduate students’ rights, responsibilities, and feedback. Three resources advertised on the academic skills support centre webpage were: the institution-wide “Brochure on how to recognize students in distress,” the academic skills support centre PowerPoint slides describing their study skills development services, and the academic student support centre stickers (each described in detail in Appendix M). These communication tools indirectly supported graduate students by allowing them to guide students in need to institutional resources and not strain graduate students’ own limited teaching time.

Communication among institution-wide and disciplinary units on campus about supports occurred through three approaches: an annual report (Sub-committee report and Senate policy); the Consultative Committee on Teaching Assistants (Sub-committee report and Senate policy); and the institution-wide coordinator position recommended in the Sub-committee report (2002) but not found in later documents.
Institutional policies outlined the responsibilities and rights of graduate students in teaching assistant (Senate policy and Collective agreement) and teaching fellow (Collective agreement) roles. The 2005 Senate policy was the first institution-wide document to outline rights and responsibilities for teaching assistants as employees including role expectations, the protocol for resolving disputes, and policies around ethics, equity, safety, health, discrimination, and harassment. The section on work environment covered workload, remuneration, leaves of absence, religious holidays, assistantship allocations, and the TA agreement form (used as a stand-alone document). To an even greater extent, the Collective agreement that followed (replacing the Senate policy) focused on employee rights and responsibilities, such as communicating expectations regarding work hours, activities, and responsibilities including a maximum of “an average of ten (10) hours per week” (Collective agreement, p. 21) and not “more than eight (8) scheduled hours per day” (p. 21) with field trips exempt.

Feedback, an “essential component of effective TA training programs” (Sub-committee report, 2002, p. 5) necessary for accountability and improvement, was embedded in the original TA agreement form, Senate policy, and the new teaching fellowship form, but not the new TA form or the Collective agreement itself. The original TA agreement form’s “Assessment of TA” section identified three sources of feedback (students, supervisor, other) when asking instructors to:

Outline clearly how the TA’s performance will be assessed throughout the course of her or his work (i.e. Will students fill out end-of-term questionnaires? Will the teaching supervisor do in-class observations and offer feedback to the TA? Will obtaining feedback be the responsibility of the TA?). (TA agreement form)

The Senate policy focused on course instructor feedback based on observations:

Wherever possible, TAs should be evaluated on their performance in each course by their course supervisors. Course supervisors should attend at least one session during a term to observe a TA when student contact is a significant part of the role
of the TA. Written feedback should be provided that can be used as a basis for improvement. (Senate policy, section XI)

Complementing this course-level feedback, individual graduate students could take the self-initiative to collect mid-term or end-of-term feedback from students through sample evaluation forms created by the teaching support centre (Senate policy).

The new Teaching Fellow Form’s “Evaluation of practice and continuing professional development” section specified three options for collecting feedback through the institution and course level with students and peers: “a) Participating in formal course evaluations … b) Actively responding to student feedback on an ongoing basis … c) Seeking input and support from colleagues or university resources as appropriate” (Collective agreement, p. 37). Institution-wide evaluations were not available to TAs (as they were to teaching fellows) for there was “currently no formal standardized system for assessing TAs” with only the potential suggested: “Once a university-wide evaluation system has been developed, all TAs should be assessed accordingly” (Senate policy, section XI).

These institutional policies and webpages communicated graduate students’ available resources, rights, and responsibilities, and acted as communication tools that supported graduate students’ teaching. The Senate policy on TAs and Collective agreement for TAs and TFs outlining rights, responsibilities, and other details must be given to graduate students in those teaching roles electronically or in paper form (as a stated requirement in each document). The websites were designed to be read by graduate students (as stated on the graduate studies office webpage) and supportive individuals, such as instructors or faculty members (as stated on the New Faculty webpage), seeking information on programs, services, and resources for graduate students. Lastly, the agreement forms were intended for discussion between graduate students and teaching supervisors.
The communicative value of these websites, however, was compromised (when examined on January 2, 2012) by the inclusion of broken links and outdated names and descriptions. For example, the annual teaching support centre event was mislabeled “Professional Development Day for Teaching Assistants,” and teaching support centre links were outdated on the academic skills support centre, graduate studies office, and new faculty webpages. Also, there was a broken link to the student distress brochure, one of the few non-teaching support centre resources, on the academic skills support centre webpage. Outdated names included “Professional Development Day for Teaching Assistants” (New Faculty webpage, academic skills support centre webpage), “<certificate program> for Teaching Assistants” (New Faculty webpage, graduate studies office webpage, academic skills support centre webpage), and “Workshop series for Teaching Assistants” (academic skills support centre webpage), which were changed by the teaching support centre prior to Fall 2011 to broaden the focus beyond just TAs. Inaccurate descriptions included the currently incorrect requirement for international graduate students to complete the English communication testing originally prescribed by the Senate policy (New Faculty webpage). This misinformation and broken links created potential challenges for graduate students seeking supports.

**Departmental Training**

In addition to institutional resources, departments were a key provider of support, as highlighted in the 1993 report to the Dean of Graduate Studies summary:

> the importance of the role of the <teaching support centre> in contributing to the improvement of undergraduate teaching through the support of initiatives relating to training and evaluation. This section of the report further emphasizes the significant role that must be played by individual departments in ensuring that effective training of TAs occurs consistently. (Sub-committee report, 2002, p. 2)

Throughout the year, departments engaged in TA development through a variety of programming that included “annual orientation and training sessions … ongoing seminars on
teaching, and courses on how to support learning in their respective disciplines” (Sub-committee report, 2002, p. 3). This training was strengthened through collaboration with the teaching support centre, which provided the “publication of a TA Training Manual and an annual workshop for faculty who are responsible for TA training and development in their departments” (Sub-committee report, 2002, p. 3). However, neither of these resources was listed on the teaching support centre’s website in 2012.

Departments were required to provide three hours of mandatory training as recommended in the 2002 Sub-committee report, described in the original TA agreement form’s Training and Development section, and enshrined in the 2005 Senate policy statement that “all new TAs must participate in a three-hour mandatory training session organized by their units before taking up their assigned duties, except where there is a process in place providing ongoing training throughout the term” (Senate policy, section IX). This training was to primarily focus on conveying information about policy, including TA rights and responsibilities, the TA agreement, and employment contract, as well as introducing relevant teaching and learning approaches “relevant to their particular duties, such as assessing students’ work, leading labs or discussions, and communicating effectively … [with] attention to increasing the sensitivity of TAs to [equity and accessibility] issues” (Senate policy, section IX). Mandatory and specified training on the TA agreement form communicated the availability and value of such training within the institution to graduate students and their course instructors. While the Collective agreement that followed also specified that such training must be paid with “All Employer-required training shall be compensated at the TA's regular rate of pay” (p. 22), the agreement did not require a minimum number of training hours. The associated TA form listed “employer-required training” as an option in the other duties section along with “attending lectures” and “preparation time” (p.
35), without a section entitled training or minimum hours. Responsibility for paying for such training and for paying graduate students in general for their teaching positions fell on departments (graduate studies office webpage).

**Course-Level Discussions**

The original Senate Policy TA agreement form and later the TA and TF forms of the Collective agreement provided a common framework for conversations about responsibilities and expectations for feedback and training. The original TA agreement from the Senate policy listed training, feedback, and 19 possible responsibilities grouped under the headings “Contact with Students,” “Contact with Supervisor,” “Marking and Grading,” and “Other Duties” (e.g., “preparation time”). All sections had an “other” checkbox, space for expected hours, and notes (TA agreement).

With the new Collective agreement, duties and hours for teaching assistants or teaching fellows were specified by the employer representative who was either the course instructor completing a Teaching Assistant Form (TA form) or a departmental administrator completing a Teaching Fellow Form (TF form) “by the end of the second week of the Academic Term” (p. 22) and providing a copy to the TA or TF. Discussions about hours and duties mid-way through the contract were required “for the purpose of conducting a review of the TA’s assigned activities … [to] ensure that the TA’s hours of work, as set out in her/his TAF, continue to be appropriate” (p. 21). Reallocation of hours required a subsequent meeting to revise the form.

**Support from Instructors and Peers**

Instructors and peers further supported graduate students’ motivation and training. Instructors were viewed as “play[ing] a major role in motivating TAs and assisting them in their professional development” (Sub-committee report, 2002, p. 5). Experienced senior faculty’s and
innovative instructors’ valuable efforts as supervisors and mentors should “be recognized and must add real value to the lives of faculty and TAs” (Sub-committee report, 2002, p. 5). Peers, particularly experienced TAs, could provide mentorship, such as being “invited to take responsibility for supervising and mentoring their peers” (Sub-committee report, 2002, p. 5). Involving peers in training programs also “ensures that initiatives are relevant to TA interests, needs and stage of development” (Sub-committee report, 2002, p. 5). Thus supports for graduate students’ teaching occurred primarily through the institution-wide teaching support centre as well as sector, institutional, departmental, and course levels.

**Individual Variability**

Although these multiple supports existed, the experiences of graduate students in receiving such support varied widely. Within this institution, graduate students’ individual experiences with support varied drastically with the 2002 report noting:

> Although there are many training opportunities for TAs at [institution], there is currently tremendous variation in the teaching development experiences of individual TAs. Many TAs receive absolutely no preparation and minimal support for their duties, others participate in specialized TA training workshops offered by their departments and/or the [teaching support centre], while some enrol in [institution-wide teaching and learning course] or other discipline-specific credit courses which are designed to prepare them for a future life as a university professor as well as their immediate TA duties. (Sub-committee report, 2002, p. 4)

Across institutions within the higher education sector, the Sub-committee also reported wide variation in the type of support provided with most institutions providing formal programs through “some kind of orientation training program for new teaching assistants” (Sub-committee report, 2002, p. 4). There was little consistency across the sector as “formats vary widely, ranging from a 2-hour workshop, to a 2- or 3-day orientation program, to a series of seminars offered over a full term or academic year” (Sub-committee report, 2002, p. 4). Only a handful of institutions at that time offered credit courses in university teaching, certificate programs, or
specialized training for international TAs. In short, support at all levels existed, but graduate students’ individual experiences of support varied greatly.

**Recommended Supports**

Most of the documents focused exclusively on supports that already existed or were expected to be implemented upon approval of the Senate policy or Collective agreement. Although the national documents did not specify the types of support, the CAGS document did recommend that professional development opportunities be recognized and open-ended. Two of the Principles for Developing Professional Skills in the University Context stated: “Professional skills development will be more successful and more efficient if it is formally recognized by the institution”; and “Programs for developing professional skills should be experiential and open ended in nature” (CAGS, 2008, p. 4). Similar recommendations for TA training were suggested by the Sub-committee report, which highlighted four qualities:

**Broad** - preparation for a TAship should include, but not be restricted to, practical hands-on training for specific duties. It must also include mentoring and monitoring and other forms of support for the continuing development of the TA’s instructional abilities. (Sub-committee report, 2002, p. 5)

**Disciplinary** - TA programs must include a significant degree of training at the disciplinary level in order to create a close link to the respective scholarship and values in a given area of study and to reflect the discipline-specific culture of teaching and learning. (Sub-committee report, 2002, p. 5)

**Flexible** - must take into consideration the needs of the students who serve as TAs, such as … the long-term demands placed on many graduate TAs who have to prepare for their future roles as instructors in higher education. Furthermore, training and development programs must meet the unique needs of international student TAs. Therefore, the kind of work assigned to TAs should reflect the learning needs of the students serving as TAs as well as the instructional staffing requirements of academic programs. (Sub-committee report, 2002, p. 4)

**Well-constructed** - While a minimum of mandatory preparation is desirable and necessary, it cannot compensate for a lack of incentives to actively participate in training programs. It is important to offer meaningful incentives and to construct TA training programs that can facilitate and take advantage of many students’ intrinsic motivation to develop and improve their teaching skills. Effective
programs are motivational, inspirational and personally relevant. TAs deserve and benefit from programs that challenge and encourage them to experiment, to reflect on their teaching, to be creative, to care about teaching, to share ideas and to discover the importance and value of their work. (Sub-committee report, 2002, p. 5)

Thus training created at the departmental and institutional level was recommended to be open-ended, recognized, broad, disciplinary, flexible, and well-constructed with incentives to motivate individual graduate students to actively participate.

Specific program and service recommendations were only raised in the Sub-committee report (2002) with the Senate policy of 2005 implementing and the current websites advertising three of the five specific initiatives. The five recommendations covered departmental annual reports, an institution-wide inventory of TA training, recognition of professional development, training for international graduate students, and a TA development coordinator. First, the Sub-committee recommended an annual report written by a designated individual within each department who was responsible for TA training, the annual report, and a review of “the way [departments] select, mentor, and assess their TAs, formally define their roles and responsibilities and facilitate the resolution of disputes … [and] consider innovative ways to integrate TAs into the discipline-specific teaching and learning environment” (p. 6). The Senate policy enacted the annual report and the designated individual to write the annual report without specifying the review responsibility beyond the annual report in the statement:

In keeping with the 2002 recommendations that have been approved by Senate, each unit designates an individual who is responsible for providing a brief annual report on TA training and development activities to the Head (with copies to the respective Faculty Dean, the Dean of Graduate Studies and Research, and the <teaching support centre>). Designated individuals should identify themselves to the <teaching support centre> by 1 July of each year in order to facilitate appropriate reporting, planning and communication for the following academic year. (Senate policy, section IX).
Second, the Sub-committee recommended that the annual reports be compiled into an inventory to serve as an institution-level mechanism for tracking, assessing, and visibly encouraging TA training. The report and inventory together:

allow Departments to assess the effectiveness of their TA training over longer periods of time. Furthermore, incorporating reporting into existing review mechanisms should also extend to encouraging faculty members to include their TA training and development activities in their annual reports. Consistent and regular reporting coupled with a recognition of individuals’ contributions to TA training will help to ensure that TA training and development issues remain visible and are seen as central to the university’s educational mission. (Sub-committee report, 2002, p. 6)

No further mention of this inventory was found in later documents.

Third, greater recognition of individual graduate students’ development efforts to improve their own teaching across multiple initiatives was recommended in 2002. The certificate of completion, as proposed, “consolidates already existing training and development opportunities and offers formal recognition for the accomplishments of TAs as they strive to improve their instructional skills” (Sub-committee report, 2002, p. 7). The professional development certificate program was listed on all four websites, but not any further policies. The need to recognize teaching including that done by graduate students was highlighted briefly in the Senate policy where:

[The University] is committed to maintaining and enhancing the quality of the teaching and learning environment and promoting excellence in the entire educational experience for its undergraduate and graduate students. The University recognizes and highly values the important role played by TAs in achieving these goals. (Senate policy, section III)

Fourth, international graduate students seeking to improve their communication abilities in an English-speaking classroom had, as of 2002, the options of general English training though hiring private tutors, paying for the English language centre pronunciation course (with some subsidization by departments), and participating in free ESL discussion groups at the
international student centre. The only option for teaching-specific communication skills was a one-hour workshop jointly run by the teaching support centre and the international student centre that “introduce[d] international TAs to Canadian academic culture and offers communication strategies for the classroom” (Sub-committee report, 2002, p. 4). Due to such limited support, the Sub-committee report recommended free mandatory specialized English communication diagnostic assessment for international TAs who completed an ESL test for admission to graduate studies. Graduate students obtaining inadequate scores would be given a term-length specialized communications course in the fall term as an “opportunity to improve their proficiency before they can work as TAs” (Sub-committee report, 2002, p. 8). This mandatory English communication assessment and related support were noted in the Senate policy; the resulting course and diagnostic assessment were listed on the revised teaching support centre website without reference to mandatory, and on the institution-wide New Faculty and graduate studies office websites (which were reviewed after the Collective agreement came into effect and the Senate policy was removed).

The final recommended support was for a new institution-wide TA Development Coordinator to support TA training, development, and recognition across the institution. Beyond the scope of the existing TA Associate, this individual would specifically “support departmental training programs, to act as a resource person on TA development for <the university> community and to coordinate the campus-wide Program in University Teaching and Learning” (Sub-committee report, 2002, p. 8) to “ensure cohesion, continuity and consistency” (Sub-committee report, 2002, p. 8). Following this report, there was no mention of the TA Development Coordinator and the TA coordinator was only listed in the Senate policy as a
Summary

The story of support for graduate students’ teaching as told by these documents is one of formal support for graduate students’ practical training with the goals of success in their immediate tasks as teaching assistants and their longer-term professional development. These goals were advanced primarily by sector-level visioning documents and the 2002 Sub-committee report with brief mentions in the Senate policy. Most of the existing and recommended support constituted formal support offered primarily through the institution-wide teaching support centre and departmental training. Recognition through awards was placed at the departmental level on the graduate studies office webpage and at the department, institution, and sector level on the teaching support centre’s teaching awards page. Existing or recommended informal support was absent from these documents beyond encouraging possibly formalized mentorship by instructors or peers in reference to departmental training (Sub-committee report, 2002).

Communication about expectations, responsibilities, and rights occurred through stated expectations that the institution-level policy documents would be made available to graduate students and that agreement forms would be completed for each teaching assistantship and teaching fellowship. Websites, if updated with working links, could communicate directly to students the formal services, informational resources, and programming available. Stated communications strategies focused on providing individual graduate students with the policies and linked resources. With the exception of communication to graduate students through departmental training and by faculty according to the new faculty webpage, there was no mention of any other recommended or existing support communication networks. Informational
networks based on designated individuals in departments and annual reports as recommended in the 2002 Sub-committee report were enacted as part of the later Senate policy, while the similarly recommended institution-level paid position dedicated to teaching assistant support did not appear elsewhere in the documents. Communication amongst providers of support for graduate students’ teaching was otherwise not found in the documents. The documents thus told a story of a variety of formal training within departments, clear policies on rights and responsibilities in teaching roles, and formal programs, services, and informational resources at the teaching support centre and other institution-wide units.

Policies and resources across the levels interacted in ways that could increase support for graduate students’ teaching, such as prior institution-level policies mandating three hours of training enacted at the departmental level. Even when policies encouraged supports, such as feedback for graduate students (Sub-committee report), gaps could occur in implementing the support. At the institution level, for example, there was no institution-wide evaluation of graduate students’ teaching (Senate policy) nor current expectation of feedback for TAs (TA form of the Collective agreement) as there was for teaching fellows (TF form of the Collective Agreement). When gaps occur at the institutional level, additional feedback support was needed at the department, course (Senate policy), and individual level (TF form).
Chapter V: Formal Support

They must have a lot of challenges … because … you have your disciplinary knowledge, but teaching is its own discipline and so there are many things that people are not prepared to do … You know research in an area but you have no idea how to bring it to other people. (Barbara)

The challenge of learning how to teach was central to graduate students’ need for formal supports. Across surveys and interviews, graduate students, staff, and faculty recognized the importance of supporting graduate students’ teaching through formal supports that encompassed programs, resources, and opportunities pre-designed by institution-wide units, departments, or course coordinators. Institution-wide presentations, as well as sector-level conferences, books, and journal articles created for the wider teaching community, offered additional formal support. Through such formal supports, graduate students sought to strengthen their teaching skills and knowledge, as well as “to be more confident” (Elizabeth). As formal supports were often referred to with the amorphous constructs “training” or “programs” in survey items or responses without specifying the source, focus, and timing, the exit survey (n = 1,221) and student services survey (n = 560) findings about training in general are presented prior to exploring formal supports occurring at each contextual layer.

Most teaching assistants responding to the exit survey reported positive TA experiences (92.4% of 8225), adequate resource availability (76.9% of 822), and some training prior to their assistantship: 44.1% had 0 - 3 hours, 29.0% had 3 - 8 hours, and 6.6% had more than 8 hours (of n = 366). However, 20.3% of the 366 graduate students reported no initial training. These students were more likely to select lack of support as one of their greatest challenges compared

5 Although 1,221 graduate students responded to the survey, each individual did not complete all items. For example, only 822 graduate students responded to the item about positive experience.
to those with some training (based on a logistic regression\(^6\), \(\beta = -1.259, p = .001\) for 0 - 3 hours and \(\beta = -1.674, p < .001\) for 3 - 8 hours). Confidence (n = 56), familiarity with materials (n = 108), and preparation time (n = 102) were other concerns (student services survey). Graduate students similarly called for more training when the exit survey asked how their TA experience could be improved; specifically 139 respondents requested more teaching development (higher than for workload or clarity about responsibilities), often with the simple two-word phrase “more training” (6 master’s students and 1 doctoral student). Of these 139 respondents, many (n = 99) recommended training prior to starting teaching assistantships to “prepare students in advance who have no experience” (master’s student), as well as throughout the year with “ongoing support for new TA’s in large courses” (master’s student).

More intense formal training programs were requested by 20 exit survey respondents without specifying who would provide such support, such as “mandatory training for all TAs” (1 doctoral and 1 master’s student), “formal training in teaching and lecturing” (doctoral student), a “more comprehensive course on how to TA … like teachers college, but shorter in duration” (master’s student), or “in-depth training weekend” (master’s student). Their colleagues suggested specific topics for training sessions (n = 22 comments, 21 exit survey respondents) including how to “improve language skills, communication” (master’s student), “how to make sure all TAs are teaching/marking their students at the same level” (doctoral student), “sensitivity training (race, gender, etc.)” (doctoral student), “dealing with difficult students” (master’s student), and “counseling students with their work” (master’s student). Thus while surveyed graduate students had experienced formal support, many desired more. Specific formal supports were provided

\(^6\) Logistic regression was employed as it allows for dependent binary variables such as challenges (no = 0, yes =1) and sets of predictive continuous or binary dummy-coded variables.
within each social ecological layer, particularly at the institution, department, and course level, as illustrated in Robert’s layered description of what supports graduate students had available:

- the <teaching support centre> and the TA training day plus the support provided by the <teaching support centre> on demand for teaching assistants and teaching fellows.
- Departmental training; most departments would have a central person involved with one for undergrad and one for grad students, and depending on the issue, there’s support provided there by either a faculty member or a staff member.
- Within courses … there’s support provided by either the faculty member or … a staff member involved in supporting that course … they would do training communication with the graduate students, answering questions and insuring that if there’s an issue that can’t be dealt with by the grad student then it goes up to someone else.
- … I’ve encouraged my grad students to take the training provided at <university>, for starters. (Robert)

**Institution-Wide Formal Support**

TA training … [is] different than teaching because … TAs have very very different roles … TA training is a good start but I’m not sure it’s enough either. I don’t think we can … assume that we sheep dip somebody for a couple of hours and they’re ready to go. (John)

Support at the institution level encompassed programming offered by units on campus that served the entire university graduate community and were not discipline-specific. A summary of the institution-wide resources and programs mentioned by faculty, staff, and graduate students during interviews is listed in Appendix N along with relevant quotes. The teaching support centre was a major source of the institution-wide formal supports examined by the student services survey and mentioned in interviews. “Support for … improving their teaching and communication skills at the university is primarily from the <teaching support centre>” (James). Similarly, “if I were giving a doctoral student advice about where to go for help, <teaching support centre> would be one” (John). The student services survey (n = 560) asked graduate students specifically about the teaching support centre programming including a
graduate communication skills in teaching course for international graduate students, a graduate course on teaching and learning, consultations, a professional development day, and a certificate program. The survey also examined the university-wide workshop series with sessions on teaching as well as other academic and professional topics. Of the graduate students who responded about each service (n = 521 to 524), just 18.47% used them, and of those using the supportive services 84.91% found them at least somewhat helpful as shown in Table 5.1.

Table 5.1

Graduate Students’ Awareness, Use and Evaluation of Supportive Services

<table>
<thead>
<tr>
<th>Service</th>
<th>I am NOT aware of the service</th>
<th>I am aware of this service but DON’T use it</th>
<th>I have used this service but did NOT find it helpful</th>
<th>I have used this service</th>
<th>I have used this service and would recommend it.</th>
</tr>
</thead>
<tbody>
<tr>
<td>University-wide workshop series</td>
<td>36.3%</td>
<td>51.7%</td>
<td>1.9%</td>
<td>6.3%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Communication for Teaching Course</td>
<td>43.7%</td>
<td>51.5%</td>
<td>.4%</td>
<td>1.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Teaching and Learning Course</td>
<td>42.0%</td>
<td>50.6%</td>
<td>1.3%</td>
<td>1.7%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Teaching support centre</td>
<td>19.1%</td>
<td>44.3%</td>
<td>6.7%</td>
<td>14.7%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Certificate Program</td>
<td>19.1%</td>
<td>44.3%</td>
<td>6.7%</td>
<td>14.7%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Professional Development Day</td>
<td>25.8%</td>
<td>32.6%</td>
<td>10.7%</td>
<td>14.5%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Consultations</td>
<td>54.9%</td>
<td>36.9%</td>
<td>.4%</td>
<td>2.7%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

The phrase “recommend” was used in the original survey as a proxy for “useful.” However, asking if graduate students “would recommend” a service cannot be treated as equivalent to finding the service useful when a culture may exist where teaching and efforts to improve are not openly discussed, as individuals who valued the service might stay silent rather than recommend.
While most formal supports described at the institutional level were provided by the teaching support centre, graduate students were on average neutral about whether or not support for teaching development was best provided by the institution-wide teaching support centre ($M = 4.41, SD = 1.46^7$) with just 9% strongly agreeing (student services survey). Respondents complimented the formal supports provided, such as “I think the teaching support centre has done a great job supporting my role as a TA. I have participated in many workshops provided by the Centre and they are really helpful” (master’s student), and they wanted the centre to “continue to provide workshops in teaching development” (master’s student, student services survey). They also mentioned existing programs such as “TA Day in September” and “workshop” (n = 3). To better support their teaching development, graduate students recommended training (n = 79), more discipline-specific workshops (n = 23), ongoing or “constant training and retraining” (2 master’s students), changes in timing of sessions (n = 14), sessions about teaching a course as a GTF (n = 6), and workshops on other special topics (n = 17, student services survey). They wanted the training they completed to be “certified” or for such training to be a “requirement for my degree (and that of my colleagues)” and “mandatory” (student services survey).

Workshops were often cross-disciplinary in their approach and at least one master’s student wanted “interdisciplinary TA training sessions” (exit survey). However, 23 graduate students suggested a more discipline-specific approach (student services survey), particularly in light of several challenges for interdisciplinary training sessions including:

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7 Opinions about departmental and teaching support centre supports did not significantly vary across master’s and doctoral students ($\chi^2(6) \leq 9.33, ps \geq .156$; student services survey)
mixed experiences with more 'formal' teacher training … a major weakness is that TA's … come from a variety of fields, each with slightly different pedagogical structures and demands … a more department-specific approach would be helpful … [however] there is a useful role for a body outside of the department in promoting teaching development. (master’s student, student services survey)

Other students had less mixed feelings and “didn't like the workshops … because teaching is really specific to the discipline; you can't come up with the same sorts of examples and activities for students in [my discipline] class as you can in a science class!” (master’s student, student services survey). Similarly, “The TA training day … is a great start but … additional training about … what’s involved in being an effective TA within that faculty … would be a very valuable source of support” (Robert). To address concerns, graduate students recommended focusing on “the particular styles of teaching that subject-specific disciplines face (i.e. … no lab work)” (master’s student), and “arranging some sort of workshop with understanding that people are coming from various background, engineering, art, science, etc.” (doctoral student) or “invit[ing] some TA-award recipients to discuss their experience” (master’s student, student services survey).

Addressing the challenge of relevancy while gaining the benefits of interdisciplinary discussion, Barbara actively brought examples from across disciplines to her workshops and invited a “dialogue between people, where they come from their own discipline and they give their example.” During the conversation, graduate students “compare the differences and the similarities to make sure that everybody has their own voice and they can use what they’re learning … [and] build on what other people are saying in their own experience.” Following these discussions, she highlighted the interdisciplinary connections by identifying similarities and drawing out general principles behind what graduate students were doing.

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8 When reporting quotes, I elected not to pinpoint or correct spelling or grammar errors in written survey comments.
Timing of teaching support centre programs during the week was a concern as graduate students were “interested in a workshop for graduate teaching fellows but never saw one at a time I could attend” (master’s student) or needed an earlier time “as I have children, and need to be home most evenings” (master’s student). Programs in general were “met with enthusiasm, but then the practical part of: What time would we meet? … And people had children and … other commitments … so it just fizzled out for practical reasons. But everybody seemed to want it” (Patricia). Summer was suggested as better timing during the year as graduate students were not teaching (1 master’s and 1 doctoral student) or having “flexible time offerings of courses at <teaching support centre>” (master’s student, student services survey), such as through “social media … because it doesn’t rely on people to physically be in the same place at the same time nor does it rely on people even being connected at the same moment” (Patricia). Similarly, Barbara suggested having “support people that [graduate students] could potentially go to … e-mail … phone” so that graduate students could get information without having “to take a whole formal course or … a whole consultation … to say: ‘This is happening. Can you just give me a couple of ideas of what might work well’” (Barbara).

Timing throughout graduate students’ studies was also a concern. Unlike with undergraduate students “there’s no break … not over the year and not over the day” for graduate students (Patricia), and there is a fast start to their teaching roles upon arriving in their graduate program. “There’s no time to develop a teaching strategy … within two weeks you’re in the class with students” (Barbara). As a result, planning supportive programming was challenging.

when they first start, … [there are] formal methods for helping them develop … skills … [but] how do we follow through in their second year … They may go to the TA day again … but it’s not addressing their particular … needs and it may not be increasing in difficulty … we need to map it … more carefully. (Barbara)

If I were designing it, I would have it throughout the program … rather than something that’s intensive for a short period of time … maybe there’s a “This
comes first and this comes next’ … but how people chose to navigate it might be entirely up to them ... If I’m pregnant … but intend to teach later, I might need to put all of that into a different time frame than someone else who wants to stretch it out. So flexibility … in how these programs/services will be offered. (Patricia)

Individuals teaching courses and teaching assistants needed distinct supports. Those responsible for courses needed appropriate training on “course design and alternative learning activities” (master’s student) and “advice as how to manage TAs, i.e. our peers … [to avoid] troubles with TAs who felt they could challenge the way I administer the course - something a faculty member most likely NOT have to contend with” (master’s student, student services survey). Without such training, “most of us are just ‘thrown into the fire’ and receive teaching guidance/advice from other TFs” (master’s student, student services survey). As TAs, basic training was sufficient for those with minimal responsibilities, but more advanced support was important for more advanced roles. “Given what we were asked to do … I honestly don’t think that any of these supports were useful because what we were asked to do was so mundane … you stand up and read off a PowerPoint” (GS3). In contrast, his peers who would have “more interactive tutorial-based learning” would need “a lot more training early on … to ensure that people for whom this type of work doesn’t come instinctively … deliver high-quality tutorials” (GS3). A mismatch between responsibilities and supports coupled with other demands resulted in frustration:

"first year of my master’s … course work … research … We were so busy. Teaching was something that we had to do to get our funding and there wasn’t a ton of scope for creativity … even within the tutorials … there wasn’t a terrible amount of interest in going to these [workshop] seminars so … we picked the minimum and one of them – to my shame – my friend … after the facilitator used the word ‘re-group’ for about like the fiftieth time in the first half, we … tried – as discreetly as possible – to slip out … which I kind of feel bad about 'cause he was a very nice person … but we didn’t … at the time, see the relevance. I’ve had other experiences since then that probably would change my perspective. (GS3)

Training sessions that were too advanced were not useful to graduate students either as “I didn’t find it extremely helpful … because it talked about teaching techniques; on how to teach the
<students> and the majority of my TA duty was marking” (GS5). The topic and focus needed to be just right for the individual. A mixture of basic sessions was beneficial with “sessions … like: How to Give Effective Feedback … serves me in my role right now,” combined with “some sessions maybe on: Growing as … an educator… that I can take with me as I become a professor down the road” (GS7). A combination of supports was also useful; GS10 claimed two sources as the most valuable supports. First “before I started TAing … the Q & A with the student who had done it before … was the most valuable.” Second, “once I’ve started TAing, the TA coordinator … [who] feeds you all the ideas and everything so that you’re never lacking material and then I can turn to the other TAs and say: ‘What’s working and what’s not working?’” (GS10).

Workshops on a variety of specific topics were also suggested including “how to efficiently prepare for a scientific lecture” (master’s student), engaging students with “how to … keep students interested, and how to manage time in preparation” (master’s student), “designing courses or assignments” (master’s student), “what grade levels to mark at?” (master’s student), “how to be firm with students, especially with the amount of cheating going on” (doctoral student), “how to answer questions so that you don't give the answers away, but you help the student arrive at the answer” (doctoral student), and in situ training by “providing interactive workshop in the setting of classroom and laboratories” (doctoral student, student services survey). Perhaps even special sessions for TAs of large first-year courses with students who are transitioning from high school would be useful, as they “have so few skills … [and] are afraid to ask for help” (Barbara). To identify topics, Barbara suggested an end-of-term TA gathering through the teaching support centre where graduate students could share what “I learned this term that seemed to work” as well as what did not; if “25 people said: ‘This is a challenge’. We better have a workshop.”
Beyond programming, graduate students’ teaching was supported through the other institutional resources available such as “security” if needed (GS3), and through policies created by Senate decisions (GS2) as it was “more difficult to get training sessions … [before] they implemented the three-hour training minimum mandate” (Mary). Institutional documents were accessed by at least one graduate student who “read some of the university’s documents on <the strategic plan>” (GS1). Graduate students further benefited when supportive individuals and units were themselves aided, including by “an engaged senior administration that sees the value in this kind of work and recognizes the connections to all other parts of its mission” (Linda).

Use and evaluation of formal support at the institution level was contrasted with support at the departmental level in the exit survey. Over half of the surveyed graduate students participated in teaching preparation programs organized by their department, while a third attended teaching support centre programs, and just one in six had graduate studies training. As indicated in Table 5.2, over three-quarters of formal support attendees found the sessions helpful.

<table>
<thead>
<tr>
<th>Training program</th>
<th>Number (%) who participated</th>
<th>Number (%) who found attending helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>443/785 (56.4%)</td>
<td>341/443 (76.6%)</td>
</tr>
<tr>
<td>Teaching support centre</td>
<td>231/762 (30.3%)</td>
<td>177/231 (78.7%)</td>
</tr>
<tr>
<td>Graduate studies</td>
<td>110/732 (15.0%)</td>
<td>87/110 (79.8%)</td>
</tr>
</tbody>
</table>

Doctoral students and master’s students did not differ in terms of adequate resources, positive experience, graduate studies training program participation or evaluation, and departmental program evaluation ($\chi^2 (1) \leq 1.828, ps \geq .176$), nor in participation in departmental programming ($\chi^2 (2) = 5.152, p = .076$; exit survey). Although the Chi-square found differences
for teaching support centre’s participation and ratings between groups ($\chi^2$ s (1) $\geq$ 4.576, $ps \leq .034$; exit survey), Bonferroni post hoc tests found no significant disparities between specific cells (Std. Residuals $\leq |1.6|$).

Program quality mattered. A Chi-square analysis found that simply attending a training opportunity was not significantly related to having a positive TA experience ($\chi^2$ s (2 or 1) $\leq$ 2.114, $ps \geq .347$); however, TAs had a more positive experience when they found departmental ($\chi^2$ (1) = 12.081, $p = .001$; n = 426) and teaching support centre training ($\chi^2$ (1) = 11.010, $p = .002$; n = 233; exit survey) helpful. Perhaps, some had “pitiful ‘training’ … a rambling one-hour description of lab equipment and minimal background information” (student services survey).

**Departmental Formal Support**

Depends on the department. Some departments, they are encouraging students and in other ones they are just basically saying go do your jobs and they are assigned TA positions. (James)

Graduate students were roughly neutral as to whether or not their own departments provided adequate support for teaching development ($M = 3.90$, $SD = 1.70$), with only 7.7% strongly agreeing (student services survey). On average, they were more positive ($M = 4.78$, $SD = 1.73$) towards “additional support for teaching development should be provided in my department”; 21.2% strongly agreed with the statement and wanted more (student services survey). When asked about support from their departments, some graduate students felt that they had received little if any support. “I wouldn’t say from the department itself as a whole” (GS7). “Overall, the department is not bad but … not so much support … the TA position in teaching, is not … top priority” (GS13). Similarly,

No. It was like: ‘Here you go, there’s your course’ and at the end you get your <course student feedback forms> back in an envelope and you pour yourself a beer and you open them up and see what the students had to say … very, very
minimal. I think the secretary provided some support in terms of how to fill out the grade sheet … but in terms of pedagogy there was very little. (GS3)

Training

Training, particularly for TAs, comprised a major part of departments’ formal supports for graduate students’ teaching:

In this department, we have … as a fairly high priority to do everything we can to assist them … we have annual TA days … keep them up-to-date with the programs available … But … in the majority of departments in the university very little goes on as far as TA training. (James)

We have TA training for TAs in department specifically and … for [hands-on] courses … we often have fairly extensive training programs … maybe six training sessions over the … year for all of our TAs or grad students. (Robert)

At the <department> they do have a TA day and I go … for just half-an-hour … presentation on … working with <students> and what their needs are … and… what other skills do you need … to feel equipped to [teach them]. (Barbara)

Prior training as undergrads additionally supported current graduate students. “I was a TA … in my undergrad … the role was pretty much the same. We did have to attend a mandatory TA training session” (GS4). Similarly, when GS1 was “TAing in my undergrad … There was a day of training … for a specific course.”

However, graduate students wanted more knowledge and skill development as part of their departmental training. “Two hours total … it’s pretty low-key in my department … What they call TA training … [is] how to grade fairly” (GS8). When asked “how could your department better support your teaching development?” (n = 195, student services survey), 35.9% of respondents wanted more training opportunities (n = 46) or discipline-specific training (n = 24). In brief answers, these respondents asked for a “workshop” (2 master’s and 4 doctoral students), “training session” (master’s student), or “a day long seminar” (master’s student). They specifically wanted “useful workshops (not … all the rules/regulations which people can read about on their own time)” (master’s student), “more in depth information about expectations, and
… actual teaching technique” (master’s student), and “sessions at timely points throughout the semester [on] presentation skills, grading/feedback, etc” (master’s student).

When departments did not provide such training, “senior doctoral students in our department organized a teaching workshop for new teaching assistants … it was necessary, but it should not be our responsibility” (doctoral student, student services survey). The impact of limited training was noticeable with new graduate students who called for departments to “teach new students about TAing … in … their first few weeks (ie. Orientation)” (doctoral student), “offer workshops, tutorials, and resources to aid first time teaching assistants” (doctoral student), and “course related tutorials for new instructors” (master’s student, student services survey).

Similar to the institution level, graduate students wanted discipline-specific training from their departments (n = 20), such as “courses in teaching in our discipline” (doctoral student, student services survey). They wanted their departments to offer “workshops and support for teaching challenges specific to the field!” (master’s student), “specific instructions on how to TA for the courses in our department” (doctoral student), and “internal workshops on departmental subject issues and the problems and skills needed” (master’s student, student services survey). The training could take the form of “more development training in-house (specific to topics, culture of the dept)” (master’s student) or “more workshops and/or seminars about how to be a good teacher in your field” (doctoral student). If expertise were missing, one master’s student suggested that departments “hire a teacher to do a workshop on TAing science labs” (student services survey). One department offered advanced training to support experienced graduate students’ growth: a “doctoral level course on teaching … one term … a fairly broad survey course” with two key components: “One is the opportunity to teach in class and be observed and secondly, … [to write] a quick paper … [on] the teaching heritage of their area” (John).
Graduate students wanted to talk as a department about teaching (n = 3) by “having a community of teaching development opportunities and sharing strategies. Could be done through our Seminar series or monthly meetings with faculty and students” (master’s student). The department “could provide a brown bag series for people with common interests to get together and TALK” (master’s student). When available, graduate students appreciated “being able to participate in the department's on-going discussions on curricular reform … [but] doesn't happen every year” (doctoral student, student services survey). One department did have ongoing “seminars … open to the entire department … a few professors that are quite keen on providing quality education … also see some of my fellow graduate students” (GS9).

Informational Resources

Starting from the departmental level. It so varies across the university what is available in departments. I know of departments that are really proactive … and even having drawn up something as apparently basic as departmental code of conduct … [a] resource an instructor can draw on when they’re faced with a difficulty and … allows a graduate instructor to say: This is the way that it’s done here. So it sounds like a little thing, but being able to point to a departmental position on an issue really makes things a lot easier. (Linda)

The informational resources graduate students sought from their departments were primarily handbooks (GS8; master’s student) and course-specific materials (n = 19, student services survey respondents) including “old TA notes and tips for particular courses” (master’s student), “specific examples from past courses on how to mark and expectations” (doctoral student), and “a course book because we are often teaching things that are outside our area of research” (doctoral student, student services survey). When responsible for contacting students, “an ‘official’ student list with emails” would have been useful (master’s student, student services survey). They also benefited from resources such as departmentally created rubrics (GS5).

In addition, graduate students wanted information on teaching in general from their departments including “introducing technology or tools that we all hear about and may not
know how to use (e.g. clickers, video clips, etc’; master’s student) or providing “a small library of teaching resources” (doctoral student). Graduate students teaching their own course tended to need more support, such as “a course, guidebook, workshop or ANY materials or information regarding the transition from TA to TF … some Do's and Don'ts for teaching … how to go about setting up final exams, how to handle counseling/disability requests” (master’s student, student services survey). In addition to printed materials and workshops, graduate students had access to departmental informational resources through “email lists” (GS2) and a “website [with] a whole bunch of resources … details about all things like keys” (GS2).

TA Allotments

Departments were responsible for graduate students’ “financial support” (GS2) including assigning the teaching assistantships and instructorships that would allow graduate students to apply and further develop their teaching. Such “teaching experience is invaluable … a very useful experience for grad students” (GS12). However, teaching opportunities were not uniformly distributed; they were even “a little bit random. Some people get to teach and … others have no opportunity to teach … the allocation of teaching, it’s not fair” (GS2). As a result, “a lot of grad students who would like to teach … just don’t have the opportunity” (GS2). Exit survey respondents wanted more equitable distribution (n = 13) to “make sure all students have an opportunity to do a TA, as teaching experience very valuable” (doctoral student). When “every grad student is given opportunity to TA in our dept, i have benefitted from this policy” (master’s student), and “my teaching development was supported in that I was afforded opportunities to pursue my interest in teaching at the undergraduate level” (master’s student, exit survey). However, availability of opportunities varied by area, for “there are extremely minimal teaching opportunities in [area] because … there are very few undergraduate courses” (master’s
student, student services survey). Concerns were also raised about the impact of external national funding by three students because “students should be given the opportunity to TA regardless of external funding” (master’s student, exit survey). When graduate students were offered positions, the process was not open: “I think my opportunity came because I’d been TAing the course and one of the instructors who normally teaches the course is [unavailable] … the procedure should be more transparent” (GS2). External factors affected the number of opportunities departments could provide as “TA hours across the whole university are being cut back simply because of budget issues” (Robert). Variation occurred because “departments … allocate differently … so some cuts were seen very heavily in certain parts of the university, some not as much yet … but resources are still becoming constrained” (Robert).

During and across teaching assignments, graduate students wanted to continue developing through increasingly advanced responsibilities. Graduate students “should be given … opportunities to do other parts of the course … Progression … not just doing the same thing all the time and … seeing all aspects … or as many as you can” (GS2). Similarly, when asked if he would like to have other opportunities, GS3 responded, “Absolutely … the act of delivering tutorials, interacting with students and feeling like you’re participating in teaching and learning - that is something that is intrinsically satisfying for me.” One in five exit survey responses spoke to graduate students’ desire for more, particularly increasingly advanced, opportunities. Wanting to do more than just mark assignments, 74 responses called for more advanced responsibilities, including teaching, lecturing, or leading tutorials (29), greater involvement with students (10), more independence (3), teaching a course (4), or contributing to course design, prep lectures, or exams (6). They “would have enjoyed more opportunities to work in the classroom instead of marking” (master’s student) or “combined with traditional marking” (master’s student), and
“gradual increases in teaching responsibilities” (doctoral student, exit survey). Similarly, student services survey respondents (n = 22) wanted to “teach in the classes” (doctoral student), “to practice teaching more than once a term” (master’s student), and to “teach more lectures as a TA” (master’s student, student services survey). As teaching a course was “not a mandatory requirement for graduating it just seems to be one of those things that people wind up doing” (John). John recommended “formaliz[ing] opportunities for doctoral students to participate in … how faculty themselves prepare courses or syllabi, or courses, classes, courses’ lesson plans … More than just grading … a more holistic trade-off”; however, “it’s easy to say: ‘Here’s my grading. Good luck. See you in a couple of days’” (John). Even when advanced opportunities were provided, related support was absent:

one of the strengths of the department is that they recognize … you’re simply not going to get a job with your PhD if you do not have teaching experience … So they recognize … we need to offer all graduate students courses … but at the same time, they don’t have … have an appropriate support link: ‘Ok, we’d like for you to do this in order for you to get a job, here’s your course.’ ‘Well, what do I do now?’ ‘Well, you’ve taken courses before. You know how it goes.’ (GS9)

People

Departments operated through the actions of multiple people who provided support for graduate students, including faculty, administrators, and staff: “The program associate … would send out weekly emails that would say drop by anytime” (GS1); “The department administrator … she’s great … even just to direct you to who to talk to” (GS10); “A source of support is certainly the Faculty through the webpage and talking to various … staff and associate deans about some of those details” related to teaching courses (GS2). However, support varied and was not always available. “In terms of formal support, even time to sit down with one of the undergraduate chairs and say: ‘Ok, this is how my course went’ … and talk, that’s not there”

Faculty with a capital F, as noted here, referred to the departmental unit, while faculty with a lowercase f referred to the individual people in academic roles.
In addition from support from existing personnel, graduate students wanted to “have a person in dept to go to when there are problems with prof” (master’s student, exit survey). Similarly, James recommended “every single department within the university should have a faculty member responsible for TA development.”

Department leaders varied in their support of training initiatives related to teaching. “Depending on who the graduate chair is … they are either interested in the training or they’re not, so they either work with supportive individuals trying to provide training, or ignore them (Mary). As a result, supportive individuals were left to independently offer teaching sessions to complement the Faculty’s sessions on applying for grants and jobs, but department-wide uptake was low. Graduate students “who worked directly for me all attended, I didn’t get any uptake from anybody else in the department” (Mary). Across departments, support for graduate students’ teaching varied with graduate students in general wanting more teaching development and training support, clearer understanding of their roles and responsibilities, improved workload conditions, and greater access to teaching opportunities (exit survey; student services survey).

**Formal Support at Course Level**

Establishing an understandable set of learning objectives for the course and discussing it with the TAs is a good starting point to help the TAs understand what the course is focusing on, what the assignments are focusing on and to point out that: Here’s what students are doing, these are the deliverables and this is how it aligns with the learning objectives for the course … in some cases the TA goes to the lectures to actually see what the instructor is teaching. …unfortunately, that doesn’t happen in many cases simply because there aren’t enough resources to pay the TA … [when] that isn’t possible, then at least one introductory meeting where the deliverables are spelled out, the course objectives are spelled out and … working with the TAs to go through some sample grading. (Robert)

As teaching assistants within courses, graduate students’ teaching was supported by instructors, coordinators, head TAs, and fellow TAs who provided informational resources,
course materials, marking guidance, confirmation, and encouragement: “teaching development can actually be an integrated element of all courses” (master’s student, student services survey).

**Instructors and Coordinators**

The course instructor was a central supportive figure. When asked about the most important source of support, graduate students responded the “instructors that I was working with as a TA” (GS2), “my instructor” (GS4), and “the prof that I marked for because she sat with me … showed me how to mark and what she expected” (GS5). Most graduate TAs received adequate supervision by their course instructor (78.0%; exit survey). Instructors were an important source of information: “The professor that taught the course … you could go to him with questions” (GS8). “The instructor was helpful in terms of … the bigger decision making … and some of the more technical issues … about the actual subject matter” (GS1). “I always went to the instructor … if I was marking something or if I saw a pattern … I would always … shoot her an email. I could set up a meeting with her if there’s a bigger concern” (GS3). Course instructors were a great support and “the person who’s usually familiar with running the course, knows about the course objectives and knows of what assessment to use for the course” (Robert).

Instructors were additionally supportive by being flexible when addressing graduate students’ challenges, such as being willing to adjust the grading schedule for one graduate student who had to attend an out-of-town wedding when the grading deadline was approaching (GS4). This graduate student “graded half of them for [the instructor] before I left … she wanted to review them and when I came back I finished them off and then gave the rest to her” (GS4). Supporting graduate students was seen as an inherent part of hiring teaching assistants: “If you have a course and you have a TA working with you then … I consider it to be part of their role to help them develop as TAs and for the most part in <department> this is done” (James).
Large classes involved multiple instructors and course coordinators who could lend support. With multiple instructors of a course, graduate students did not necessarily access all of them. “Since it was a first-year course there was another professor teaching the course as well … I could have asked her but I really had no need and my professor was still available” (GS4). Coordinators of large classes worked with teaching assistants and instructors, such as when there were “over 10 TAs assigned to the course plus a coordinator plus … six different faculty members each teaching a block over three different sections” (GS3). Graduate students drew informational support from coordinators. “There’s two course coordinators, a person running the lab that handles the students and organizes them, and then a person that’s in charge of the subject or that topic area” (GS8). “The TA coordinator is … really great. So any time I have a question or I feel like I can’t handle something, I know I can go to her and she would take care of it” (GS10).

Within the course … there’s a staff member … so [graduate students would] contact either her or myself depending on the nature of the question [from students] … we try to provide some guidance to TAs that if this is the kind of question you get, then here’s a generic answer. If it’s more complicated than that, then feel free to come back and ask us … Things that we can predict happening, we do at the beginning … we can’t always predict what’s going to come up, so some of it will simply be by e-mail … saying: ‘This has come up, here’s what we suggest you do and if you’ve got questions, feel free to contact us.’ (Robert)

Despite support being provided at the wider institutional level, graduate students’ teaching experiences were shaped by faculty members and staff closest to them in the course. Even when a graduate student took a teaching support centre course and learned how to involve students during lectures, his ability to apply this knowledge to actual teaching was “very dependent on your supervisor” because, when he went to teach an undergraduate class, “I tried just to do whatever I learned in that course. But … the supervisors didn’t like it so much” (GS13).
The quality and quantity of support depended on the course instructor and coordinator:

TAs may be stressed for time … feel a lot of pressure … they may also be modeling on what they see the professor doing and that might not be the best model to follow. (Barbara)

Some faculty members are really practiced at communicating … their expectations … [and] are more aware than others of what their particular style is: When am I prepared to answer your questions? In what kind of detail? (Patricia)

The type of training that graduate students get will depend on the professor they’re assigned to who may be more or less present for them. May act as a mentor and may not. So I think more intensive training if you want consistency, if you want undergraduate students to come out of a course feeling that they were treated fairly, that they learned something, that they progress. (Elizabeth)

The problem is that our coordinator does not care about the work we are doing in the lab … the experienced TA had to work harder to cover the lack of knowledge and interest of the newer TAs. There should be some training for the new TA. It use to be, but in the last two years, we have met once or twice per term. Without it … they sign the pre-lab [approving students’ preparation for a lab] without reading the pre-lab questions and making corrections when necessary. So, students will get a lower mark [on the final lab report] and this could be prevented from the beginning. (master’s student, student services survey)

Graduate students also recommended improvements for how course instructors worked with graduate students (n = 11) including “greater guidance from professor teaching course” (master’s student), “more help from professors (suggestions, guidance, etc)” (doctoral student), and “more background on the labs we will be teaching, with a clearer outline of what TA’s should do in pre-lab talks (since I have found this to be fairly inconsistent between TA’s in each lab section)” (doctoral student, student services survey).

Training and Meetings

Instructors and coordinators created additional supports, such as orientations, meetings, and materials for the course. The orientations were often single sessions at the start of teaching assistantships that focused on that specific course policies, procedures, and advice.

an orientation session one afternoon where we did some team building, get-to-know-each-other kind of stuff. Went over the policies and procedures for how to
run the course, there’s talk about confidentiality; we were kind of charged life-or-death of making sure the exams stayed secure and so forth. It wasn’t extensive. I think for what we were doing it was probably enough. (GS3)

before we taught the course … a quick meeting … on Skype … asked [a TA from last year] to tell us her words of wisdom and how can we do things. (GS11)

the orientation was we had one session at the beginning of the term before our classes started to talk about … the basics of running a tutorial but it was a lot of learn-as-you-go. In the first term … it was one professor and I think about 16 … teaching assistants … So it was a little more hands-off. We didn’t get as much guidance as we would have hoped. (GS6)

As teaching assistants, graduate students attended meetings as needed to address concerns and answer questions about course procedures and policies; regular meetings were not mentioned.

“Both classes I TAed for, we would … meet – not at regular intervals but when it was needed … [to] talk about how we’re going to standardize marking a paper or an exam or something like that” (GS7). Similarly, “a meeting, just with the <course> TAs … cleared up any questions that we had. So it’s nice that … they take the time to make those meetings for us” (GS10). Graduate students also accessed the course instructors through these meetings. “Support from professor is the meetings … if we have certain things to discuss, then we meet … [about] the issues that we’re having … How can we address them?” (GS11). The meetings provided opportunities to convey just-in-time information, address concerns arising during the course, and converse with the course instructor and coordinator, as well as their fellow students.

**Head and Fellow Teaching Assistants**

I love to have … my veterans … come back and feed into that institutional memory … because when we have … meetings where we all get together in a group and talk … it’s always nice to have that one person who’s been through it before say to the other people in the room: ‘Oh, you know, that happens, it’s OK, it’s not you’ … a lot of these TAs often feel that … it’s their fault that their group isn’t talking or it’s their fault that something’s gone on or they’re just not good enough at their job and it’s not true, group dynamics is a weird and funny thing and these issues [are] the same every single year. (Mary)
Peers and colleagues (n = 5, student services survey) were sources of information about specific courses and on teaching in general. “The biggest source of support are the other grad students … we were a small department. Professors weren’t always accessible so you … have to draw on the other students,” particularly about leading tutorials “because tutorial was just a subordinate part of class … ‘you just have to go in there and facilitate a discussion.’ We weren’t always very sure if we were doing it right” (GS6). Connecting with an experienced teaching assistant was valuable: “If you need help with a current TAship you … [can] ask a previous TA” (master’s student); and “TAs from the previous year [can] give a brief overview of the course (which section is the most confusing part, etc)” (master’s student; student services survey).

Experienced teaching assistants provided support as fellow teaching assistants, or in more formalized roles, such as a “head TA” in a course with multiple TAs (GS3) or “a buddy system … for a given module … of tutorial to teach, so we had a buddy to consult with” (GS3). Experienced TAs provided information and confidence to newer graduate students: “He’s very supportive [when] I put myself down, like I should really know this stuff” (GS8). For example, when trying out a new tutorial created by the experienced TA, a first-time TA “got some stuff wrong and I felt kind of embarrassed, he’s like: ‘No, this isn’t easy’ and is really supportive and creates a good environment for questions” (GS8). With such a great mentor, this new TA and her future colleagues benefited from the experienced TA’s approach of “hands-on … making sure I know how all the equipment works” (GS8). Similarly, “the [other] TA … taught it previously … She has a lot of resources … accumulated over the years … [we] figure out what material can we use for each week and that’s how we plan” (GS11). Pairing experienced TAs with newer TAs had the added benefit of built-in succession as TAs became experienced and could mentor the
next set of TAs. “The goal is that I learn it now and then teach someone else next semester” (GS8).

Graduate students might be considered experienced simply by having taught the tutorial earlier in the week for the same course. Those with a session later in the week benefited from conversation with the graduate students who had taught the topic already. “The TAs, we talk amongst ourselves … my tutorial is on Fridays, so I get the whole week worth of feedback … very useful” (GS10). Beyond finding out about assigned materials, graduate students could hear how innovations went and feel more willing to experiment when other TAs had successful tutorials using their own activities rather than doing suggested ones: “that insight … would kind of force me to … think outside the box and do something different” (GS10).

Information from graduate students who were at an equal level of experience was also valued for coordinating activities and maintaining consistency. The “TAs … have a lot of correspondence with each other … to keep each other updated … ’cause we’re trying to have a standardized tutorial, … we decide how the tutorials are to be led” (GS11). However, when fellow TAs were less experienced, graduate students did not seek support from them; for example, “I didn’t really want to ask them because they were all undergraduate students” (GS3).

When moving from being a teaching assistant to teaching, “co-planning and co-teaching the course with the other instructor … [offered] a nice progression” (GS2). Graduate students benefited from having fellow instructors in the same course; “the other instructor that I’m working closely with … we’re going to write our syllabus together … Our courses or sections are going to be quite similar in terms of the content and our assessment” (GS2). Similarly, by team teaching, graduate students “could see modeling of something live … how it could go different ways depending on the activities … then having an opportunity to debrief” (Barbara).
In addition, “it would be useful to go into other people’s classes … and see how different people handle it” (Barbara).

**Information Through Lectures and Materials**

I attend … all the lectures … three hours of every week … just so we can keep updated on … what the students are getting – but also we try to figure out have kind of a long-term vision for what each week will be about. (GS11)

Graduate students gained information and resources by attending lectures and through materials provided by the instructors, coordinators, and fellow teaching assistants that included exercises, slides, activities, and topics to cover. “We were given PowerPoints to use in the tutorials, so it was quite structured” (GS3). When not attending lectures, they were “provided a recap of the lectures, opportunity to ask questions in a smaller group format and … some materials that had been generated by previous TAs” (GS3). Additionally,

we were given … ‘This tutorial is going to … match this series of lectures and it’s going to be kind of about this’ so you weren’t just … winging … tutorials … if there was a specific activity the professor wanted us to do then we would do that activity … other weeks we had a little more freedom but it was like covering an area of the course and however we chose to implement that. (GS7)

every TA [is] responsible for one week … I’ll be responsible for week one and then the other person will be responsible for week two … we develop the material and then send it to [the instructor] and … the other TAs. (GS11)

we were given these exercises from the head TA. He had gone to the <teaching support centre>, and he had devised all these exercises … but those were kind of tough because I felt that the students didn’t know enough yet to do those kinds of exercises because they presumed a lot of knowledge. (GS6).

Timing of the provided materials mattered. Some TAs received the materials promptly and online. “The TA coordinator … emails out week by week, activities that we can do and the class is laid out on <the online learning management system> … ‘These are the lecture slides … the discussion question’” (GS10). Others were not so lucky: “sometimes, we’d get these PowerPoints at the very last minute” (GS3); “I didn’t have the solution until that same morning.
So my very first tutorial was … crazy” (GS8). In the future, she “learned that if I didn’t have it by Wednesday - remind him” (GS8). Others remained frustrated: “one thing would have been helpful if we have the material online where we can view it at any time and we have total control of it. Right now it’s a stack of papers and it’s really disorganized” (GS11).

Marking

If there isn’t a TA coordinator … you can go to your professor – the person who’s leading the lecture – for any help or support or clarification … you’re not the ultimate authority person … you can always pass the buck. I know that’s terrible, but they get paid to do that. And talking to fellow TAs … is really important. It made me feel a bit more comfortable and making sure you are prepared for your lecture – or your tutorial … that you take the time and you feel confident. (GS10)

Marking was one of the few activities embedded in nearly every teaching assistantship and involved congruence across teaching assistants, their course instructors, coordinators, and any other decision-makers. In large introductory classes, there was some support to improve consistency of grading such as learning objectives; marking as a group; and meeting with students regarding grades, policies, and marking keys. Information about the content and goals of the course, as well as guided practice marking, provided support to graduate students (Robert).

Marking in a group with other TAs provided just-in-time support during grading:

marking of short-answered exam questions for large classes involved graduate students being organized into teams … [that] provided a fair amount of support in learning to calibrate the marking key. We’d meet in small groups and discuss ideal answers and potential scores … for different hypothetical answers … we had to have mean scores for each question that were within a very very small margin of error, so there was a fair amount of stress … but we did feel supported. (GS3)

big class … 400 students … there’d be a couple of us marking one section of a larger assignment … logistically … a big problem but the TAs were supportive in just conferring … with each other how we were going to mark … because I was new and some of the other TAs had TAed that specific class before and just had more TAing experience in general … I would go to them with like: ‘What would you do in this situation?’ or ‘This student … wants to appeal this mark … what do you think about the mark I’ve given him.’ (GS7)

if they are fortunate enough to be assigned to a course that has more than one
marker … then they’re really fortunate ’cause I know that they go up to the <specific room> and they’ll sit and they’ll mark together … but what I find is, even if you’re not part of a … group, is still to mark with somebody so you don’t go crazy … even if you’re marking in the library. (GS5)

Policies provided graduate students with guidelines for deciding how to respond to students’ requests. “Some courses have … innovative policies to discourage students from frivolously just scrounging for points wherever they can get them. I’m not sure that we had policies like that’” (GS3). For example, regarding one assignment, the TAs created their own policy for the course and then “asked the instructor what she thought about it.” This policy covered “What are the questions that we can answer? What are those that we’re going to deflect? … If it’s a question about more details then we say: ‘Well, how would you interpret that?’”; however, if students wanted clarification about the instructions then they could respond (GS11).

Marking keys might specify what student responses were worth, but other forms of training and clarification were still needed to ensure quality of marking. “We would go over the marking keys together … if [the resulting] mean was consistent it was assumed that we must be applying the marking key correctly. I’m not sure if that’s a just assumption or not” (GS3).

Although course instructors signed off on marking, students were still upset with the graduate students who marked their paper even when comments were intended as “constructive … [for] usually the first paper is the weakest … not hurtful comments … actually meant to promote thinking” (GS5). When students were upset, course instructors did not necessarily step in. “I learned … from the professor that day … you can make statements but there isn’t always going to be someone to … back you up … I kind of felt fed to the sharks that day” (GS5). But this graduate student was not entirely without the instructor’s support and was “pretty sure if I couldn’t hold my own, she would have stepped in … she was watching to see how I handled it … I didn’t want to go running to her … ‘Oh, save me! I can’t do my own work!’” This hands-off
approach was part of some instructors’ style and benefited some, but not all, graduate students.

I’ve had courses where the instructor has been very, very involved. I’ve had courses where the instructor’s basically said: “If you have any trouble come and see me, otherwise … you can teach it however you want.” And both are nice … having someone looking over you – make sure that you are doing everything well is … good but … the flip-side is … I prefer to have the freedom because I have a bit more teaching experience than some of my peers. (GS12)

My professor has kind of a hands-off policy … she wants us to … have personal growth through this process and so she doesn’t want to tell us exactly what we need to teach and exactly what we’re to do. Instead, she has those meetings where we kind of talk and then corresponded with each other but this becomes challenging when you’re not really sure what to focus on or what material to look at. (GS11)

There might be some concerns about how their perceived failure to deal with some situations in the classroom might reflect on them negatively, and so, going to their supervisor with this might not be the first thing that they want to do. In many cases it is - there is no problem - but sometimes not … they may be dealing with an issue that they feel implicates them in some way and so they’re not ready to take it to a supervisor. (Linda)

However, without course-level training, graduate students “felt extremely unprepared as a TA and there was little opportunity to learn how to mark or teach” and experienced delays as they were “thrown in without any marking scheme. I initially spent 20 hours per week developing marking schemes and learning the material” (student services survey).

Thus, as teaching assistants or part of a team, graduate students had many course-level sources of support including instructors, coordinators, head TAs, and fellow TAs who could provide information, feedback, and mentorship. However, support, particularly training, continued to depend on multiple layers as issues existed when “trying to negotiate requirements from … a union and the supervisor and the student … [as] fulfilling the requirements based on the resources at hand could be problematic” (Robert).

**Faculty and Peers**

We met in a classroom and … <a faculty member> facilitated … saying: ‘Ok, this is what is expected of you as a TA.’ … a lot about setting limits with regards to
emailing, don’t give out your personal phone number … make sure you set clear boundaries … but the most helpful thing … was actually having the senior students come in and talk about what their experiences were like … it just felt more comfortable to be able to ask them questions as opposed to asking … a professor … we were just firing questions like: “What did you do on your first day?,” “What do you do if you don’t know the answer to something?,” “What if there’s an outburst in class?” … and they were able to share funny stories and share horrible stories and how they made it through … how to deal with the day-to-day situation and I think, overall, that was the most helpful thing. Just to set aside my nerves ’cause you’re really nervous. (GS10)

Outside of courses, graduate students could draw on insight and mentorship from other faculty members and their fellow graduate students. The “research supervisor … can be a source of support depending on how far away their assigned course is from the person’s area of expertise” (Robert). “My advisor was a little bit of support; giving me advice about [specific technology used in classroom]” (GS8). Faculty members’ mentorship might even continue after the graduate students moved to continue their studies with “previous instructors sharing resources and ideas and activities and things” (GS2). As graduate students shifted from being a TA to an instructor of a course, the nature of support broadened. For graduate students teaching a course there was “a hierarchy” of support:

… But certainly, I’d say people teaching the same course would be the most important source of support. (GS2)

Instructors in the same area supported graduate students’ teaching through “a template … [with] components for participation and attendance and … discussions … about how to assess” (GS2).

Beyond already established relationships, graduate students wanted mentorship (n = 7, student services survey) and formalized mentoring opportunities such as “coaching by experienced professors” (master’s student, exit survey), and “general 'apprenticeship' in
teaching” (master’s student). For “as well as being mentored as researchers, it would be helpful to be mentored as a teacher as well” (master’s student, student services survey). Equivalent to a research supervisor, one graduate student wanted “mentoring of graduate students interested in teaching. Something like an ATTACHMENT with 2 professors of which one will be the supervisor” (master’s student, student services survey).

Current instructors could act as role models (n = 10, student services survey) by “demonstrating what ‘good teaching’ is supposed to look like at the university level” (master’s student) and “modeling teaching practices that reflect current research” (master’s student). As part of a larger vision, departments could “encourage scholarship about teaching [by] formally ‘visiting’ the lectures of recognized professors” (master’s student, students services survey) and by having faculty “mode[ll] the behaviour so that the doctoral student gets the impression that dealing with the <teaching support centre> is not a remedial act” (John). Faculty members who championed teaching supportive policies were “mentors for these [graduate] instructors both as … graduate supervisors … [and] in general in terms of teaching within the department” (Linda). However, some faculty’s current level of teaching was not good enough. One doctoral student recommended improving the teaching by current professors through “Seminars and training for the professors [and] evaluation for the professors by the TAs” (student services survey). Another student saw faculty members’ assumptions about teaching as the issue.

some of the supervisor or faculty member[s] … need to be taught how to teach. … Because education is a science by itself … I understand they are very busy and lots of research and it’s a very busy department – they are understaffed. I understand these kinds of limitations but they expect … if you have the knowledge – you have to be able to teach … stressful especially for one of the courses that I didn’t know how to … [the faculty member] said: ‘Ok, so just do it.’ And it went ok but I would expect a little more support. (GS13)

However, not all graduate students had access to experienced graduate students, “because it’s such a short program” even though it “would have been helpful … to have had …someone
that had marked for this prof before” (GS5). Without an experienced peer to talk to, this graduate student requested “some kind of support system … like a website … a phone number … or … someone on the <departmental graduate student association>” because as a TA the struggle “eventually it kind of hits you when they give you a stack of papers … and you’re marking … hundreds and you’re trying to make sense of it … alone” (GS5). When asked how to improve the TA experience, 18 past graduate students (exit survey) wanted mentorship including having “an experienced TA help out for a week” (master’s student, exit survey) and through formal “mentor programs btwn senior TAs and junior TAs” (doctoral student, exit survey). Graduate students could also learn by “watch[ing] how another TA handles their course” (doctoral student).

The support of faculty and peers was often intertwined. TA experience, for example, could have been improved through “more supervision and assistance from profs or senior grad students in the 1st year” (doctoral student, exit survey). During departmental training, both faculty and experienced peers contributed their insight and resources. For example, “we had a meeting with the <department>, which spent a half-day just talking about what are the expectations. There were some senior students who came in … PhD students and a second-year MA student who talked about their experiences” (GS10). Senior graduate students also provided training for their departments through “developing the TA workshop” (GS1) or having “a quasi-TA position one year where my responsibilities actually were to offer seminars to first-year Master students who were coming in and starting to be TAs” (GS3). This student felt that this opportunity, for himself, “was a rewarding opportunity to reflect a bit on my experience of having been a TA” and for his peers as “you’re relating to the people more on a peer basis. That authority structure isn’t there” (GS3). Newly arrived master’s students who had teaching assistantships were “told to come to … an hour, hour-and-a-half workshop [on] how to be a TA”
that was led by a PhD candidate “who offered the workshop … on their own time and we didn’t get paid to go and she didn’t get paid to offer it” (GS5). Through their involvement in departmental training, mentorships, and insight sharing, faculty and experienced peers provided support to new and continuing graduate students in their teaching roles.

**Individual**

In all of the courses I had TAed, I had taken the courses before so I brought … what would I have liked to change or improve or how could we have done this better. Sometimes we would sit down with the prof and say, okay well what about this … Or we could do this. Or the prof would ask for some input: how could we change this assignment or how could we change this lab. (GS1)

Prior experience was an important individual variation that provided support. Although this support potentially could be embedded in departments’ teaching assignment process, graduate students expressed their prior experience as a personal quality supporting their teaching when “I had TAed in the same capacity before but … it was a different course” (GS1), “I have been TA-ing” (student services survey), and “I have taken the course before” (GS1). In addition, graduate students attributed their success to their prior experience: “I have been TA-ing for 5 years now, and am confident in my approach” (student services survey). Gaining experience also reduced difficulties when “challenges were really due to inexperience … could not have been changed with more training … even after being a TA for 4 years there are still challenges, but I am now better equipped to deal with them” (student services survey). What was unspecified in the survey responses was how such experience helped graduate students to become better equipped and confident. Perhaps like one of the interviewed graduate students, they intentionally applied the knowledge gained previously to improve their teaching experience. “When they teach it, because they were the student in the previous year, they’re fine with … fixing it because they know exactly what went wrong” (GS12).
Greater experience also led to greater expectations about their ability. “As we became more senior students … we are expected to … or at least I became more comfortable exercising a bit of leeway.” For example, in one course she TAed, “the instructor paid me additional money … a sort of buyout, to take care of coordinating the course … at that point … I felt prepared … having been in the industry of being a TA for a little while” (GS3). However, when assigning responsibilities, experienced graduate students’ abilities were not always utilized despite being “a resource that could be … tapped by people who are designing undergraduate courses, keeping in mind that their TAs are not just mindless workhorses but actually people capable of delivering creative and responsive teaching” (GS3).

Simply being experienced and recognizing that there was a problem with prior courses was not enough. Teaching well required more insight into how the material could be taught better. “Anyone can say that that wasn’t taught very well. That isn’t difficult. What’s difficult is saying: ‘This wasn’t taught very well. Here’s how I would then explain it to make it clearer. To make it better.’” Such knowledge was what “will separate people who … would be better TAs than people who aren’t” (GS12). Prior TA experience alone was also not enough, when it came to instructing a course.

even though I have TAed and kind of taught the course, [it’s] still… sometimes quite overwhelming … teaching a course and I think for … a beginning graduate student who hadn’t had anything to do with the course before and being asked to teach it – especially in the fall – that would be very challenging … to develop the course … you’d have to really have support from … previous instructors. (GS2)

To further build on their experience, graduate students wanted “facilitation in taking the positive role models … learn from that and applying it reflectively to our own teaching practice. Because anybody doing a graduate degree has had hours … of experiencing what it’s like to be in [a] classroom” (GS3). Thus some individual graduate students did intentionally apply their
knowledge developed through prior experience to adapt their teaching to current assignments; however, this potentially rich resource was bypassed by some departments and instructors.

**Sector-Level Formal Supports**

They have to very quickly take on roles without a lot of training provided by the course instructor or the unit, simply because of a lack of resources … it’s also a shame that within higher education institutions - in Canada specifically - we don’t have a formalized training process on higher education for grad students. Especially … given that many PhD students are going to move into higher education … in addition to the technical disciplinary knowledge that they’re developing, there should be some kind of understanding of the way people learn, effective teaching strategies, assessment, curriculum design … many centres for teaching and learning are developing something … but there’s no requirement for it on graduation … there are in other countries but currently not here. (Robert)

The higher education sector provided informational resources in the form of books, journals, and conferences. When support was not sufficient at other levels, these sector-level resources were sought as sources of inspiration and information. Graduate students generally moved through the layers by first seeking support at more local levels such as course, faculty and peers, but, when these resources proved inadequate, they moved outwards to the institutional level and even to the sector level. If the more localized supports were sufficient, graduate students did not look further. “I haven’t really done much investigating on the internet or in other books about teaching styles … other than the direct interaction with what was available to me: … the TA coordinator and the workshop” (GS10).

At least one graduate student regularly accessed sector-level support by attending “<teaching in field> conference” (GS1). However, none of the graduate students mentioned a cross-discipline teaching conference. John predicted this lack of participation in conferences about teaching in higher education in general: “if there are PhD students … not in education who are members of STLHE … that would be outstanding but I doubt it. If there are, I can’t believe it’s … more than a handful.” Graduate students did learn from the writings of educators by
“reading broadly … especially books like ‘Courage to Teach’ that talk about why we teach … that's where I've found a lot of support, because that whole world I wasn't aware of until I started reading” (GS1). Also they accessed journals through the “mind-boggling library system” on campus or free online (GS9) to “find support … in the literature … the journals of <teaching in discipline>, they all talk about the same thing so I know that I'm not crazy [or have] radical views” (GS1). They sought these sector-level resources because of their own personal passion and motivation to teach. “I seek professional development opportunities and read the journals … I’m quite motivated … Not just to teach– teaching is the easy part – I’m quite motivated to offer a quality education” (GS9).

Although some sector-wide supports existed, the nature of graduate studies created considerable challenges when graduate students tried to learn to teach. Even with encouragement to develop these skills “from supervisors … grad students are already quite busy. They’ve got their own research. They’re taking courses. In some cases they’re teaching part-time and the question becomes: Where do people spend their time?” (Robert). Creating opportunities for doctoral students in Canada to develop skills involves determining when during their graduate studies they could focus on teaching development. “Does that mean … one less course? … a little bit less research? … a sticky issue but … if we’re to expect universities to make progress on innovations in teaching then grad students are one … plac[e] we need to start” (Robert).

There were also challenges around financial support for teaching development. Although departments provided funding for graduate students to attend research conferences, “if a doctoral student needed money to go to a conference on teaching … would he or she get it? Since the scholarship of teaching and learning is really not emphasized in the doctoral program … the answer … is ‘unlikely’” (John). As a result, access to teaching-focused conferences might be
challenging. There was also variation across the sector in the financial relief received by graduate students who taught courses, as this university “pay[s] you then they take your money back for tuition … I know at <university> where I did my master’s degree … you wouldn’t be paying tuition because you’re regarded as, well, part of the faculty … temporary” (GS9).

Overall, formal supports were prevalent within institutional and more localized levels and recognized by graduate students and supportive individuals alike. Sector-wide resources, institution-wide programming, departmental training and personnel, course-level meetings and resources, mentorship and advice from faculty and peers, and individuals’ own experiences collectively comprised the full range of formal supports available to graduate students. However, graduate students still “need a lot more support than they’re getting, even now, in terms of the TA professional development and course” (Barbara).
Chapter VI: Informal Support

A lot of times it was fellow grad students sitting around the grad lounge, informally discussing: “You know, I have 40 papers to mark within a day. Do you have any suggestions?” It was a lot of informal kind of talking … Some of us had PhD friends and we would ask them: “What would you do in this situation?” So, it’s informal. (GS5)

Graduate students’ experiences, including conversations in grad spaces, highlight the importance of informal supports in their teaching. Referring to the level of structure or intention embedded in the provision of support and distinct from the formal pre-planned intentional supports, informal supports occur spontaneously when institutional decisions have incidental training benefits, departments contain shared spaces, and graduate students draw on the faculty, peers, family, or friends around them. Mentorship, for example, can be done informally among friends and by faculty members when conversations about teaching just happen, yet could also be part of formal roles for supportive individuals, such as instructors with teaching assistants, or part of formal programming such as a buddy system. Supportive individuals saw informal support as the basis for future programs, while graduate students valued how their teaching was currently informally supported by conversations with lab mates and peers, information from mentors, and encouragement by family and friends.

Informal Support from the View of Supportive Faculty and Staff

Supportive individuals noted the occurrence of informal supports with faculty and peers, such as “turn[ing] to their own peers first for support” (Barbara), or having “a mentoring relationship between professors and grad students in terms of teaching either modeling teaching for them and then attending … the grad students’ sessions and then providing feedback” (Elizabeth). Even supportive individuals provided informal support when graduate students experienced a bad session, such as the graduate student who, after a bad teaching session “in
<building name>, packed up their books, made it … to our offices and then right at my front door burst into tears” (Linda).

Graduate students had faculty as informal role models, such that by “learning how to work with a supervisor, they are also learning to be a supervisor … If we’re provided with a good example of how to fulfill a certain role … that becomes inspirational for us” (Patricia).

When sources of informal support were mentioned, faculty and staff raised concerns about inconsistencies, leading to suggestions that such supports should be formalized or replaced by formal programming.

They may well turn to their own peers first for support, in which case it would be interesting to have some kind of peer mentorship maybe with people who’ve been a TA for a couple of years … might be more successful than drawing on faculty that they don’t know, but somebody within their department looking at the challenges of the particular content that they’re working with. With the peer thing … something that would be more formal … might be useful … because one of the problems is … you’re afraid to call on somebody … people have all kinds of reasons why they don’t follow through on getting help. But I think it would be good to have a formal relation … even if it’s something like: “Let’s go for coffee every two weeks, tell me one problem that you had and let’s just think of what are some of the alternatives.” And maybe a couple of things built-in in a term like one time when the person comes to a class with them … it could be a team-teaching opportunity built-in. (Barbara)

that kind of deliberate laying out of the skill sets and the discussion opportunities and the peer support and the mentoring and the coaching all of that could be built into a program particularly for people who see themselves as being in teaching roles in their professional lives. (Patricia)

the type of training that graduate students get will depend on the professor they’re assigned to who may be more or less present for them. May act as a mentor and may not. So I think more intensive training, if you want consistency, if you want undergraduate students to come out of a course feeling that they were treated fairly, that they learned something, that they progress. (Elizabeth)

Faculty and staff appeared to see informal supports as nice but not sufficient and reliance on such casual means as indicators that more formal programming was needed. “I get a lot of people in my office asking … who runs <the learning management system (LMS)> and … who can help
you learn these things … does it signal that there’s a lack of institutional training around these things?” (Mary). Overall, supportive individuals recognized that informal support and individual variations occurred but saw graduate students’ needs as best served by formal programming. However, they were also concerned about uptake of such formal programming. “I don’t think the … <teaching support centre> services is as well taken up. I don’t think that students necessarily see <the teaching support centre> as for them. I think they see it as for full-time faculty” (John). When asked what she wished for, Mary wanted ongoing training with a day for professional development with workshops on different themes every three months; however, she wondered, “Would we get any uptake? … Would anybody go? … Maybe my magic wand is to make people realize that they want to go. That they don’t know what they don’t know, until you tell them what they don’t know.”

Informal Supports as Experienced by Graduate Students

There’s a guy that I share lab space with and we would just talk about our TAing issues. He was TAing a lab similar to what I was … we [would] just talk about that and my current advisor … was always like helpful hints about how to talk in front of a group and teach. (GS8)

Graduate students in comparison experienced informal supports throughout all contextual layers and saw them as valuable sources of information, resources, and encouragement.

Sector

Graduate students accessed informal sector-level resources when using online searches such as Google. The ease of access was appealing: “I did look up some resources online ’cause they are always available” (GS8). Past presentations were also specifically sought and then modified. “All the TAs … are all familiar with typing in the subject you want to teach, tutorial and then file type: PPT into Google so you find all … PowerPoints tutorials of that subject.” Still such uptake tended to occur with limited critical review, just “looking at a bunch … ‘This one
was awful,’ ‘This one was really good’ and then try to merge those into your own … really beneficial” (GS12).

**Institution**

Institutional decisions had unanticipated benefits for graduate students developing their teaching skills and knowledge. For example, when the institution adopted a new grading system, a graduate student new to the institution who faced a different grading scale had the benefit of “an hour and a half [training] over the new grading” provided to all of the TAs in the course (GS8). Universities brought together people with a wide range of expertise within a single institution, including those with an expertise in teaching alongside other disciplines. “Some of the profs in the Faculty of Education have been really supportive and helpful more so than in my home discipline for various reasons” (GS1). When graduate students sought to change the culture they taught within, they reached out to others within the institution. ”I have sought profs outside of <my area> because sometimes I feel that the very people in <my area> are the people that I'm trying to change or to shape their … teaching philosophies and what they are doing” (GS1). Through its policies and gathering of expertise, institutions offered additional sources of informal support.

**Department**

Almost definitely my lab. Just having a group … about five of us master’s, PhDs … and being able to go into that room and say: ‘Here’s what happened today. It was the worst experience of my life.’ And then having them talk you down. (GS12, when asked most valuable source of support)

The spaces and places within departments provided access to informational resources as well as socio-emotional support. Even though some spaces were conducive to conversation, other potential dialogues were missed. The five or so graduate students in the same master’s cohort “run into each other in our offices a lot” (GS10). Frequency of opportunity for
conversation depended on how often and when graduate students were in the office, as there was “one second-year <Master’s> student that sits beside us but … I’m the only one who sees her … She’s there on Tuesday nights” (GS10). Similarly in labs where graduate students were sitting at desks with their computers, they could receive “soft-support that’s really, really beneficial” by requesting advice easily, preparing for upcoming teaching sessions by asking for challenging questions, and helping each other when a session did not go well (GS12). For example, after finding out that his students had already covered in lecture the tutorial material, GS12

went back to my office and the other students were like: … ‘You couldn’t have predicted that … It’s not like there’s a mistake that you made … next time just be more cognizant of what’s going on in the class.’ And I think just knowing that everyone was like: ‘You know what? It’s fine. It’s no big deal. Everything is ok.’ … just that support and that … sort of don’t-worry-about-it attitude that everyone else had … That’s helpful.

Labs were identified as home to the most valuable sources of support for another graduate student as “Probably the two people I talked to the most were the other student in my lab space and my current … advisor … Just knock on the door” with the direction of invitation for supportive conversations varying slightly across peer and faculty member as the advisor “asks me: ‘How’s it going? Do you need any help?’ … and the other student, I … ask him” for ideas (GS8). Colleagues sharing an office also provided “an ear when somebody wants to whine and complain” and information as “I’ll talk to whoever’s around … ‘So, what did you do?’ … just [after] … they were doing their tutorials so I talked to them about how it was going” (GS10).

Support from fellow teaching assistants depended on where graduate students’ offices were and if they shared space. Although both GS10 and GS11 reported receiving informational and other support from their fellow teaching assistants in the same course, the nature of their access to support and of their shared spaces differed. For GS11, access to other TAs was limited in that they were in another building. As a result, GS11 would “rather just send them an email
and get a reply like that”; thus “it’s formal meeting most of the time.” In contrast, GS10 connected with other TAs through more in-person and direct ways as they would “run into each other in our offices a lot … ‘Hey, what did you do? What did you think about that? What worked? What didn’t?’” The exception for this student was senior and upper-year graduate students whom “I haven’t really had an opportunity to talk to any of them … their offices are on different floors … so kind of isolated” (GS10).

Not all graduate students had the opportunity for conversations with colleagues and with their students because of departments’ space allocations and culture. Office space was a challenge: “Not all grad students do. I’m lucky. I have an office … through my RA position … graduate teaching fellows don’t have … an office … that faculty do,” so when graduate students had to talk with their students, space options were otherwise limited to meeting after class, which might not be private (GS2). Even if spaces existed, such as hallways, the nature of the layout of offices or of the departmental culture meant there was little crossing of paths that could lead to conversation. “There’s not that much kind of chatting in the hallways … people are not often around … I miss those sorts of informal conversations and I would like to have more of those. So, it’s been more … planned meetings with people” (GS2). The informal support offered through the spaces created or otherwise existing provided some graduate students with just-in-time access to information and encouragement that was unavailable for other graduate students.

**Peers and Faculty**

I would also see some of my fellow graduate students like <fellow graduate student> and I would talk. We still talk quite regularly … with <fellow graduate student>, <faculty member> and <faculty member>. I still seek them out and when I do bump into them, we have ad hoc conversations. (GS9)

In parallel or uniquely, peers and faculty members provided informal support as sources of information, role models, encouraging ears, and mentors. Even after a course was finished, they
were helpful exemplars. “I thought about the best teachers I had and said: Ok, here’s how they would do it. Or how did the best TAs I had … as an undergraduate, how they ran a tutorial” (GS6).

**Peers.**

Especially for our Master’s students coming in who have been fortunate enough to get a TAship – one of the things that I want to tell them is: Look to … other people who have done it and talk to us. That there isn’t a lot of formal support … there isn’t a website, there isn’t anyone on the [departmentally-assigned master’s student] buddy or if you’ve got a PhD buddy, find someone and don’t be afraid to talk to them. (GS5)

Peers were seen as a valuable source of support by nearly all interviewed graduate students (GS2, GS4, GS5, GS6, GS7, GS8, GS10, GS11, GS12, GS13). “I think the best support is just support between peers; support between people to talk to each other, and see how you can get the support” (GS13). Graduate students gained support by “talking with fellow grad students … about teaching. I was just talking to someone … who will also be teaching a course this year … about the teaching and how we felt about it … We support each other” (GS2).

Through such conversations, graduate students heard suggestions, received feedback, and gained encouragement. When formal information sources, such as websites, were “not a user-friendly … I find it better if I just ask a fellow grad student, and they’ll say: ‘Oh, yes. Here it is’” (GS5). Graduate students talked among their fellow master’s students and with “the PhD students in our department [who have]… obviously done it before and were still doing it” (GS6). Through the conversations, GS6 received “some really good insight into … simple systems for keeping track of participation and how to grade it … to balance quantity and quality … and … encourage participation.” As new TAs, graduate students benefited from these conversations for “a lot of those things that you experience for the first time … We were a small department so we all became very close … they were always open to that and available to talk” (GS6). Graduate
students also turned to peers to just check if they used equations correctly and if what they were doing made sense, particularly when teaching in a different content area or in a course completed with another textbook (GS8). Other newer graduate students were:

learning on the job too and they’d say: ‘Oh, I tried this – did or didn’t work’ … a lot of us were doing it for the first time … so … I didn’t necessarily draw off the other <master’s students> too much but … a good source of support to … sit … throw around ideas and just say: ‘Oh, I had a horrible tutorial today and it didn’t go well’ or ‘This student is driving me nuts’ … the moral support there was good … not so much a teaching aid but sharing experiences and knowing that we’re all kind of struggling through it; that there are common problems … but knowing that they were there helped. (GS6)

Graduate students shared insights about the instructors for whom they were teaching assistants, as they had to figure out not only the students but the instructor: “How do I deal with … the instructor? … adapting to their teaching style, … expectations, … the personality and the power conflict,” particularly when still new to TAing (GS7). GS7 talked to other graduate students who had previously been TAs for the same course: “The professor that I was TAing … his expectations in terms of turnaround for marking assignments were … very short and inflexible.” The advice she received from a peer was especially comforting: “‘Don’t be afraid to … stick up for yourself and say ‘… you can’t manage to get it done in a week’ … it was just good to know that she had done that in the past and … it would be ok” (GS7).

With teaching experience built on trial and error, veteran graduate students provided advice on how to handle concerns like a “ridiculous email” from students, or how to avoid repetitively writing out the same comments when marking by typing out comments and just copying common ones (GS6). As “there’s the theory side [to teaching] … but [teaching] requires so much practical experience,” graduate students valued hearing from their experienced peers and trying out the ideas in their own teaching (GS6). As experienced teaching instructors,
doctoral students interviewed in this research were sources of information and encouragement for their peers or aspired to be.

Peer support is invaluable knowing that you’re not alone … like I’ve talked to a colleague of mine who’s TAing a course and she said it was a terrible experience and she wasn’t doing well and I said: ‘Look, … it happens… it’s not the end of the world. It’s your first time teaching the course. It’s fine.’ … this was a colleague who I’ve taught and so she knew how I TAed and … she made the comment: ‘When you taught us, you were never nervous. You were always in control. Everything was fine and you knew the answer to everything’ and I said: ‘No.’ She said: ‘What? … you always answered our questions.’ I was like: ‘How many times did you guys ask me a question and I went: ‘Ok, what do you guys think?’ She says: ‘Almost always.’ I said: ‘Why do you think I did that? It’s those teaching tricks … ask the students for their ideas.’ (GS12)

To give new graduate students a heads up so they could avoid getting caught off guard, experienced peers would share their insights into what professors were like as course supervisors. The purpose was not to gossip but to talk about “what you can expect from this class” (GS6). For example, with an unreasonable professor, GS7 would mention “when you have an assignment to be marked he’s going to expect it … the next week … don’t plan … to visit home … because you’re going to be marking,” whereas, when a course instructor was great, he would “just … give them the low-down on the classes.”

However, there were challenges in connecting with some of the more experienced graduate students. “Often … a TA [for last-year’s] course will be a second-year master’s student so by the time you … [are] TAing … they’ve gone” (GS12). While some of these graduate students were available for contact, others were not. As a result, sometimes graduate students went beyond current graduate students to those who had graduated and now were working. One person that I work with, he’s already graduated, but he used to be a TA for … many years … [during] his master’s and PhD and so sometimes I talk to him … ‘when you have a student who … can’t keep up and … others who are super-keen and how can you balance that?’ … very informal that thing … he’s in the workforce now and he worked with me [on research] … but I like talk to him about other things. (GS11)
Beyond the usual in-person conversations, graduate students “set up a Facebook group … so when people find information, we post it in that group” (GS5). To ensure the value of this Facebook group, each member of the group had a responsibility for finding and sharing specific information. It was considered “the best source of information” because it focused on a specific group as PhD and master’s students each had unique experiences, The Facebook group was restricted to just graduate students “because you need a place to vent, especially when you’re talking about marking or … ‘I need to do this assignment. I don’t even understand what they want’” (GS5).

**Faculty.**
When I was teaching large first-year courses, I’ve talked with people in <a discipline>; <a faculty member> for instance, has been wonderful…an award-winning teacher … so there’s some mentorship available through experienced teachers. (GS2)

Faculty members supported graduate students’ teaching in informal ways while in the roles of prior course instructor, award-winning educator, and research advisor, as well as outside any official connections. Graduate students remembered faculty members who had previously taught their classes in undergrad and graduate studies and drew on these memories. “Good role models in my own experience as a student were some of the most useful things … profs whose courses I’d find … dreadful … and other profs who … facilitated an outstanding learning experience … I was able to draw on that” (GS3). More directly, graduate students reached out to teaching award winners. “In the department, … we have some very exceptional instructors … 3M teaching fellows … to seek them out and have conversations with” (GS9). Some graduate students did not need to look far to find faculty members passionate about teaching, such as “my advisor… He’s quite supportive. Not just of me but of any instructor in the department … he encourages educational innovation … Any instructor could go to him” (GS9). Many graduate
students were able to have conversations about teaching with the faculty member supervising their thesis or dissertation. “With my supervisor … just discussing the role … I would talk with him and he would give me some suggestions” (GS5). When teaching assistantships were related to graduate students’ own research, both the course material and teaching in general were fodder for discussion with their supervisor (GS6). Further overlap occurred when a graduate student was the teaching assistant for his or her research supervisor (GS13).

Graduate students wanted faculty members to learn from and to support them in their teaching. GS7 wanted a “teaching mentor” similar to a faculty member from a previous university: “I … admire her teaching style and so I would talk to her about teaching and implementing new teaching methods … informal conversations.” However, that faculty member was “not familiar with the practices of this university and just the culture of the university” so this graduate student wanted one at her current university “whose teaching style I wanted to align myself with or who I would like to model myself after” to have “the chance to … observe them … teaching would be helpful and then … help actually developing a lecture” (GS7).

Faculty also provided opportunities for increasing teaching skill or experience. Teaching assistantships were sometimes available through faculty members on a somewhat informal basis. “I've TAed … four courses … two of them were part of my funding package … The other two opportunities … I happened to be at the right place at the right time and they needed TAs” (GS1). As supervisors, faculty created research spaces for their graduate students to collaborate and receive support with the benefits extending informally to their teaching.

The way my lab is set up, it’s very supportive … because my supervisor … had that framework in place for a while … We have … almost bi-weekly meetings … if somebody has a presentation coming up for a conference … they can present it to the group … Whether it makes sense - whether it’s clear. Which … kind of bleeds into teaching. Like if you are able to present a concept succinctly and clearly, it’s beneficial - no matter of the circumstances. (GS12)
Also, through more casual ways, faculty teaching in the same department shared their ideas and information with graduate students. “There’s some people who are around more often so I’ll see them sometimes … often … it’s just meeting in the hallway, actually, and sometimes … it’s just more chance encounters with instructors and more emails” (GS2). Thus faculty members, even in roles outside of teaching courses, provided informal guidance, inspiration, and opportunities.

Course

The first time I taught that course, I did it with my lab mate – who is also a good friend of mine … we could go to [our supervisor] and chat … This course had been her baby … we could bounce our ideas around with her … to her credit … she really kept her hands out of the day-to-day details of the particular content or how the course was run, she was pretty open to whatever innovation we might have and really seemed to have the idea in her head that it was our course now that we could do with as we pleased … a sounding board. That was useful. (GS3)

The line between formal and informal support within courses was drawn based on the level of structure around each support. This distinction was noted by the master’s student who had:

   TA meetings now and then … [on] how to re-grade papers, how to deal with grade appeals … For the first term, it was the instructor, the head TA, and all the TAs, and they were pretty big meetings for the first term. The second term there wasn’t a lot of TAs as there was only three of us … and the prof and we didn’t have too many meetings there ’cause we were always kind of able to find each other and say: ‘Ok, let’s deal with this.’ The prof for that course whose office was down the hall from mine … I could just poke my head in and say: ‘Hey, help me out here’ and we’d kind of go that way. It was a little more informal. (GS6)

Having pre-arranged meetings with specific times for questions and specific topics were considered formal, while dropping by an office and asking a question of the course instructor was more informal. Similarly, conversations after a class were forms of informal support. The mix of formal and informal provided just-in-time support, so that in addition to peer support, “on-the-job-training … was the biggest way I learned” (GS6).
During teaching assistantships, working in teams of teaching assistants provided access to other graduate students for comparing strategies and experiences. “We would … exchange stories and talk … not really TA training. More like just in time as things would come up, seeking a second opinion” (GS1). Fellow teaching assistants provided information and resources, particularly when the other person had taught in the course before. “I would refer back to my colleague who has been there, done it before … getting in on their experience and seeing how I could adapt that” (GS1). Sometimes age was a factor, as the other TAs “come to me … because … they think … I have more knowledge and … I am older than them” (GS13). Graduate students drew on fellow TAs to cover each other’s marking when there was a scheduling conflict with the instructor’s permission (GS3). This informal support was helpful as experienced TAs “were familiar with all the administrative processes, … website and everything” (GS1).

When responsible for teaching a course, graduate students were supported by fellow instructors in the same course and fellow graduate students with experience navigating that role. Similar to connecting with experienced TAs, “the biggest piece of advice I would give would be to talk to the other instructors and … if you’re the only instructor in that course, talk to the previous instructor, get their resources, their ideas, really try and meet with them” (GS2). Additionally, GS2 recommended tapping into the knowledge of other graduate instructors. “Talk to fellow grad students who have taught to find out some of the things that have got them before and just really come up with a list of questions that you need and talk to whoever – as many people as you need to” (GS2). Overall, conversations formed most of the informal support graduate students received within courses spanning quick conversations, ad hoc discussions, and just-in-time communications that they saw as less formal than meetings but also very valuable.
Family and Friends

My parents … said ‘you can do it’ … I used to teach ballet … in high school … and [my mom’s] like: ‘You can teach ballet to toddlers, I’m sure you can teach <discipline> stuff to students’ and I’m like ‘Ah, I don’t know if that translates’ … but just knowing that always helps: words of encouragement. (GS8)

Family members were sources of encouragement when graduate students faced new challenges and roles. “I do share a lot with my parents and … other family members who have supported me and who know … this is who I am and … where my real passion and excitement comes from … So sharing … via email and Skype” (GS1). Partners helped coordinate schedules and commitments, such as a wedding out of town when marking was due. “I did talk to my husband because it was his family’s wedding that we were going to and I asked him what he thought that I should do … more or less for my own having someone to talk to” (GS4).

Graduate students also found support in friends when they had a long day and needed to let off some emotional steam. Some days when the work was “mind-numbing,” graduate students “could use a friend to have a beer with at the end of the day and bitch with about how much this sucked” (GS3). Likewise, “I had another friend … who was also TAing … He would tell me how easy his marking was and how quickly … done and I would kind of vent my frustrations to him about having such a heavy course” (GS4). Passion about teaching was sometimes reserved to just close friends. “My good friends at school, I’d share with. Not all … [just] the friends I’ve known longer and who actually know me on a deeper level” (GS1).

Friends, even outside the university, provided informational support. “I have teacher friends and we … talk very generally about teaching and comparing schools and universities in terms of teaching and … sharing our ideas about teaching” (GS2).

Individual

There is not a stupid question with regard to teaching. … do not be afraid to ask questions or to say: ‘Hey, I feel a little over my head here – help me out’,
approach the problem, approach the head TA. Go to your fellow grad students ’cause they’re your greatest resource. Go to your students as well. (GS6)

Even though formal supports existed, awareness and participation were left to “the initiative of the student to go and find these resources” (GS2). In response to their needs, graduate students moved through the local layers and beyond to wider layers: “There is not so much in <department> so I kinda have to go out and seek other resources at the <teaching support centre> and at the Faculty of Education” (GS1).

However, one challenge to seeking support was the multiple demands on graduate students’ time as “you’re doing your research … You want to get … teaching experience for future jobs and for your CV … but you’ve got all these other things to do as well” (GS2). This challenge of balancing was magnified by external pressure from supervisors trying to get their graduate students to meet goals and how “different bosses for your different things … [were] not always on the same page.” Juggling different responsibilities resulted in internalized feelings of being swamped (GS2). Part of the challenge arose from the timing of grading and the heavy graduate coursework load:

The biggest … challenge was just maintaining my course work while also dealing with the TA deadline. … My semester was actually, as I’m sure most post-graduate course loads are, very heavy in reading and on top of that I had to do the TA work but my TA work ended up being about 120 hours for the semester but they weren’t blocked off. Like the recommendation is to have 10 hours per week but it didn’t end up being like that. You end up doing a chunk and then you get a break and then you do another chunk. (GS4)

I could be a little bit more proactive in looking for support … I say that but I will probably go home and not do it just because of time … it’s just a matter of having time to get my own work done and it’s a balance … I see teaching as part of my work and … what I want to be doing eventually but … there’s no deadline … so it … get[s] lost in the madness of getting assignments done, getting grants done, getting assignments marked and turned around and handed back and stuff like that and then just life and having a kid … complicates things a little bit more but… I would like to be able to seek out support more but … it’s a time thing. (GS7)
Individual variation necessitated less standardized versions of support: “Rather than advocating one-size-fits-all solutions, helping graduate students who are professors-in-training to apply what works for them into their own teaching practice could be really useful … all of us have different personalities, different strengths and weaknesses” (GS3). Graduate students also turned inward for support through reflection. “What gets me through … [and] helps me develop is my self-reflection … a fairly straight-forward test for me to reflect on something and … evaluate it fairly objectively” (GS9). In written form, “I've started to write down … capture some of where this excitement is coming from and why I love teaching … and helping others learn so much” (GS1).

Individuals’ existing knowledge, skills, and attitudes were also strengths. “We were kind of thrown into it but … because we were really familiar with the content area … it worked fairly well … one of my strengths is teaching and public speaking” (GS3). GS8 found it especially helpful to take “the time to prepare for your tutorials … helped me feel more confident,” going a day earlier to practice in the room with the equipment, showing up early on the first day to ensure everything was set up, and trying out the lab in advance to predict questions and mistakes students might encounter (GS8). In addition, she asked an experienced TA who told her “where they had problems last year and what to focus on and what kind of questions to ask them as I walk around … [and] write legibly” (GS8). The need for preparation varied as some TAs “felt the need to rehearse their tutorials down to the last word, to the last gesture ‘point at the screen here’ … a complete dry run of every tutorial … others of us preferred to do things more extemporaneously” (GS3).

**Participation In Interviews**

It’s been an interesting study … to participate in. A lot of these things I didn’t think about before … I heard a quote somewhere … ‘I love doing interviews ’cause it helps to figure out what I think about certain things.’ … it definitely
helps … think about things, reflect on things and learn something about themselves … [as] someone who was teaching. (GS6)

Actions of other individuals and units can shape graduate students’ teaching experience in multiple ways, including by providing opportunities for reflection through qualitative interviews. Participating in this study “made me realize … there are many … sources of support and … wonder if all GTFs realize all the support that they have … I certainly realized as we were talking, the implicit sources … I hadn’t appreciated all the forms of support” (GS2). The interview process “brought up some good questions. It’s a lot for me to … think about now,” including the reaction of graduate students who “teach for the first time … because it can be … an absolute disaster” (GS9). This one-hour opportunity for brainstorming available supports was rare yet valuable for these individuals and for those with whom they might share their insights.

Overall, graduate students were aided in their teaching through a broader range than just formal institution-wide and departmental supports. The most accessible just-in-time resources were often the informal supports that graduate students regularly accessed and recommended.

There is no stupid question with regard to teaching … it was an important part of my grad student experience and one of the more rewarding parts … do not be afraid to ask questions or to say: ‘Hey, I feel a little over my head here – help me out’. Approach the problem, approach the head TA. Go to your fellow grad students ‘cause they’re your greatest resource. Go to your students as well [for feedback] … <university> has a lot of resources that way so seek them out. (GS6)

Scholarly?

A certain dose of cynicism … whereby we realized that if you … round that 0.25 up to a 0.5, [students] will tend to go away, yet the overall mean is relatively unaffected … at this point it’s not about pedagogy. (GS3)

These experiences of graduate students and supportive individuals raised the question: How much was scholarly teaching supported? If the knowledge passed down was based on “trial and error” (GS6) and last year’s experiences (GS8, GS12), then it was not likely based on scholarship of teaching and learning results and theorized frameworks. While some graduate
students sought sector- and institutional-level supports such as journals and courses that were likely scholarly, others were satisfied with more local course support. GS10’s TA “experience was very positive … you didn’t feel isolated … if you were freaking out or … had no idea what you were doing, … there was somebody … you could talk to at all times” (GS10). Need for support was sometimes low due to graduate students’ work and focus: “I never really recalled lack of support because the stuff we were doing was just so mind-numbing … In terms of … technical or knowledge-based support well the work was so inane” (GS3). When asked about seeking other supports, graduate students responded: “No … unless assignments were coming in, it was on the side-burner to my studies” (GS5). Unaware of resources, “I survived. I made it work and got the job done” (GS8). Given the individual- and course-level variation, relying on graduate students’ initiative to seek institutional and sector-level support for scholarly resources created an inconsistent and thus infeasible approach to scholarly support.

However, even graduate students who attended institution-wide workshops wanted useful information without necessarily seeking scholarly rationale or evidence.

What they think they want, is classroom management communication abilities instantly because they want to be able to engage with people and have a level of comfort … when people first walk in, they want to know things like: How do I get a good discussion going? What if people aren’t talking? How do I know people understand what I say? … They think of the immediacy of the class. (Barbara)

Barbara contrasts that perspective with:

What we like to give them is a theoretical perspective. There’s a pull between theory and practice because, as I was saying, if you have the big picture – if you have that framework first and you think about what you’re actually trying to do – to me, that helps a lot more than what you think are just some practical because you do not understand why you are applying it. … What can people learn in 50 minutes? How will you know that they’ve learned what they have? … The activities are determined after those pieces - the backward design approach. But I think most people who don’t have that background think immediately: “ I just want to make it fun and entertaining.” (Barbara)
Thus graduate student support appeared widespread in multiple forms, but few supports were explicitly scholarly. Perhaps trusting informal and formal supports to provide equivalent information was analogous to the mindset of a teaching assistant who, when asked a question by students, said “‘Ok, what do you guys think?’ … flip[s] it back … ‘What does everyone else think?’ and people say things and then you use that as a jumping-off point” (GS12). The benefits might be comparable for graduate students as for GS12’s undergraduate students as this approach was “beneficial ’cause it does get people involved and … sometimes … one of the peers will explain it better than you could and as long as they’re right, as long as they’re being accurate, there you go. There’s your answer” (GS12). He was describing the learning of his undergraduate students from one another; maybe graduate students’ learning about teaching from individuals they already knew was not so different; equally valuable as long as it was accurate.
Chapter VII: Communication and Collaboration

It’s not in the interest of … graduate instructors for units to silo their services. And in fact, it can be a liability to do that and so we’re working in the best interest of the institution and in the best interest of students and instructors when we are working together towards a goal. (Linda)

The surveys and the interviews suggested that a crucial aspect of strengthening support for graduate students’ teaching involved improving communication at each social ecological layer in conjunction with greater collaboration across layers. Graduate students reported experiencing isolation, lack of information about resources, and confusion about their teaching responsibilities within courses. Supportive individuals noted similar challenges as “graduate students can often feel isolated and they can feel like there aren’t resources or they don’t know what those resources are [so how] … can avail themselves of support” (Elizabeth). Even when resources existed, these supports were only accessible if graduate students were aware they existed with “more available on campus than many people know about” (Patricia). Providing better support was, according to one doctoral student (student services survey), “a matter of communications - I did not become aware of development for teaching until my fifth year at [institution].”

Graduate students and supportive individuals represented a key component of the network of communication, “how the dialogue gets out, how people get connected, how everybody learns about everything” (Mary). However, this “network is really sparse and doesn’t seem to have any kind of efficiency in it or memory to it ’cause people come and go pretty quickly around here” and rarely did people remain in the same position for very long (Mary). Additional challenges of time and opportunity arose when trying to address the dual issues of becoming aware about what supports existed and creating the necessary communication and collaboration networks: “How can people find out what is there? One. Two: How can people
begin to create networks beyond their own department?” (Patricia). This supportive individual further described how both graduate students and staff utilized and built networks for “in those networks, I find out what is available but I also have the opportunity with other people to create something if it’s not there,” yet they faced the “practical issue of how people who are already really busy and very focused on work in a way that undergrads don’t have to be all the time” (Patricia). This chapter first explores this network of communication at the sector and institution levels, followed by each of the other levels (departmental, course, peers). It then examines how collaboration across levels could strengthen support through improved informational resources, better access to programming, and reduced sense of isolation.

**Sector**

Higher education journals communicate that teaching is a form of scholarship with research on teaching and learning. Journals can complement the message of the teaching support centre on the scholarly value of teaching. Finding these journals was rewarding as “Realizing that people, that this is a scholarly activity … oh wow! just because you know something doesn't mean that you can teach it … added … validity to the whole pursuit … Teaching is … real too!” (GS1). Journals were also an avenue for further local conversations as “I try to encourage my friends and colleagues to pick up and read the journals … [and] some professors turn to me and ask what does the literature say” (GS1). Within academia, journals are a marker of “real” research and, when graduate students talked about research on teaching in their discipline, other graduate students asked, “do you have journals? and I'm like yeah, there is lots ... they are surprised that there is a journal because no one has really ever heard about <a focus on teaching in that discipline >” (GS1). Journals were sources of information, but sometimes the more scholarly journals were missed within local discussions as “I can read them because I have a bit
of a background in education [but] I don’t think they’re accessible … to everyone in the
department. And I don’t think people would actually care to sit down and read an article” (GS9).
In place of scholarly articles, “the stuff that gets passed around the department is trite, typically:
‘Oh, here’s an opinion piece in the New York Times by David Mumford.’ It’s not telling me
anything ‘cause … [it’s] 15 years out-of-date” (GS9). Journals were the only source of
communication of information and value from the sector level mentioned, and then only by
interviewed graduate students. Access to these journals included “free online” ones as well as
“specialist journals” available through the institution; however, these journals were not always
easily accessible, “because they have just a mind-boggling library system too where some are
available in print and some they say they are available and you can’t … even get the text” (GS9).

**Institution-Wide Communication and Collaboration**

Communication within the institution can also flow among members of this academic
community, as well as between support units and potential attendees. Graduate students (student
services survey) wanted conversations and connection with others regarding teaching (n = 14)
through sharing of stories and experiences (n = 3) such as “a brown bag series for people with
common interests to get together and TALK” (master’s student), “Individual or small group
mentorship” and “guidance” (n = 2 master’s students), consultations (n = 4), and observation of
classes and feedback (n = 5). Supportive individuals also desired “opportunities to get together
for … discussions … with colleagues at <university> but who are outside of my department”
(Patricia). After working for a while in the institution, supportive individuals began to create
their own networks informally. “You know people in different offices … You’ve sat on the
committee with them,” but there were time barriers as “it’s not always easy to do that. When do
you do that? On your lunch hour?” (Patricia). Institution-wide events provided a way to “connect
with more people who share that common language of education, share interests, bring them all together outside of courses” (GS1) but such events were infrequent so some students “would like to see more … [or] maybe if there was a mailing list for everyone then we can all come together” (GS1). Gathering with peers, who were “TAs … from other departments” would be beneficial as it would be “nice to kind of hear about what other TAs are … having trouble with and what we can learn from that … like <teaching development day> but on a more personalized level” (GS11).

In addition, institution-wide support units communicated by advertising upcoming programming and available resources. However, despite these efforts, about one-third of graduate students responding in 2006-2007 to the student services survey were unaware of institution-wide supports at the teaching support centre as well as the university-wide workshops (36.97%). Graduate students and supportive individuals expressed concerns about a lack of awareness and described mostly indirect approaches to advertising institution-wide supports to graduate students.

**Limited Awareness**

To understand how graduate students differed in their awareness of services, a categorical approach was used to examine the extent to which graduate students’ awareness varied across degree level, teaching role, and disciplinary area. The original service rating items were transformed into dichotomous variables indicating that, for each service, graduate students were either unaware (first rating option) or aware (last four ratings combined). Across all services examined, doctoral and master’s students (student services survey) were statistically similar in their awareness of student services ($\chi^2$s (1) $\leq .926, ps \geq .336$). However, their awareness did vary across disciplinary areas with more soft pure graduate students aware and soft applied graduate
students unaware of the teaching support centre’s certificates, TA workshops, and professional development day, as well as the university’s expanding horizons workshop series than expected by chance ($\chi^2$s (3) $\geq$ 13.510, $ps \leq .004$). Graduate students’ awareness of the courses and consultations offered did not differ across disciplinary groups ($\chi^2$s (3) $\geq$ 10.722, $ps \leq .013$, Std. Residuals $\leq |1.9|$; student services survey).

This pattern and the earlier finding that soft pure graduate students had more TA positions while soft applied graduate students had fewer suggests that graduate students with the greater number of teaching roles were more aware of teaching-related services. This working hypothesis was substantiated; graduate students in TA or both TA and GTF roles were more aware of each student service, while those who held neither teaching role were more frequently unaware than would be expected by chance ($\chi^2$s (2) $\geq$ 19.376, $ps < .001$).

A lack of awareness and communication of services was apparent when graduate students requested services and resources that already existed such as “individual consultation” (n = 4), an “orientation manual,” and “reading materials” (student services survey). Five years later, graduate students continued to remain unaware of the resources, services, and programming available to support them in their teaching with interviews revealing “the perpetual lack of awareness of what … resources are available” (Linda).

**How to Raise Awareness Through Communication**

When supportive individuals sought to advertise such resources to graduate students across departments, their method of communication was typically indirect. They “designed an e-mail and I sent it to their graduate assistants and asked them to use their listserv” to email graduate students (Mary), or “work through existing organizations such as the [graduate students
and professional students association\textsuperscript{10} (Patricia). Direct communication with graduate students was limited. Even when graduate students attended related workshops, such as on academic skills, there was no opportunity, “no relationship from me to talk about their teaching … no conversation about their teaching at all” (Barbara).

When graduate students were asked how they learned about services, they reported, on average, 2.44 different sources. However, nearly a quarter of graduate studies had limited access as they relied on only one source of information about available services (23.8%). Email listserv distribution was the most common source of information (51.2%), followed by the graduate studies office in their Faculty or school (39.6%), a website (35.4%), friends (31.3%), information in graduate program registration packages (29.9%), the university-wide graduate studies office (26.3%), a pamphlet they picked up (13.8%), and their academic supervisor (10.2%). In addition, 6.1% noted a source other than the above as they had learned about services through prior experience at the institution as an “undergrad” (or equivalent wording; \(n = 4\)), previous work experience on campus (\(n = 3\)), or “Osmosis after 7 years here.” They also learned about these teaching-related supports from other services and events such as “international students orientation” (or equivalent; \(n = 2\)), “T.A. day,” student advisors, and health and disability services (\(n = 2\)). Their faculty and peers were another source of information when services were mentioned “in class – professor shared the info” (\(n = 3\)), and by friends or spouse (\(n = 2\)). With its small response rate, this ‘other’ variable showed high skewness (23.573) and kurtosis (557.085), and is subsequently absent from later comparative analyses.

These sources were similar for doctoral and master’s students based on non-significant Chi-square results (\(\chi^2\)s (2) \(\leq\) 3.712, \(ps \geq .054\)). Across disciplinary areas, there were some non-\(\chi^2\)s (2) \(\leq\) 3.712, \(ps \geq .054\)).

\textsuperscript{10} Department and unit names in quotations have been replaced with descriptions.
significant and some significant Chi-square statistics ($\chi^2$s (3) = 10.889 to 2.111, $p$s = .012 to .550); however, even the significant Chi-square had a non-significant standardized residual (Bonferroni alpha of .042 and a z-critical of 2.034). Graduate students in TA or both TA and GTF roles did not differ in their sources of information, while graduate students who held neither role learned about support services significantly less often from a listserv ($\chi^2$ (2) = 16.104, $p$ < .001, Std. Residuals = -2.2 and 2.4 respectively), and statistically more often from the central graduate studies office for the university ($\chi^2$ (2) = 8.629, $p$ = .013, Std. Residual = -2.2) than would be expected by chance (Bonferroni alpha = .044, and z-critical = 2.014).

To improve teaching support services, graduate students recommended that the teaching support centre “make it known to graduate students about individual consultations and the <certificate program>,” provide “more visibility in terms of the services offered,” and offer “better advertisement of services” and “better advertisement of available courses” (student services survey). Online and email-based communications were specifically mentioned to “get a better website” and to have “Online resources and information regarding sessions provided by emails” (student services survey). Creating “something… on the <university> webpage for graduate students or something directly for TAs” was desired (GS5), but the student who mentioned this possibility was concerned about the quality of the current website as a communication tool as “I don’t find our website extremely user friendly … It could be in there and just buried.” Even though some graduate students were aware of the new union, their awareness of details was limited. “I know we’re formally unionized now but even that process isn’t clear … like where you can go or … what steps you can follow … if you’re not getting along with the person you’re marking for” (GS5).
Beyond increasing the paths of communication, other challenges existed for raising awareness through communication “because unless people actually need the help, they’re likely not paying attention to where to find it” (Linda). Additionally, graduate students needed to learn about their role in seeking help. “I don’t think graduate students feel that they have almost the right to ask for help. They’ve never been told: You could go here, here, and here. So … letting them know that we would be willing” (Barbara). Thus institution-wide communication comprised primarily of emails, confusing websites, and limited direct communication with graduate students.

**Departmental Communication**

Graduate students seek support from their department in the form of clear communication of the value of teaching, of their role and position within the department when teaching courses, and of expectations. Departments could do more to recognize and promote teaching (n = 8; student services survey), such as “promote teaching as an important aspect of academia (i.e. academia is not only about publishing)” (master’s student) and show “more explicit recognition of the value of teaching excellence for viable academic units” (doctoral student). There was a departmental culture that could shape graduate and other course instructors’ experiences, particularly when “we do not have a culture of teaching in the department … there’s a rogue group … very concerned about the state of education and … cognizant of that when we’re in the classroom … but we may represent 15 percent of the department” (GS9). One tangible way to recognize the importance of graduate students’ teaching would be to “provid[e] credit for teaching experience” (master’s student). Departments could also play a role in encouraging reflective practice of graduate and faculty instructors, such as a desired “framework so that all
instructors reflect in some way on their teaching. Write a one page summary of how it went, submit it to your undergraduate chair … [as] there is little reflection” (GS9).

Three graduate students teaching courses reported feelings of isolation and uncertainty of their role within their departments (student services survey). They faced “Developing new curriculum with very little guidance as to content.” Teaching fellows in the student services survey also felt limited communication and collaboration within the department through “a sense of isolation from other instructors in the program - of trying to help students understand how my course fits into everything else that they're learning without having had the benefit of really knowing myself” and “Expectation of being quite involved but not really included as a colleague. Not given the same information that the teacher has. Sometimes treated as an equal and others times not.”

Regarding allotment of teaching assistantships, departments needed to better communicate graduate students’ roles and responsibilities as TAs (n = 4; exit survey) and clarify expectations such as “specify number of working hours” (exit survey). Analysis of all written exit survey responses on how to improve the TA experience revealed that master’s students who had negative experiences were significantly more concerned about understanding their roles and responsibilities than expected by chance ($\chi^2 (9) = 25.51, p = 0.0025, \text{Std. Residual} = 2.94, \alpha_{\text{Bonferroni}} = .0160, z\text{-critical} = 2.409)$. Clarification was desired from “the department … to explain what they want … [and] clarify what we are not supposed to do” (GS13). Some courses had “really labour intensive short-answer section on the exam … graded … in such a standardized way” that such TA assignments seemed to be “a bit of a make-work project [as]… the department is required to offer minimums [of funding] and we all had to have TAships anyways” (GS3). For example, a new grading system created at the departmental level held
promise for addressing one graduate student’s concern about how students handing in papers late “expect that those papers could also be given an ‘A’ when someone else had handed in their paper on the due date, two to three weeks prior. It’s somewhat inconsistent … [and] unclear” how instructors required TAs to handle late paper grades (GS5). Recognizing that departments did not set these expectations alone, a master’s student suggested more collaboration with faculty in that “more clearly defined expectations for TAs need to be defined between TAs, departments, and professors” (exit survey).

Graduate students struggled with trying to adequately address the concerns of their students, while still meeting departmental expectations. When departments made curriculum decisions that were disliked by students, graduate students who were teaching these courses or tutorials struggled to find a balance. For example, a department combined practical project-based and theoretical thesis-based students in the same methods course and required that a specific analysis software was taught, but “there are two [softwares]…[one] is more social scientist and one is more sciences part and [the practical students] are not happy using [sciences software] … they’re not going to use this [in their work] and [that software] is a very complex program” (GS13). As a result, the graduate student was stuck in the middle with students who “are not happy – they are angry.” He faced a curriculum he could not change, where “the usual solution to this problem is to [have the social science program] class for these people but department didn’t do that … and … as a student, I cannot solve this problem.” Even when the graduate student could not fix the problem by requesting a change through the department, he still tried to do what was beneficial for his students. “I just modified this problem in my tutorial, I won’t talk so much about [science program]. I said: ‘Ok, so this is the [science] program but don’t worry about it. Here is the output, let’s talk about the concepts’” (GS13).
Overall, departments had several avenues for supporting graduate students directly through communication channels. Through recognition of teaching as valuable, clarity when communicating expectations, and a willingness to shift policies when concerns were raised, departments could directly support graduate students’ teaching.

**Collaboration of Departments and Institution-Wide Units**

Departments can further support their graduate students through collaboration to offer or advertise formal programming. The simplest form of collaboration for departments involves partnering with institution-wide units to pass on information about their programming and resources. Faculties and schools provided avenues for advertising through their graduate studies offices, the second most common source of institution-wide programming information, and through listserv emails (Mary). Although such email listservs were “really convenient” they were also problematic because graduate students “get bombarded with so much stuff that a lot of people just look at it and they just gloss over it and they ignore it” (GS12). In place of additional emails, graduate students wanted departments to collaborate more with teaching support units (n = 13) by “work[ing] more closely with the teaching center to provide students with relevant information” (master’s student; student services survey). Graduate students also wanted their departments to “advertis[e] [teaching support centre] workshops” (master’s student), “encourage[e] and/or require[e] attendance at [teaching support centre] workshops and courses” (doctoral student), “make the certificate prg a prerequisite for both faculty and students” (doctoral student), and have "more material directing students to the [teaching support centre]” (doctoral student; student services survey). The issues with emails being ignored could be addressed by “having people within Faculties push it … or even having people formally go in and talk to students at some point during the semester. It doesn’t necessarily have to be right at
the beginning ‘cause like people are so overwhelmed right away, but going in at some point and saying like: ‘Here are some resources that are available’” (GS12). The timing of initial training in September might also be problematic as “at least in my Faculty they don’t announce the TAs until well after that and for a lot of people, they don’t realize that <TD Day> exists and that it would be useful” (GS12).

In some departments “we were mandated to go to … the <teaching support centre> TA training seminars” (GS3), or “when I received the offer they said: ‘we’d like every one of our TAs to go’ … and so they asked me to register and follow that.” Sometimes, graduate students felt that the expectation of participation was implied when “it’s kind of expected … so I went to TA day … the admin person in my department would email and say ‘this is orientation week agenda’ and part of the agenda was TD Day” (GS5). The resulting engagement in institution-wide programming could lead to further participation “because it was really good and then this year I went just because I wanted to” (GS5). However this strategy could backfire if programming was not appropriate and graduate students left workshops mid-way because they did not “see the relevance” based on their level of experience at that time (GS3). Thus graduate students’ motivation and awareness, as well as session timing and relevance, determined whether or not the participation resulting from successful communication was itself supportive.

Faculties and departments were encouraged to share responsibility for teaching support with institution-wide units as “Teaching development should be supported at both” levels, according to the 33.2% of respondents who strongly agreed on the 1-7 scale ($M = 5.51$, $SD = 1.475$; student services survey). On the teaching support centre’s side, master’s students recommended that the centre could improve its support by “working together with departments,” having “greater visibility within the faculty,” “do[ing] outreach … com[ing] to our department,”
and “providing marking and teaching workshops in my Department at the start of the semester” (student services survey). Doctoral students similarly recommended that the teaching support centre “work more with and within individual departments,” “work with departments to create discipline-specific workshops/programs provided through the departments,” and “have seminars directed at one dept only once in a while such that faculty and students share stories that relate to the same field together” (student services survey). Although individual faculty members participated in institution-wide teaching events, department-level engagement or encouragement for such participation was limited: “when they hold the big half day workshops … people from the Faculty will show up, but … you see … the same few select pockets of people that would just show up there but no coordinated effort at the Faculty level” (GS1).

Institution-wide units on campus did collaborate with departments and other institution-wide units. For example, according to Linda, “we’ve had a partnership with various places, various departments and units to deliver… training for many years” including the teaching support centre and also make referrals to one another. However, such collaboration was not consistently ongoing as there were “ebbs and flows in terms of the relationships that the departments have with each other” (Linda). To strengthen such relationships, communication and collaboration among units was important “to let people know how we can help the clients that they are seeing” and for graduate students to benefit in general (Linda).

Thus departments supported graduate students’ teaching through their own communication with graduate students and through being a communication pathway and collaborative partner in programming. Further communication and collaboration were recommended.

11 When reporting quotes, I elected not to pinpoint or correct spelling or grammar errors in written survey comments.
Course

“TAing” a course involves interacting with course instructors, lab coordinators, teaching assistant coordinators, heads TAs, fellow teaching assistants, and of course students. Each course’s multitude of individuals provides the opportunity for rich conversations to support graduate students’ growth in teaching experience, as well as the risk of miscommunication around expectations and policies.

Communication with Instructor

Across both surveys, graduate students were very concerned with understanding their roles and responsibilities, particularly what was expected of them as teaching assistants. They wanted better communication with and support from course instructors (n = 56), guidelines or greater clarity regarding marking (n = 24), better organization of course by the instructor (n =14), and greater clarity about expectations, role, and responsibilities (n = 26) (exit survey). Their exit survey comments spoke to a need for change; for example, “more clearly defined expectations for TAs need to be defined between TAs, departments, and professors” (master’s student), with problematic experiences fueling such comments as “course instructors [were] very unorganized and not very helpful” (master’s student). Similarly, the student services survey revealed that graduate students still wanted more communication about expectations, including “more background on the labs we will be teaching, with a clearer outline of what TA's should do in pre-lab talks (since I have found this to be fairly inconsistent between TA's in each lab section)” (doctoral student). When graduate students were asked to guest lecture by professors, very little information was initially offered for “all the responsibility is yours and just to it … it’s very challenging” so the advice GS13 gave was to follow up with the course instructor, “if you can talk to the prof … how many hours…what’s the procedure for the whole course … look on
previous slides … know your audience” for it “really helps to tell me what we have done in other classes … if the class is more lecture… more discussion – I have to know” (GS13). However, course instructors were busy, and “lots of times the reason for asking for guest lecture is because they are busy with something else. They don’t want to spend three hours just to orient you. If they can’t do it, they won’t do it” (GS13).

Graduate students experienced varying levels of support across courses. The instructor could be a source of answers, including when “The instructor was helpful in terms of … the bigger decision making and the permission of okay can they do this? and … the more technical issues like when [students] would ask questions about the actual subject matter” (GS1). Teaching assistants could also ask questions of course instructors and course coordinators. Whom graduate students asked was “depending on the nature of the question” (Robert). The support provided was informational and specific as these supportive individuals in the course did “provide some guidance to TAs … if this is the kind of question you get [from students], then here’s a generic answer. If it’s more complicated than that, then feel free to come back and ask us” (Robert). Instructors also held more informal brainstorming conversations where “we would sit down with the prof and … would throw out some ideas … Or the prof would ask for some input: how could we change this assignment or how could we change this lab” (GS1). Having a “very open minded” professor and being “able to have that open dialogue with the prof” was valuable and allowed the interviewed master’s student to have “suggested to the prof last year is to have different ways … of assessing … different assignments” (GS4). Regular TA meetings (n = 7) were important for communication and covering information in advance of teaching with the recommendation that departments “encourage professors with TAs to meet with them more
regularly and to review teaching strategies as a group” (master’s student, student services survey).

The most common theme of the student services survey responses with respect to courses (n = 19) centered on support and expectations from course instructors and course coordinators. When instructors were unprepared, there was a cost to the teaching assistants’ experience, such as when “professor unprepared for course, poor planning for labs and report requirements - professor abusing position by requiring extra time to be spent due to his lack of preparation” (student services survey). When there was limited support from course instructors, one graduate student turned to her peers:

i was TAing courses that I do not have strong background knowledge in, also the professor of the course i was TAing assumed that we had background knowledge and was condescending when i asked for clarification, or asked him to provide solutions to things I was marking, he said that the material was easy and i shouldn't have a problem coming up with my own solutions. for lab demonstrations i had to rely on other TAs to show me how to run the lab before the students arrived. As well, I TA'd the same course two years in a row, so the second time around it was much easier as the material did not change. … Since I was the only returning TA i became the one who all the other TAs turned to when they had questions and problems which was more responsibility than I had anticipated when i agreed to TA the course. (doctoral student, student services survey)

Other graduate students similarly spoke to or hinted at a pressure from instructors to exceed their expected work commitments when noting “Instructors requiring more hours than are in the TA contract” and “Excessively overworked as a t.A. Especially for advisor's class” (student services survey). Unexpected costs and lower pay were raised by the graduate student who requested standard rules and a complaint process as “Some professor charge students for books for their course (should not happen) make students mark final exams (also shouldn't) … Many were also offered less money then they were given” (student services survey). The pressure, however, might be more complex than just the fault of the instructor even when working up to 30 rather
than 10 hours a week as “the whole situation drags you. … when somebody comes to your office and asks … a question. It’s a little hard to say no. It’s because you’re a human being” especially when teaching graduate students or individuals within small departments where you “interact with each other and … You lived with these people – kind of” (GS13). The challenge thus was to “manage this kind of relationship with these people … sometimes … maybe you have to work lots of time because you have to mark. But overall, be careful about the time” (GS13).

When marking papers in a course, graduate students faced isolation as “There’s a sense of being disconnected, I think that’s a challenge. The sense of not knowing if what you’re doing stacks up to what other people are doing” (Elizabeth). Communication or more precisely “no communication with professor” and “lack of clear definition of responsibilities of TA and professor,” and lack of guidelines were points of concern (student services survey). When faced with the task of working directly with students or providing grades, three graduate students were concerned about “lack of … guidelines” including about how to deal with students’ demands (student services survey). Lack of clear expectations also raised some academic integrity and bias concerns when respondents commented: “indifferene of academic dishonesty and a lack of marks being able to reflect the amount of work a student did (needing to have a high class average and arbitrarily assigning marks)”; and “Since the students are also my class-mates, I'm never sure what counts as work (and shuld be reported) and what is just helping a fiend” (student services survey). For those graduate students who received guidelines, there could be a challenge when these guidelines were incongruent with personal values or perhaps the rationale was not clearly explained. For example, two students noted: “I was told to mark a certain way by the course co-ordinator, and sometimes students didn't get the marks they deserved”; and “I do not think it benefits the students who tried that there is an average that I must meet while marking. It
means that everyone does fairly well even if they should have failed the assignment” (student services survey).

Limited communication between an instructor and graduate students might lead to incongruent understanding of course regulations and inconsistent student learning experiences, as was illustrated by a doctoral student’s experience as a TA:

I found that the prof had very specific ideas about providing extensions for students - she said absolutely not. I was responsible for 50 of the 200 students that were on the course - there were 4 other TAs. I followed directions and did not give my students extensions (I sent an e-mail to the Prof in order to make sure that the policy was still in place before denying my students extensions-the professor confirmed that no extensions were to be given under any circumstances). When I attended the next class I learned that the other TAs had provided extensions for their students. My students had been penalized while the others had not. I got no support from my prof nor anyone else. I refused any further TA positions as a result. (student services survey)

Similarly, “the prof would give extensions without necessarily informing, … [and] the class lists weren’t always up to date … So I’d think I had all the papers … and then I would get two or three … [just] before it’s due … 18-20 pages long” (GS5). Thus course instructors were supportive when they provided clear guidelines, while being sources of stress when graduate students were left uncertain and frustrated.

**Head and Fellow TAs**

Fellow TAs were another source of knowledge and encouragement as “the TAs, we kind of talk amongst ourselves. Because my tutorial is on Fridays, … I get the whole week worth of feedback. So it’s very useful” (GS10). Although helpful, head TAs were often busy, as “The head TA was available … was good with email … and he was supportive, but he was also an upper-year PhD student and he spent most of his time … doing field work … So he was a little distant sometimes and we were kept out of the loop a little bit” (GS6). Despite the potential
benefits, the community of TAs was not always beneficial and could set a negative tone for the teaching experience. For example,

there was a head-TA .. [and] a group of TAs … and from the top down, I sensed a certain amount of cynicism again about the students … there was a fair amount of like making fun … behind closed doors … of different things that students had said and sort of viewing everybody as kind of ‘mark-hungry’ lazy kind of people who are a bit of a nuisance. (GS3)

The result was an educational environment that “probably impacted how I graded … caught between … need[ing] to achieve a consistent mean with the other TAs … [and] also wanting to feel like I would create the minimum amount of fuss” (GS3).

Some classes had TA Coordinators, who could provide resources, answer questions, and facilitate TA conversations such as through “a discussion forum on <learning management system> that we shoot questions back and forth” (GS10) and “the TA coordinator is really good. She emails out week-by-week activities that we can do and the class is laid out on <learning management system>” (GS10).

Communication with Students

Graduate students were concerned about being “the middleman between students and the professor … you get sort of pulled” (GS7). Courses varied in the level of authority (or confirmation) received: “Some courses have … innovative policies to discourage students from frivolously just scrounging for points wherever they can get them. I’m not sure that we had policies like that” (GS3). In some cases, “professors were … more hands-off … with grading … We were able to take a few graded papers to him and say: ‘Am I doing it right?’ and he’d sort of sign-off on that” (GS6). In contrast, “in other courses … the PhD students … told me that the prof … would sit there with every paper, … briefly … looked at their comments – and sign-off on the grading and say: ‘Ok, this is fine.’ So that when the students came to complai[n they] could say: ‘Well, the prof signed-off on it’ and we didn’t have that … oversight” (GS6).
Graduate students cared about their students and followed their progress. When one graduate student noticed that one of her students was absent from tutorial and not picking up assignments, she reached out to that student by email (GS7). She also invited the student to talk about the assignment when she saw the student in tutorial, but the student did not stay to talk (GS7). The graduate student continued to try to reach out and once she had identified a real concern she facilitated communication between the student and the course instructor, stepping out of the middleman space:

I emailed her … ‘Do you want to meet to talk about this assignment?’ … we ended up meeting and … I [said] ‘You don’t have to tell me … what is going on … but if there is something … that has prevented you from handing in the assignment you can either go talk to the professor and if you’re not … comfortable … there’s counseling services … she was getting counseling for already … and I would have liked to have been able to say you know: “Ok, let’s work out a deal where you can hand in the assignment” … [but] I have to hand those things off to the professor … I ended up emailing the professor and saying this is the situation with the student, I think she’s going to come talk to you but just so you’re aware this is going on. And so luckily, the professor is very understanding and was able to handle it with the student … I was worried how the professor was going to help this student … It was just a challenge … sorting out how I was going to handle it and working with a student, working with the professor. (GS7)

Graduate students, such as GS7, made connections with their students and raised concerns about unfair exam questions with instructors because they cared and understood the students’ experiences. This graduate student, for example, “remember[ed] when I was a first-year student and also just looking at this class of first-year students, they just seemed … so scared about everything” (GS7). She was “sensitive to the fact that their marks are so important to them. Especially in … a first-year class” (GS7). She wanted fairness for her students who “not only are they getting the answer wrong because he’s taught them the wrong thing but just you know, they’re going to go out into the world and carry this information with them” (GS7).
Part of the challenge was that “students cannot realize that we don’t have so much authority … [for example] they thought that I can change the time of tutorial. Actually, I can’t” (GS13). Indeed, he could only submit a request for such changes rather than make the changes himself. However, even when they cared, graduate students were limited in what they could do as decisions, such as deadlines, were made by the course instructor or department (GS13). When they were not able to make changes on their own, they made requests, and when such conversations failed, they “just got to let it go ’cause I, you know, it’s not worth … pissing [the instructor] off ’cause I have to work with him for the rest of the semester” (GS7).

Reducing the impact of being stuck as the middleman involved better communication with students and with the professor. To start with, graduate students were recommended to be honest with their students about their limited power and about their enthusiasm for the topic. “Just try to clarify your position … ‘Ok guys, I don’t have so much power.’ [but] It’s not very easy to do it” (GS13). “I admitted to them at the beginning: Look this is my first year teaching … I’m as nervous as you are. This is probably the first tutorial you’ve ever been in … we’re gonna have a learning experience together” (GS6). Open communication was seen to benefit both the graduate student and the students being taught as “I think just being able to come out with that and be honest about that was helpful to me ’cause they knew I wasn’t going to try to be something I wasn’t and I set realistic standards” (GS6). Communicating relevance and enthusiasm when teaching was essential, such as by asking oneself “How to make it relevant to them … how does it sit in relation to other ideas?” (GS9) and by being “genuine because if they … do something that is artificial … the students will pick up on it … ‘look at this person in the front of the room. They’re not interested in the subject … Why should I care?’” (GS9). In contrast, when “we come at them with genuine interest in our field … they say: ‘Oh, that
instructor really cares about this and he’s making it interesting. This is genuine.’ And the students feed off that” (GS9).

Communication with students about the pace of content could also reduce any disconnects between lecture and tutorials to minimize the impact of poor communication with the course instructor. One graduate student teaching assistant (GS6) talked to his students “from the very beginning” and told them that he “wouldn’t be attending lectures … [so] if I say anything that contradicts what the professor says, please let me know ’cause I want to make sure we’re on the same page.” When differences did arise, they were “always very, very minor things like a date for something or how he defined something … I’d say like, what did he say about this in the lecture, yeah” (GS6). This graduate student also based the format of the session on the information he received from students about the lecture: “please fill me in so that I can structure our lecture today around that” (GS6).

Graduate students faced additional challenges when trying to communicate with students, especially in “large classes [with] fairly minimal personalized contact” and “incredibly repetitive and dull exercise of assessing the students that often left very, very little room for creative thought or variation on how students would answer” even though “there are always some who stand out or maybe people who seek extra help or with whom you form a bit more of a bond but there wasn’t a lot of intrinsically satisfying sort of work” and there was limited communication with students (GS3). Roles such as guest lecturer further muddied students’ perceptions as “when I’m TAing and … the prof is there, people look at you different when you … lecture … suddenly the expectation changes … they just treat you as a prof … it was surprising for me how fast people can change” (GS13).
Overall, the multitude of individuals involved in a course made clear communication a challenge among the primary relational triad of course instructor, graduate students, and students. Complicating potential communication and collaborations was lack of clarity about roles, disconnect in sections of the course, limits of responsibility without clear process or oversight, and the risk of unfairness and biased views of students being perpetuated. Despite these quagmires, graduate students were able to draw some support for their teaching from course instructors, peers, and students.

**Faculty and Staff**

Some supportive individuals became known as the person to go to for information in their department and, as a result, “get a lot of people in my office asking for advice” particularly about where supports are located for the institution-wide learning management system. However, relying on just a few people might indicate that a “network seems to be lacking” (Mary). To address such concerns, graduate students and supportive individuals suggested greater collaboration of supportive individuals teaching courses with institution-wide groups.

“Communication between course instructors/lab coordinators is a critical component for adequate prep. The quality of this varied considerably among courses” (master’s student, exit survey). However, such communication was not the norm as “there’s lots of people who like teaching but they keep it to themselves” (John).

When graduate students taught courses, communication with experienced fellow instructors, particularly those teaching sections of the same course or who were previous instructors of that course, was advised: “talk to the other instructors, … get resources and try [to] work together … that helps a lot because you can make use of their experience and you’re not reinventing” (GS2). However, such support was not experienced by some graduate students as:
there were two sections offered … I never really talked with the other instructor, only to set a test or something … there was support in that the work was spread out among everyone involved but … I don’t think that really had much of an effect on how I taught … in terms of developing my teaching, support … wasn’t there, at least not on the surface. (GS9)

Departmental faculty and staff collaboration with institution-wide units was important for communicating resources and knowledge to the ever-changing graduate student population. Awareness of programming would be improved by “having like faculty maybe push, say: ‘These are the things available you should consider signing up for these courses’” (GS12). The teaching support centre should “wor[k] through profs, so profs manage their TA’s with knowledge of what support is available when needed. There are waves of new student TA's each year, and they have so many services available that it is confusing” (student services survey). Greater communication could also improve supportive individuals’ understanding of institution-level expectations and involvement in supporting graduate students. Unions and institution-wide committees set resources and policies that needed to be communicated so that supportive individuals knew, for example, “what the union expects us to do” (James). More faculty and staff might be willing to get involved but needed to be invited to take part in formal programming as “I don’t think people volunteer support to TAs because they’re not invited to do that” (Barbara).

Peers

When graduate students faced challenges, sharing ideas with peers could help. TAs teaching first year students could “talk amongst one another and develop strategies for … engaging the student, supporting them knowing that they’re with this transition group and learning from one another in teaching” (Barbara). Such communication was assumed to be a relatively untapped source of support by supportive individuals such as in her comment: “There are a lot of opportunities for that now but we probably aren’t picking up on those.”
Peers were a recognized source of support throughout the teaching process (see informal support from peers section in Chapter V) as “peer support is invaluable, knowing that you’re not alone” (GS12). These peers were sometimes fellow graduate students in the same research area, such as “a group … about five of us, masters, PhDs,” who shared lab space (GS12). Prior to teaching a class, they could help with knowledge preparation: “I know for me it’s going into the lab and saying like: ‘Here’s what I’m doing. Ask me questions … make sure that: … I considered all the options’ and people would like pepper me with questions which is really, really helpful to make sure that I really understand what’s going on” (GS12). More experienced peers could give advice, such as how to respond to students’ questions, especially when not sure of the answer through “teaching tricks [such as] …when somebody asks a question you don’t necessarily know the answer to or you’re trying to formulate it in your head like: How can I explain this well? You flip it back on the [students]” (GS12).

Fellow graduate students also provided support after the tutorial or class was over, particularly when it went poorly. “When things aren’t going well … we have people coming in and saying: ‘Aah, I’m overwhelmed with this’ and say ‘Ok, … what’s wrong. Let’s break it down. Let’s tackle this’” (GS12). Such debriefing in the office afterwards was beneficial as graduate students were “able to go into that room and say: ‘Here’s what happened today. It was the worst experience of my life’ and … having them talk you down … ‘what happened? … what actually happened? …. It’s ok. … what would you do different?’” (GS12).

The scope of peer support was not limited to preparing or debriefing individual classes; peers also provided encouragement and awareness of institution-level supports. For example,

One of the reasons why I knew about the <teaching support centre> was because I share my office with another PhD student and she did the teaching certificate … saying it’s a great experience. And then I was talking to a friend of mine in <department> who’d done the same thing and they were saying: “It’s really good.
It’s, you know… It helps you, like it’s a good experience.” And they both had positive experiences to say about it so when I heard about the <leadership development program>, I thought: “Well you know, I’ll try this out. See how it goes.” (GS12)

Overall, graduate students’ communication with their peers supported their teaching by sharing informational supports, providing feedback, developing teaching strategies, reducing isolation, and offering encouragement.

**Individual Level**

Isolation and the effects of a breakdown in communication could manifest at the individual level. Graduate students’ struggles were not always apparent or revealed to peers or supportive individuals. Even when a graduate student was “having a hard time … Apparently other people are able to do this because they’re walking around smiling and doing things and I feel terrible. I’ve got a lot of self-doubt … that just contributes more to the isolation” (Patricia).

The roots of isolation and other communication challenges appeared at the “macro level” as graduate students were more isolated than undergraduate students because “much more work is done individually than you would experience as an undergrad student where a bunch of people can get together and even if you are writing different papers in the end there’s that common experience of just more course work and sharing” (Patricia). Even when isolation was identified as a challenge, providing support was difficult as outreach “when it happens - if it happens - happens very differently than for undergrad students. It’s difficult … to find a common time when there aren’t other demands from their departments and so on” (Patricia). As macro layers could provide support, but could also create conflicting demands that hindered support, strengthening support through communication and collaboration did not reside at a single layer to address or rely on, but involved consideration of all contextual layers surrounding graduate students.
Overall, how groups and individuals collaborated with one another to support graduate students’ teaching and communicate their resources and needs across and within the social ecological layers combined to shape the experiences of supportive individuals, graduate students, and their students. Participants desired more collaboration between departments and the institution-wide teaching support centre when offering programming, and more communication to encourage participation in existing formal supports (GS12, student services survey, and Linda). Communication was important within each layer, such as clarifying expectations around marking among instructors, teaching assistants, and students who are part of the mesosystem of a course; Communication was additional important across layers when advertising resources and referring to policies. Challenges did occur when graduate students were caught in the middle between instructors and students (GS7), and information shared was inconsistent, incongruent with other sources’ messages, or absent.
Chapter VIII: Feedback

What I always tell my students is: … If there’s something that’s working well or something isn’t working, let me know immediately because then I can change that in the course while you’re still here. It’s no sense in you saying: “I don’t like the way you do this” and then the next group gets the benefit of that you guys lose out. (GS12)

Feedback about their teaching provided graduate students with the information they needed to identify what they were doing well and what they could change. Graduate students needed formative feedback as “once you get in the classroom, there’s nobody watching … it is hard to see what mistakes you’re making and if you’re not getting feedback from students regularly and interpreting that to change how you teach, it’s hard to improve sometimes” (Barbara). Feedback provided graduate students with the opportunity to get another perspective on their teaching and “getting this frame of reference … is perhaps helpful because now I can say: ‘Well, I thought it went well’ and … try to see it from [another’s] perspective” (GS9).

Formal supports, including the institution-wide programming described in Chapter V, were not enough. In raising the question of what was the purpose of being a TA, John argued that if it was just handling the marking for faculty, then the current approach was fine, but if TAs were actually going to be interacting with and helping students to learn, then “we have to do more than just … three hours of slides … they’re going to remember one or two ideas, at most. … it’s mostly the hands-on stuff … with feedback” that mattered. Feedback was necessary for graduate students to continue to improve as educators after the initial training was done as: “Learning to teach is progressive … there’s a whole lot … at the beginning and people won’t be good at some … how do they measure what they are doing? Get feedback … and improve through time” (Barbara). However, the length of graduate programs might pose a challenge because “if you’re a master’s student you might only be there for two years” (Barbara).
Given the value of such feedback, a lack of feedback was the greatest concern for 22.3% of graduate students serving as TAs (exit survey). Illustratively, one doctoral student TA stated he “never had one comment or feedback in 5 years, no idea if i¹² am a good teacher or a poor one” (exit survey). Even serving as a teaching fellow did not guarantee feedback, as one student indicated, “I have not received any feedback” before graduating (student services survey). Graduate teaching fellows’ most common concerns included marking and feedback support (14.9%), feedback on teaching (14.9%), general support (10.6%), and supervisor approval (4.3%). About one in five (19.1%) reported experiencing no challenges (student services survey).

Of the 363 graduate students who held TA roles in the student services survey, 283 responded to the open-ended question about feedback, with 14.5% of those reporting that they had received no feedback (n = 41) with comments such as “Have never received any feedback on my work as a TA” (doctoral student) or simply “none” (n = 5 for none in various capitalizations). An additional 22 reported very little feedback, or just scuttlebutt, such as “hearing positive feedback from other TAs in the course who received positive feedback about me from my/their students.”

The limited feedback was reported in several student services survey comments (n = 10) including “I have received no feedback on my work as a TA, other than a few students who thanked me at the end of the last lab” (doctoral student), and “I haven't yet, but I presume I'll speak directly with the classes prof” (master’s student). Graduate students expressed disappointment and loss due to not receiving feedback. One doctoral student (student services survey) was surprised to learn no feedback was collected at this institution because, at her undergraduate institution, institution-wide course evaluation forms “were filled out by students for BOTH the professor AND the T.A.'s. By the time I finished TAing, I realized they didn't

¹² When reporting quotes, I elected not to pinpoint or correct spelling or grammar errors in written survey comments.
have those forms here, and so I never got any feedback” as a TA. Another doctoral student similarly expressed regret as he “didn't receive any during my three semesters job, and would have wished to receive it.” A further seven graduate students reported in the student services survey having received “Very little feedback if any” or equivalent. Such limited feedback was viewed positively by a doctoral student who presumed that no feedback was good feedback: “We do not receive feedback as TAs in our department. I suppose if one was a bad TA we would most likely hear about it.”

About the same number of graduate students (n = 38; 14.4% of student services survey respondents) described having accessed multiple sources of feedback, including the master’s student who had “feedback forms from students (informal and formal); feedback form from instructor.” Another master’s student received feedback “from student-filled feedback forms from verbal communications with professors of course.” Feedback from multiple sources was also sought informally by a master’s student who “talked to some of the students and the professor.” Whether from multiple sources or a single source, the majority of graduate students received some form of feedback from institution-wide, departmental, course (including their students), and peer sources.

**Institution-Wide Feedback**

At the institutional level, this university provided graduate students with two options for institution-wide feedback: (a) feedback through the teaching support centre, and (b) feedback for courses they taught via the official course evaluation form that could be completed by students.

**Teaching Support Centre**

The student services survey revealed limited use of the teaching support centre by graduate students for feedback. The centre provided feedback support via a graduate course, an
evaluation form template, and observations as part of consultations. For example, the institution-wide course on university teaching and learning was one of several sources of feedback for one master’s student, but surprisingly not by doctoral students who were the main audience for this program (student services survey). The online sample evaluation form (GS9, GS11) provided by the teaching support centre was also used as a template by four students who completed the student services survey to get feedback from students: “Student feedback form designed based on an example form from the <teaching support centre>” (master’s student), or as a basis for creating their own form, as one master’s student “took the initiative to compile survey items from the <teaching support centre> to build my own evaluation, which the students submitted to the prof. I’ve had to 'chase' feedback; none is provided by default” (student services survey).

Graduate students also received feedback based on observations from <teaching support centre> staff (n =3) such as “in-class observation by consultant from <teaching support centre>; post-observation discussions with consultant from <teaching support centre>” (student services survey). In addition, the teaching support centre had a certificate program where graduate students “get feedback in one of the certificates” (GS7). Still this student thought the centre could do more. One possibility might be the “mock class” practice opportunity suggested by GS9. While one graduate student “would love to have … a professor or someone from the <teaching support centre> come in and … watch me do a tutorial,” she was concerned that “I’d probably prepare a lot more … cause I know I’d be evaluated … at least given feedback … and … would … make me really nervous…wouldn’t really be a good indication of what my teaching is … on a … normal tutorial” (GS7). The term evaluation could add stress as it “makes it sound really intense”; prefer “feedback” (GS12).

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University-Wide Course Evaluations

When graduate students responsible for teaching courses as a graduate teaching fellow were asked in the student services survey about the feedback they received, 18 of the 40 graduate students gained feedback through the institution-wide student evaluation forms completed for each course, as did GS9 among the interviewees. These end-of-term forms, however, were the sole source of feedback for 10 of the 18 (student services survey). Even when these forms were complemented by other sources (n = 8), their use as a source of feedback was still very prevalent (student services survey).

These institution-wide forms were not available for teaching assistants and, in response to concerns about limited access to feedback from other sources, graduate students called for an institutional-wide TA evaluation form rather than relying on individual graduate students to arrange their own feedback. Two master’s students (student services survey) noted “I initiated my own TA Evaluation form. I would really like to see a campus-wide TA Evaluation process (like <institution-wide course evaluation form>)” and “student surveys … is also a poorly organized resource, as individual TAs must find and distribute questionnaires to the undergraduates.” One exit survey respondent similarly suggested, “student evaluations should include evaluations of TAs as well” (doctoral student). “A uniform required questionnaire (like the professor ones) would be great” for at least one master’s student (student services survey).

TA Awards

Although feedback might be seen as useful to those who were teaching poorly, recognizing and confirming good approaches to teaching might provide equally valuable guidance. For four master’s students, TA awards were a source of feedback. For one of these students, being nominated for a TA award was her only source of feedback, so when asked about
the feedback she had received she wrote “never, except that the students nominated me for an award” (student services survey). Receiving a TA award could confirm that graduate students were teaching well, but relying on awards alone for feedback was limiting for one master’s student who won a “<University> TA Award. If I had done a bad job I feel like I wouldn't have heard anything back” (student services survey). Another concern raised about relying on TA awards was that “these awards are often not participated in by undergrads because of the amount of work needed to vote for TA's (and during exam period) ... i feel that this process of feedback needs revision” (master’s student, student services survey).

Culture of Formative Feedback

One potential challenge to acquiring such feedback was the institutional culture around formative feedback on teaching as:

mentors and peer assessment are ... really crucial to people strengthening their teaching capacity. And I was just speaking with somebody [who]... was a faculty member in another institution before coming here and he was like: “This is such a strange culture … people seem to take great offense at the idea that anybody would come into your classroom and evaluate your teaching … people take great pains to keep people out and teaching is seen as this really … autonomous activity. … Whereas where I was before … it was certainly very acceptable to have peers work with you to help you and offer you suggestions” ... there is the sense that people are in it on their own and I don’t think that there could be anything more damaging … to a person’s efforts than to feel like [they’re] on their own and there’s nothing available to help them … if we were able to ... re-frame teaching relationships and give them the permission to look to each other for support, I think the feeling of graduate teachers would improve and ... teaching would probably improve as well. (Linda)

Lack of colleague observation and feedback was separately raised by another supportive individual, who noted that, in this institution’s environment, “you can teach for 30 years. Doing the same thing ... never having a single person [do] an evaluation” (James). To improve this environment, “it would be great if profs started to say to somebody why don’t you come in and watch me teach and give me some kind of confidential, non-threatening feedback to help me
improve” (James). Barbara similarly called for teaching development to be seen as “not a failure or anything, but it’s got to be a learning continuum” (Barbara). This formative approach was encouraged by one supportive individual who “send[s] … doctoral students … to watch a colleague teach and write a little note to them … to start to see their job as making others better and learn how to be constructive … What was working well … what can be improved?” (John).

Departmental Sources of Feedback

When asked “how could your department better support your teaching development?” in the student services survey, the second most common graduate student response (after formal support) was for more feedback on their teaching (n = 27), particularly “more constructive feedback” (master’s students). Master’s students wanted departments to support teaching “by insisting that every TA for every course receives feedback of some kind from the students,” and for departments to “have better means for TA evaluation within courses” (student services survey). Doctoral students wanted “more feedback … from students and peers,” “feedback on my TA-ship from the supervisor (course coordinator) and the students,” and for the department to “collect feedback from my students about my TAing work” (student services survey).

Departments provided TA evaluation forms for at least one master’s student who “had students fill out a TA evaluation form from our department” (student services survey). However, at least one doctoral student did not perceive such departmental support as “Professional development as a teacher is not emphasized in our department, and initiatives taken by some graduate students, such as self-administered evaluations mid-way through a full-year course, have been prohibited” (student services survey). Feedback planned and facilitated by departments was greatly desired by graduate students as “We should really get feedback … just to know: Was I effective? Did … it not work? Why were people showing up? Why weren’t
they?” (GS8). Such feedback was possible. “Like in my old school … TAs and everyone would get their own evaluation ... [with] the questions ... determined by the department and the TAs got them back after the grades were all submitted” (GS8).

For at least one graduate student, departmental administrators were a source of feedback through “Individual consultation with Departmental Chair of Undergraduate Studies” (student services survey). Feedback from the chair was not constructive enough for at least one graduate interviewee when “the undergraduate chair said … ‘I thought you would have done better’ but at the same time … didn’t have a conversation about … ideas of how you could have done better”; as such, stating of an expectation without discussion of how to improve “certainly doesn’t help me develop my teaching. So you have to dig a bit” (GS9).

Every single department was recommended to have such a source of feedback in the form of “a faculty member responsible for TA development [who] ... should be going into classrooms where TAs are working, carry out an analysis of what they are seeing and give TAs feedback in a confidential, non-threatening manner” (James). The written report, as suggested in this interview, would be for the student alone and not shared with anyone else including the department chair. The reason for this confidentiality was for the feedback to be formative; it “is not ‘an evaluation’, it is something to assist them at improving.” This recommended use contradicted the view that formal TA evaluations could provide feedback for both individual and departmental use, as argued by one doctoral student who saw the purpose of formal TA evaluations as “ensur[ing] we receive student feedback and have information to include in our teaching portfolios. This would also provide the department with information about how the TAs are performing, if they should remain in that course, receive additional training, etc” (student services survey).
Feedback on teaching and teaching practice could also be an integral part of graduate studies where doctoral students could be prepared for teaching through embedded training such as “a M.Ed. joint degree” (John). Feedback, specifically multiple instances of feedback based on observations of opportunities to teach, was recommended, as graduate students needed “certainly much more than a one-term course on teaching ... by the time [they] teach their first undergraduate course … they should have taught at least 10 days of classes or 10 times with … feedback every single time” (John).

**Feedback Within a Course**

Graduate students wanted feedback from the students they taught, the course instructors, and their fellow TAs. The feedback would take the form of formal evaluations, observations of teaching, and informal discussions.

**Feedback from Students in Course**

The most common source of feedback for graduate TAs was students (n = 151; student services survey). Student feedback was valuable as students experienced multiple instances of a graduate student’s teaching, “because those are the people you interact with the most ... so it would be nice to see how you are doing” (GS8), and “because … they’ve seen me do tutorials for X number of weeks and can give me some feedback on that” (GS7). However, the quality of the feedback might not be constructive enough to support improvements in graduate students teaching as the feedback students gave one doctoral student “was all: ‘Great job!’ ‘Best TA ever!’ … And I know I’m not the best TA ever, so … more constructive criticism … they’re good ego boost but not critical” (GS7).

In terms of how graduate students received feedback from their students, formal written surveys (n = 101), including through “evaluation forms” or “TA evaluations,” were the most
frequent format (student services survey). Permission was sometimes needed from instructors and from fellow TAs to ask students for their feedback. When a course had a “standardized … approach” to the tutorials, “to administer a [midterm] TA evaluation … I had to talk to the prof and then she said: ‘If we’re doing it, then everybody has to do it, so the other TAs have to be on board with that’” (GS11). Fellow TAs could also help with student evaluations, such as “another TA can …[distribute evaluations] for you at the beginning of your session” (GS12).

Evaluations occurred in person, on paper, as well as online (n = 6 of the 101) through mechanisms such as “online course evaluation form” and “online surveys” (student services survey). One doctoral student noted that online TA evaluations allowed for students to “give their own comments.” One online source of feedback located outside the institution was the international “rateyourprof.com website” mentioned by a doctoral student as one of several sources of her feedback (student services survey). “And right now the TAs in this department also get feedback from the students that they teach. That's all on the <information tool> they have a chance to evaluate each of the TAs” (James).

Timing of the formal feedback varied with some feedback recommended as occurring at the “end-of-term” (or equivalent wording, n =16) and in the form of “course evaluations” and “class evaluations” (or equivalent wording, n = 6, student services survey). Other graduate students received mid-term feedback (n = 2; student services survey) including the doctoral student where “at midterm a feedback sheet was handed out during lecture.” Some students had both mid- and end-of-term feedback (n = 2; student services survey) like the doctoral student who “got feedback from students on two dates (half way through the semester and at end) through surveys.” Mid-term feedback provided an opportunity to improve during the semester while still teaching the same students; “I want to administer a TA evaluation at this time because
I want to figure out how can I improve at this point instead of after the course is already done” (GS11).

Students provided informal feedback directly to graduate students (n = 34, student services survey), such as “Directly from students in class” (master’s student) including by “verbal feedback from students” (doctoral student) and discussions. Graduate students also sought feedback informally (student services survey), including master’s students who “solicited informal feedback from students on the days I was responsible for teaching” and who “always ask them to comment and give me feedback and let me know if they want me to adjust my style to meet their needs.”

In directly requesting informal feedback, graduate students highlighted how providing feedback was valuable to the students as well:

I told my students at the very beginning: ‘Look, any suggestions or issues or concerns you have, do not hesitate to bring them to me or to email me or come to my office hours ’cause I want this to be as good an experience … as it can be for you.’ (GS6)

I give students the time to … just sit down and tell me what’s bothering them … today, I gave them about five, ten minutes … [after] they finished their assignment last Friday and I said just tell me what’s bothering you … they told me some really good feedback … by giving them that opportunity then they … take it out of their system and then they focus on the material so when we’re actually covering the content they would actually pay attention to what we’re teaching as opposed to having some lingering … negative emotions. (GS11)

In addition to informal feedback “face-to-face from students” (master’s student), graduate students also received feedback through the online learning platform and emails (n = 5, student services survey), for example, the master’s student who “received a verbal 'great class, that was a slam dunk' after teaching a class. I received verbal and email confirmation of good approaches to marking papers” (student services survey). However, gathering feedback informally might feel
less organized than formal evaluations, and even be felt to have been done “Haphazardly, from students directly” (master’s student, student services survey).

Similarly, most of the feedback graduate teaching fellows received (student services survey) came from students including “course evaluations” (n= 3) and “student evaluation” (n=6) or informal feedback (n = 6) “directly from students,” from “informal mid-term feedback” or during the year as “actively elicited feedback from students ... what did you like most/least.” Other suggested approaches for gaining feedback from students within a course included being videotaped then watching the “game tape,” as well as holding focus groups with students (John).

Four main challenges arose when relying on student feedback. The first challenge was response rate as “On line forms [were] filled out by some students” but not all students (doctoral student, student services survey). Even when informally asking students for feedback, there might be little response: “I asked them how I was doing … constructive criticism … and they didn’t seem to have any big complaints or … maybe they were just too scared” (GS8), even though this graduate student did not grade their work.

The second challenge was the design of constructive and useful questions as highlighted by the experiences of a doctoral student using “questions about how I treated them on a personal level ... Completely useless to me since it was based on subjective feelings - on how the student was feeling on the day they filled out the form” (student services survey). Similarly, a master’s student wrote “most students don't actually care, and if they do, comments are along the 'we want better marks' line” (student services survey).

The third challenge occurred when the student feedback was inconsistently collected and conveyed by course instructors. The feedback might not be given to graduate students, for example, “informal class surveys, which were not always passed along to the TA's” (master’s
student, student services survey), or when “The prof for … 3 of the courses I TAed recieved evaluations for the course and lab, but I didn't see them” (master’s student, student services survey). One doctoral student was left “to compile the [student feedback form] results myself, and it is not discussed with the teacher” (student services survey), while a master’s student noted “Students gave feedback through surveys arranged by the lab coordinator. Not standardized in any way. It would have been good if it was regular practice to go over feedback with the graduate coordinators” (student services survey).

Once graduate students received the feedback, there remained the fourth challenge of interpreting that feedback. One “piece of advice would definitely be: Don’t take it personally” (GS12). As this doctoral student explained:

the only feedback you’ll hear is from people who really love you and people who really hated you and that’s maybe like 10 percent of the class. The other 90 percent: … They just want their grade and they want to get out … being cognizant of that is important ’cause I think it is human nature … even if you got 90 percent positive feedback and then one person said that you were awful, you will dwell on that person who said you were a terrible TA and forget about all the other. (GS12)

However, negative comments were still useful as “Knowing what you do well can be as well, can be as useful - if not more useful – knowing what you do badly” (GS12). To draw out meaningful feedback from the mixture of students’ responses, this graduate student recommended distilling the feedback down by considering “Is it something that I can fix” and identifying possible themes based on individual comments such as “themes emerging from your feedback where somebody says maybe you mumble, maybe you talk too fast, maybe you don’t explain stuff clearly enough or you assume that they know way more than they do” (GS12). This student felt that once a teaching assistant identified a possible theme, he or she should check if other students shared that opinion based on “all of your feedback rather than like focusing on that
one negative person who said that you should never teach ’cause you’re too quiet and you’re introverted and whatever” (GS12).

The final step of using student feedback to improve one’s teaching was to change the teaching and re-evaluate in a cyclical process of review and revision that could seem like “definitely trial and error” (GS12) where one taught and got feedback: e.g., “The first time I taught I tried … to make jokes … my feedback … was: Stop making jokes. Which was really harsh but really good.” At that point, the graduate student modified his approach and taught again: e.g., “the next time I taught that course … I was very serious. And the feedback was: It was great but you could have made it … a little lighter.” Finally, the appropriate mix was reached: e.g., “I’ve now got to a point where … I can be serious but I can also make the occasional joke and it’s still relaxed but formal” (GS12).

**Feedback from Professor in Course**

Master’s and doctoral students reported receiving feedback from faculty and staff responsible for courses in which these graduate students acted as TAs. When asked about the feedback they had received (student services survey), they reported, “from course instructor” (master’s student), “from my professor” (master’s student), and “from the course coordinator” (doctoral student). Of the 70 students (student services survey) who said they received feedback from their professors, course instructors, and course coordinators, half (n = 35) received this feedback verbally. The feedback came as “verbal feedback from prof” (master’s student), “informal meeting with instructor” (master’s student), and “verbal communications with professors of course” (master’s student) along with other types of feedback.

Professors, course instructors, and coordinators also provided direct feedback based on a classroom observation. Eight graduate students (student services survey) reported opportunities
as part of their repertoire of feedback that included having “the professor come and observe my teaching for review” (doctoral student), “a coordinator observe my tutorial and give direct feedback” (master’s student), and “the course coordinator atten[d] my tutorials, and provid[e] feedback on the way in which I present material, manage the class, etc.” (doctoral student).

Having these and other feedback opportunities built into a teaching assistantship was part of a “large first year course, well designed” for one doctoral student, who was “observed in tutorials by the course coordinator (faculty member) or provided feedback and we got feedback from students on two dates (half way through the semester and at end) through surveys.” Other forms of evaluation experienced or suggested included observation and feedback on teaching as a “co-instructor” (student services survey), and the desire “to have been evaluated by other TAs and by supervisor in class” (master’s student, exit survey).

Feedback from faculty and staff in the role of professors, course coordinators, and course supervisors was sometimes problematic as it was either limited or inconsistent. First, limited feedback was not enough to satisfy some graduate students; at least one wanted “more in-class observation of teaching” (doctoral student, exit survey) with “More feedback (and not based on ten minutes of evaluation)” (doctoral student, student services survey). Graduate students also reported “Almost none from course leaders” (master’s student, student services survey) and receiving very limited feedback verbally as the “professor did not really give much feedback. Verbal acknowledgment that my marking was ok” (doctoral student, student services survey). Inconsistency across professors occurred with “positive verbal feedback from the professor in one case, and no feedback at all from the other” (master’s student, student services survey). The quality and quantity of feedback varied across courses and professors (n =11, student services survey) with having “only … one or 2 evaluations over the 5 years here as a TA” (master’s
student) or receiving feedback only in the “Second term from student evaluations the professor conducted. Nothing first term” for a doctoral student (student services survey).

However, quality of the feedback depended on the quality of the observation on which the feedback was based, according to one graduate student, who noted “My advisor only stopped in to watch my class for ten minutes during the year. How can any advice be constructive when it is based on what they did in ten minutes of the whole year?” (student services survey). Similarly, a course instructor “only provided feedback once. He only came in once … sat in at the very end of one of the tutorials and saw me doing what I do. He was there for like 15 or 20 minutes”; during this observation, this instructor “caught a mistake I made told me and said otherwise, I was doing fine and then didn’t come in anymore” (GS8). A potential explanation that faculty members’ motivation was at fault was offered by a master’s student who received “Limited feedback from disinterested profs; extensive and valuable feedback from interested ones” (student services survey). Agreeing with the general explanation of motivation but interpreting the challenge of motivation within the academic context, a potential explanation for the limited engagement of professors in giving feedback to graduate students was found in an interview with a supportive individual. Similarly acknowledging that quality feedback came from people who were “very interested in teaching and very interested at improving the teaching of others,” he highlighted that giving feedback for a TA was not a faculty member’s only responsibility as:

most profs if they have a TA working for them and they have a list of priorities from 1 to 10, the job the TA is doing for them is 10. It is probably the lowest priority of everything that they are doing and as a result the majority of them spend very very little time [giving feedback] ... Despite the fact that I think that if you are responsible for a course and teaching a course, you are obviously responsible for what the TA does in the course. (James)

Alternatively, the challenge might be the relationship between professors and their TAs, as a good relationship was necessary for feedback; “ensuring that the professor will actually attend
[and provide] mentoring and feedback … depend[ed] on the relationship you have with the professor” (Elizabeth).

Alternatively, the challenge might be due to the nature of graduate students’ duties, as some specific responsibilities within a course could present a challenge for receiving feedback. Lab demonstrators were significantly less likely to receive feedback in a (non-significant) model that examined several variables ($\beta = .619$, $S.E. = .233$, $p = .008$, $\chi^2(9) = 13.630$, $p = .136$, exit survey). Being lab demonstrators posed specific challenges to receiving observational feedback as their teaching occurred in a learning environment where distractions needed to be minimized for safety reasons and “they find [the observation of TAs] distracting and they don’t want to see someone hurt” (James). Observational feedback for lab TAs was possible through the “three lab coordinators [who] … also evaluate the TAs that work for them, assist them, help them develop presentation skills” (James).

Although teaching assignments heavy in grading might limit feedback on in-class interactions with students, course instructors could provide some, even if minor, feedback on grading, such as through “a system” of initial training with formative feedback; “when I first met with her, she showed me how she would mark a paper, then I would grade a paper, then we would grade one together” (GS5). Additional feedback followed: “then I graded all the papers, I’d hand them to her, she would go over them and then I would get feedback, and her feedback was: I’m consistent. That she agreed with my marking but that was it” (GS5). Feedback on teaching materials might also be possible and beneficial, as feedback “helps a lot …gives me lots of support, approval, and confidence” (GS13). This graduate student contrasted feedback for research with feedback for teaching. “Every time I want to go for a presentation, … my supervisor [says]: ‘Ok, this is good. This is not good’…When I … submit a paper, they read it”
In contrast, equivalent feedback was not available on teaching material: “But for the TAing – never happens … when I finish my slide or handout whatever I have written, I expect the prof just to read it and give me feedback … It never happened” (GS13).

**Feedback from Fellow TAs in the Course**

Within the course, peers serving as TAs in the same course were a potential source of feedback. Fellow TAs were a direct source of feedback with two doctoral students reporting “feedback from other TAs” and “in class evaluation by profs and other grad students” (student services survey). These peers were also an indirect source for a master’s student who heard “positive feedback from other TAs in the course who received positive feedback about me from my/their students” (student services survey). Such indirect feedback might be less professional, however, when taking the form of “other TA's gossiping with students about myself” (doctoral student, student services survey). More planned feedback from fellow TAs was requested as:

it might be less nerve racking … if there was a system [of] TAs giving feedback to each other … more systematically – so that there’s always two TAs in a tutorial … you’d go to their tutorials, they’d go to your tutorials and throughout the semester you can … help each other work through things … giving feedback on presentation style … [as] a silent observer in the room and … debriefing after each week or each tutorial. (GS7)

Head TAs, who were peers in the graduate program or senior graduate students, could also provide feedback; however, the quality of the feedback might not be sufficient. One doctoral student (student services survey) reported a negative experience whereby “in the first course I received feedback from a head TA ([course]) - terrible experience - feedback with no initial guidance! second and third courses got feedback directly from students (i.e. I just asked them).”
Peer and Faculty Mentors Providing Feedback

Graduate students received limited feedback from peers who were not fellow TAs, just “peer support/review peer feedback” or “In-Class evaluation by profs and grad students” (student services survey). They wanted feedback from peers, such as a:

system where … fellow students … in the same department who know … the material … and whether it’s being explained well … could just go to a class …, sit at the back, make some notes … what’s being done well, what isn’t and then give them feedback … People who want it can opt for it and get their feedback and then work with that for the rest of the semester. (GS12)

Still not all sources of peer support proved successful, as one student noted, “I made an unsuccessful attempt to get peer feedback through a Teaching Squares initiative that, unfortunately, never really got off the ground” (student services survey). In addition, the feedback needed to be ongoing through mechanisms such as “a TA mentor [who is] a fellow TA, but … it would need to be sort of a prolonged relationship” (GS7) because initial “feedback is helpful but if you don’t get more feedback on how you integrated the first round of feedback then … it doesn’t really go any further to improving your teaching. It just kind of hangs there in the air” (GS7).

Faculty advisors (n = 4) and faculty supervisors (n = 11 master’s students and 8 doctoral students) were an additional source of feedback for some graduate students (student services survey). These supervisors sometimes also had roles as professors in courses where the graduate students taught. In one case, “some teaching was done collaboratively” (master’s student), and, in another case, the supervisor was in the role of course instructor and denoted as “supervisor/instructor” (doctoral student). The feedback received from the faculty supervisor ranged from brief comments to more in-depth discussions. Brief feedback included the “Supervisor said I was doing well but no written feedback or feedback from students” (doctoral student, student services survey) and “My supervisor visited once and wrote me a quick couple
of encouraging sentences on a post-it note” (master’s student, student services survey). One graduate student experienced more in-depth discussion when “My supervisor talked to me after tutorials to go over the class” (student services survey). Research supervisors also provided opportunities for graduate students to guest lecture, be observed, and receive feedback. “I filled in for … my advisor’s class [pseudonym Chris] … and I went in there and I taught … this class – just one hour … I thought it went well. We left. I asked so: … ‘what did you think of that?’.” Afterwards as they were walking back to the department. Chris gave feedback verbally and later forwarded additional feedback based on students’ emailed comments about the guest lecture (GS9). Most of the feedback graduate students reported receiving came from verbal discussion with supervisors (n = 10), with some observations (n = 2), collaborative teaching (n = 2), and evaluations (n = 2).

Faculty members, who were not in a direct supervisory role as a research supervisor or course instructor, provided feedback in a department-appointed TA development role in at least one department and could in more departments if such appointed positions existed. “Hopefully you can get at least one person in a department who feels that TA training is particularly important” and would implement such training (James). If a graduate student had her wish, a faculty member would also be a “teaching mentor … whose teaching style I wanted to align myself with or who I would like to model myself after … [and] had teaching experience … in a number of different classes, … different years” (GS7). However, she noted such mentorship might not be “possible for all TAs just because there’s so many TAs and there’s only so many professors and there’s only so much time.” Mentorship support was also available from faculty located at the graduate students’ previous university, such as one who was “outside the
university”; however, “she’s not familiar with the practices of this university and just the culture of the university” (GS7).

**Individual Initiative**

Graduate students, particularly those with limited feedback options through the other levels, sought feedback on their own. Twenty-one of them (student services survey) explicitly reported self-directed or self-initiated sources of feedback, including the doctoral students who “created surveys,” “created an evaluation for the students to fill out,” and “put together my own evaluations for students to fill out.” Master’s students also reported seeking evaluations including one who “generated my own survey (I am trained as a social researcher) and administered it to my tutorial group.” They sought a mix of formal and informal feedback “from my supervising teachers; I asked that questions specific to my TA role be included on the <institution-wide course evaluation form>; I solicited informal feedback from students on the days I was responsible for teaching” (master’s student, student services survey). They further sought informal feedback when they “conducted informal formative feedback with students. What did you like most/least type of thing” and “asking students in person for their feedback” (master’s students, student services survey). A doctoral student similarly asked for formative “feedback from the students as the term progress. I do my own inquiries about my teaching skills” (student services survey).

Prior experience provided a background of formative feedback for some graduate students, such as by teaching an exam prep course and receiving feedback on that teaching, which provided “a lot of feedback in how to teach … they’d randomly … bring in the … teacher/trainer, who’d come in and watch you teach and then would tell you: ‘Here’s what you can do differently. Here’s how you can improve’” (GS12). Individual variation also occurred in
the usefulness of feedback received due in part to the person receiving the feedback, as “all the feedback … depends on the person who’s teaching … wants the feedback to begin with. If they don’t want the feedback, then … the whole thing is useless” (GS12).

**Sector Level**

Feedback was linked with graduate student support at the sector level in only one interview, where Barbara spoke of how skill development based on the provincial learning expectations required feedback and extended skill development beyond the provincial focus to teaching development:

UDLEs [Undergraduate Degree Level Expectations] and GDLEs [Graduate Degree Level Expectations] … That’s just the first step because then we would have to look at the curriculum and say: Where will people officially develop those skills? And they have an opportunity to get feedback on that and it would be similar to teaching skills. If we said that teaching skills were an important piece that we want a PhD student to graduate with the ability to feel comfortable working with a class in this capacity, where will they learn that? (Barbara)

Interviewed graduate students did not mention sector-level sources of feedback or any related sector-level resources or policies.

**Timing**

End-of-term and course evaluations were specifically cited as sources of feedback for students, but such feedback came later in the term; as one doctoral student shared, she “Ha[d] not yet received feedback, but will from evaluation forms at the end of the term” (student services survey). Delay in feedback left graduate students unsure of how well they were teaching. They thus came to rely on student actions for feedback. One graduate student, after being “worried at the beginning of the term … that they were going to look at me and say: ‘Well, what am I possibly going to learn from you?’” (GS6), was relieved by “the fact that they were willing to correspond [and] … come get help from me; I felt that I was doing something right” (GS6). Even
when graduate students requested feedback, a lack of policy stymied individual motivation becoming action, as one doctoral student reported how:

We wanted to solicit feedback from our students half way through but we were told that there was no policy so we were not allowed. I think for year long courses we should have some mechanism for collecting anonymous feedback from our students to help us improve. (student services survey)

Overall, graduate students received some feedback from students, peers, and course instructors. Institution-wide evaluations were valued by graduate students who were eligible as they were responsible for teaching a course; an equivalent system for teaching assistant evaluations was desired. Graduate students benefited when feedback was available and desired more feedback including institution-wide evaluations, longitudinal formative feedback, and feedback on teaching materials. When feedback was not provided, some graduate students sought out feedback informally by asking students in class or more formally by asking students to complete evaluation forms or faculty members to observe. Their efforts were either facilitated or hindered at higher layers, such as having sample forms available or perceiving that course or departmental policies prevented evaluation.
Chapter IX: Discussion

The experiences of graduate students captured in surveys and interviews, as well as the insights of interviewed faculty and staff, revealed the complex inter-relations across contextual layers of support. Graduate students were supported in their teaching through feedback as well as informational resources and mentorship that were provided by a myriad of formal programming and informal bolstering of confidence. The functioning and advertisement of these formal and informal supports were facilitated through communication and collaboration between supportive individuals and with graduate students. Four themes were identified and reported in depth: formal support, informal support, communication and collaboration, and feedback.

Formal support encompassed courses, certificate programs, workshop series, and handbooks at the institution level; and training, course resources, and other programming at the department level. Informal support took the form of conversations in offices and hallways with supportive individuals at institutional and departmental levels, peers, fellow TAs in a course, family, and friends. While formal supports are inherently planned, implemented, and monitored often through the process that creates the documents reviewed, informal supports take advantage of the layout of offices, proximity to experienced individuals, emails, and other conversational tools that are not always intended as sources of support for graduate students’ teaching. Formal supports tend to provide information about teaching strategies (scholarly or personal advice), policies, and procedures; and to facilitate practice and feedback. Such information may generate greater confidence, but it is often the informal conversations that provide encouragement, defusing of the worst class ever moments, and confidence to try. Information acquired in informal conversations appears focused on the immediate concern, while formal programming anticipates potential future challenges, which might explain some differences in perceived
applicability, as the potential future issue that formal programming seeks to address may not arise that term or at all.

Communication appears at first glance to mimic informal support. While there is overlap as most informal support occurs via conversations, informal support can include resources beyond conversations. In contrast, communication includes conveyance of ideas or values between units and not just conversations with graduate students. Communication was conceptualized in this research as the movement of ideas, information, and values within and between layers within a higher educational context, which, in the case of some informal supports, would include the movement of information between the peer layer and individual layer. Collaboration occurs when groups across layers or within layers co-create resources, jointly provide support, or plan together to improve congruence. The process or results of such collaborations at the sector and institution-wide level are captured in the visioning and policy documents studied, such as the report on teaching assistant training or the national documents calling for more intentional development of graduate students’ professional skills.

Feedback is the process by which educators, including graduate students, acquire information about the perceived quality and impact of their teaching. As feedback is based on individuals’ observations and experiences in the educational setting, students are the most common witnesses and feedback providers. In addition, graduate students seek out feedback from instructors of the course for which they are a TA, faculty members who are their supervisors or mentors, fellow TAs in the same course, and peers. Although graduate students teaching a course automatically receive feedback through the systematic institution-wide course evaluation process, graduate students serving as teaching assistants receive inconsistent access, no access, or only self-initiated access to feedback. Feedback, along with information about
teaching and mentorship, are direct avenues through which graduate students can acquire and modify their teaching skills and knowledge. These avenues are the result of the formal and informal supports created and connected via communication and collaboration. Thus themes of formal support, informal support, communication and collaboration, and feedback are not mutually exclusive themes. Rather they are interrelated components of the full mechanism through which graduate students are supported in their teaching (as sketched in Figure 9.1).

*Figure 9.1.* Sketch representing how formal support, informal support, communication and collaboration, and feedback are interrelated to provide a mechanism by which graduate students’ knowledge and skills can grow.

This mechanism of support starts with the graduate student, who is engaged in teaching based on interest or a funding package, who may or may not care much for teaching, and who
may or may not have experience. While in graduate school, graduate students seek to improve their teaching skills to at least survive and possibly to thrive. These educators aim to pull not only themselves but also their students upwards towards a higher quality educational experience. This movement upwards occurs through increased knowledge and skills of teaching in general and of one's own teaching gained through informational resources, feedback, mentorship, and other lines of pedagogical growth.

The movement of these lines upwards is powered by the rotation of a pulley encircled by layers of cogs. These rotating cogs are the multiple sources of formal and informal supports operating within a semi-organized machine. Organic, shifting, and with limited systematic planning, especially with informal support, the cogs may run in opposing directions slowing one another's progress, or run in synchrony to assist each other’s rotation. Connecting cogs that might otherwise be isolated are communication of ideas and values, and acts of collaboration that interweave between all of the cogs (although depicted in Figure 9.1 in a sparser manner for aesthetic reasons). Supports at multiple levels may appear to act independently but operate as a result of the exchange of ideas, the sharing of resources, and the recruiting of talents across layers.

Key Findings

Four key findings echo across the datasets and themes that expand on what was previously understood in the literature about graduate students’ teaching to encompass the complexity witnessed through this mixed-method research.

Formal Supports Are Only Part of the Mechanism

Formal supports feature prominently in the literature on graduate students’ teaching and professional development, including descriptions of departmental training (Walstad & Becker,
2010), evaluation forms (Smith, 2001; Walstad & Becker, 2010), courses (Marincovich et al., 1998), and certificate programs (Tice, Featherstone, & Johnson, 1998). Interviews with faculty and staff as well as survey items similarly focused on formal programming including departmental training, course-based TA training, institution-wide courses, workshops, and evaluations. However, formal resources and programming are not the only sources of support for graduate students’ teaching. In contrast to faculty and staff, graduate students’ open-ended comments and their interviews also revealed a range of informal support from peers, family, fellow TAs in the same course, faculty mentors, research supervisors, and other supportive individuals. The most common sources of informal support were faculty members and peers, which were mentioned by every single interviewed graduate student (13 of 13 for either faculty, peers, or both); in comparison, formal course support was mentioned by 12 of the 13.

Informal support might in part explain the success of graduate students who are not accessing any or only minimal formal programming. Awareness and engagement in such formal programming generally hovers around just two-thirds to three-quarters of graduate students with 60% aware of one certificate program (Barrington, 2001) and engagement in workshops, scaffolded roles, and training courses reported at 66.9%, 64.0%, and 73.6% respectively (Golde & Dore, 2001, 2004). The present research found a similar percentage with 79.7% of graduate students receiving some training (0 – 3 hours or more) and 63.0% being aware of institution-wide programming. However, only 18.5% of graduate students reported using these institution-wide programs. A relationship was also found between graduate students’ disciplinary group, their involvement in teaching assistantships, and their awareness levels. Soft pure graduate students were more aware of formal supports such as certificates, workshops, and TA day, and held more teaching assistantship and graduate teaching fellow roles. Graduate students’
disciplinary group, involvement in teaching, and awareness were all inter-related in these data, similar to relations among discipline, opportunities to teach, and levels of preparedness and training found in Golde and Dore’s (2004) comparison of English and Chemistry departments. Future research is needed to disentangle whether the strongest connection with awareness is disciplinary or teaching role based. If disciplinary, then departmental variation may be at play, whereas if teaching role is the strongest predictor of awareness, then individual motivation to access resources may explain the differences.

Graduate students spoke of both formal and informal supports as they sought to manage their teaching responsibilities and develop their skills. In addition, they drew support from feedback as well as from the communication channels and collaborations that improved the awareness and quality of formal supports. The importance of informal supports has been mostly absent from graduate teaching development literature with just some literature on peers and faculty serving as role models (Smith, 2001) and as faculty mentors (Gaia et al., 2003). Research on doctoral student dissertation completion has noted the benefits of conversations with peers in the same TA office (Wulff et al., 2004), as well as having examined the role of everyday conversations with faculty and senior graduate students (Lovitts, 2004), and the impact of friends and family (Sweitzer, 2009). Such findings may be applicable beyond dissertation completion.

**No Form of Support Operates Independently**

No type of graduate student support exists independently; rather each source of formal or informal support is interdependent with the other sources. In line with Bolman and Deal’s (2008) conclusion that no person or group acts in isolation within a university, across the contextual layers, sources of support benefited from collaborating and communicating with other sources to strengthen the quality of training, such as departments partnering with institution-wide units to
offer training (student services survey; Linda), and advertising other units’ available programming (Mary; student services survey). Improving informational resources and transference involved multiple sources of support across the institutional and departmental levels, as well as faculty, course, and peers who could inform and encourage graduate students to participate. Potential reasons for the limited impact of institutional and departmental training on graduate students’ teaching found in prior studies (Gardner & Jones, 2011; McCoy & Milkman, 2010; Russell, 2009) were highlighted by a graduate student’s experiences with seeking out knowledge about teaching and learning through a course and certificates yet being unable to apply it due to a supervisor, the latter being a course-level formal support.

Feedback was similarly dependent on multiple people, policies, and resources across the contextual layers that could interact by facilitating or hindering access to existing resources and the supportive individuals who might assist graduate students in gaining, interpreting, and applying feedback. With a section on feedback absent from the new teaching assistantship forms reviewed, feedback may be similarly absent from conversations between graduate students and the course instructors for whom they are working. Teaching fellows, in contrast, now benefit from feedback listed on this new (and first) teaching fellowship form, as well as from access to the institution-wide evaluation process. Students, as well as fellow TAs, course instructors, faculty members, and peers, were available to share their interpretations of how graduate students taught. When feedback was unavailable from one source (such as a course instructor), another source might be available.

Graduate students seeking feedback were, in at least one instance, feeling stymied by policies (student services survey) that might have been course-, department-, or institution-level. Variations in access to evaluations across departments and courses were further suggested by the
experiences of graduate students, with some having had access to automatic evaluations, while others had to seek out feedback on their own, and some received none. Graduate students’ expressed desire for institution-wide evaluation mechanisms in their survey responses, and the existence of a feedback section on current teaching fellow forms and past teaching assistant forms, suggests the important role of institutions in supporting graduate students’ experience. While Commander and colleagues (2000) highlighted the increasing role of institutions in improving teaching and graduate students’ preparation to teach, the institution studied in the current study showed only slight changes in policies (such as the teaching fellows form) that provided further supports to graduate students’ teaching. Such policy changes (or lack thereof) are important as institutions shape the teaching experiences and support available (Trowler & Bamber, 2005). Even if sector-level goals for improving the quality of education were to shape support for graduate students’ teaching, these sector-level reports and resources were not on the radar of graduate students and of only one faculty/staff member. Thus the level of supports, such as feedback that was available to graduate students, could not be determined by knowledge of a single source or layer, for layers below or above might aid or hinder graduate students’ access, motivation, and implementation of feedback. All types of support for graduate students’ teaching in general were determined through the multiple layers of sources of support, inter-connected (or disconnected) by communication and collaboration.

**Graduate Students and Supportive Individuals Can Feel Disconnected**

The good news of this dissertation is how graduate students benefit from a multitude of formal and informal supports, and the communication and collaboration amongst peers, faculty, students, course instructors, and other people (and units). However, the bad news is, despite access to such seminars, courses, experienced graduate students, mentors, training, websites, and
more, graduate students felt disconnected and isolated, thereby echoing prior research (e.g., Barrington, 2001; Lovitts, 2004). Similarly, supportive individuals working with graduate students felt isolated.

Graduate students felt confusion about what was expected of them in their teaching roles, ambiguity with their roles as instructors when teaching courses, and uncertainty regarding what content to cover (student services survey). Even with the relatively simple task of marking, graduate students were unsure about guidelines and how their marking compared to other colleagues (Elizabeth; student services survey). Similarly, regarding academic integrity and other regulations for which there might be policies, graduate students surveyed were uncertain. With limited decision-making power, they sought out clarification or changes by communicating with the course instructor, but were sometimes left just frustrated (student services survey) and in the dark (GS5; student services survey). Individuals’ struggles with self-doubt, while pretending that everything was okay, might further isolate graduate students (Patricia). Isolation was not limited to graduate students, as supportive individuals interviewed (such as Patricia) noted the lack of opportunities to discuss what supports existed and how to work together or make referrals to strengthen what was available.

Graduate students were able in some cases to take initiative to access feedback (student services survey); however, leaving support up to graduate students to seek out, create, or request could limit the support to those willing and able to take the self-initiative, including many surveyed who reported creating their own evaluations and seeking feedback from students and faculty. Still at least some graduate students might not feel they were allowed to ask for help nor that they could take such initiative (according to Barbara).
Additional online resources were requested. If such resources already existed, they were not easy to navigate or locate, according to interviewed graduate students. Departmental units were encouraged to play a greater role in collaborating with institution-wide units to advertise existing programming and to create new supports within the departments. The document analysis further suggests the potential for online resources to support graduate students’ growing knowledge of teaching strategies and advertise available programming. However, the communication value was reduced by broken links and inaccurate names that needed updating throughout the websites. Reviewed policies focused very little on the potential for online communication and the need for informative web resources.

Miscommunication further echoed within the layers of courses and departments as graduate students were left unsure of their responsibilities, confused about the pace of content and how to handle late assignments, tentative about their place as instructors within a department, puzzled about expectations, and generally uncertain as educators. Being placed as a middleman between students and course instructor or department further challenged students to communicate clearly to students and to course instructors in order to avoid further confusion and strain. Graduate students reported caring about their students and about the quality of educational assessment, but did not get to make the rules. When caught between students and course instructors, graduate students spoke to the instructor, and if that failed, they disengaged as graduate students were vulnerable in the power differential between course instructor and teaching assistant and could not risk angering the person upon whom they depended for their assistantship contract and funding.

When resources were needed, sessions went wrong, or questions arose, graduate students turned to fellow TAs, peers, supportive individuals who were known to know things, faculty
mentors, and others. These informal sources of support often took the form of a conversation and through such communication provided directions to formal supports or informational resources. The value of such scuttlebutt was previously highlighted by Lovitt’s (2004) research identifying the important information for graduate students to complete their studies, such as deadlines and strategies that peers and faculty shared in informal conversations. From around the world, journal authors and website writers offer advice, including access to scholarship on teaching and learning. However, little reference to sector-level policies, such as quality assurance (Smith, 2005) and accountability (Ryan & Fraser, 2010), was made by the graduate students in the current study.

Supportive individuals felt similarly disconnected with limited discussion among colleagues within the institution about graduate student support and resulting limited awareness of what was available, needed, and could be jointly created. One-off events brought people together briefly, but sustained conversations required more time and effort. The flow of knowledge was widespread between and across the contextual layers, but this knowledge was rarely intentionally scholarly-based and miscommunication (technologically, policy, procedural, busy-ness, or simply human error) further risked derailing access, engagement, and use of existing scholarly supports by graduate students.

**Even Well Laid Gears Need Regular Tuning**

A single workshop or orientation session is not enough for graduate students who want ongoing support. In speaking of the teaching support centre’s programming, graduate students appreciated the “many workshops” and the “constant training and retraining.” As teaching assistants, they continued to ask questions and seek information from their course instructors, coordinators, and fellow TAs as they prepared for tutorials or labs, debriefed, and graded papers.
Without this ongoing support, they were left to their own unsure decisions and felt “fed to the sharks” even when capable. Within departments’ teaching assistant assignments, graduate students desired fairness and wanted advancement and progression with assignments that drew on their skills and provided opportunities to develop further. When information was not sufficiently provided at the course, departmental, or institutional level, graduate students reached out to sector-level journals, conferences, books, and online resources.

Feedback can provide graduate students with the information they need to identify their strengths and their areas for improvement. Graduate students in the current study still relied primarily on feedback from their students as previously found (Walstad & Becker, 2010; Wulff et al., 2004). Some graduate students surveyed reported feedback from several sources, which would allow them access to the useful but challenging divergent perspectives of course instructors and students (Cox et al., 2011; Tulane & Beckert, 2011). End-of-term feedback, although common (student services survey), left graduate students unsure of how well they were teaching during the term when they could have revised and improved had they known what to change. Some graduate students sought informal feedback from their students throughout the term, stating the benefit for the current students to share their insights and suggestions rather than waiting till the end (GS6, GS11, GS12).

Having access to initial feedback followed by the opportunity to implement that feedback in their teaching and to receive further feedback would be beneficial for graduate students but would require more longitudinal support. Graduate students desire and need such ongoing mentorship over a prolonged relationship (Linda, GS7), perhaps in an effort to access benefits such as self-reflection, awareness of teaching strategies, knowledge of good teaching practices, and confidence highlighted by Smith (2001), Gaia and colleagues (2003), and Bell et al. (2010)
in their research with TA and faculty mentors. However, concerns about time limiting access to mentors (GS7) echo general concerns about time pressure (Muzaka, 2009; Park, 2004).

Balancing of resources and pressure during planning is shaped by the value placed on activities such as teaching within the context of other demands and pressures (Park, 2004). Actions, publications, and comments by faculty members, departments, institutions, and sector-level journals communicated the extent to which teaching was valued and a worthy scholarly activity (GS1, student services survey). The value of teaching was also communicated through official formal supports, such as awards (Smith, 2001) and certificates (Barrington, 2001) that might be strengthened or made confusingly incongruent by informal comments by administrators and faculty members (Barrington, 2001; Wulff et al., 2004).

To improve over the length of their studies, graduate students needed support to be ongoing. Formal supports beyond the initial first year could provide continuing reminders of teaching strategies. Careful planning of assistantships could offer graduate students progressive opportunities to practice skills, along with longitudinal feedback supported by mentorship. Consistent or inconsistent institutional policies about the value of teaching as well as faculty and departmental messages form the cultural environment to which graduate students acculturate (Blanton & Stylianou, 2009; Trowler, 2005; Trowler & Bamber, 2005). In short, one single session at the start of graduate students’ two to six (plus) years of studies is not enough.

These findings have important implications for graduate student development planning, educational development initiatives, and research on graduate students and on support for teaching within higher education institutions.
Implications/Contributions

Argument for Broadening the View of Support beyond Formal Programming

Graduate students were supported in their success by a broad range of individual qualities, informal supports, and formal supports as suggested by prior research on supports for graduate student overall success (Franco-Zamudio, 2010; Lovitts, 2004; Lunceford, 2011; Smith, 2001; Wulff et al., 2004). Through the present research, a long list of both formal and informal supports was generated through interviews with graduate students and supportive faculty and staff, complemented by documents describing formal resources in depth. The comparatively simplified list of formal supports found on institution-wide webpages and in research about TA training and graduate student professional development (e.g., the 1998 edited book by Marincovich and colleagues) underreport the many informal supports and even some of the formal supports (e.g., head TAs) found in the present dissertation. Future research is needed to continue to add to the list of possible supports. Although the present study described many of the supports available at this institution, other institutional contexts likely have distinct, in addition to similar, supports. Research across multiple institutions could serve to further expand the list of supports for graduate students’ teaching as well as contextualize the institutional variability of these supports. Departmental or course-level comparisons would be similarly insightful.

Revisiting existing data from institutional surveys and prior published research would allow researchers and planning committees to identify informal supports mentioned within previously collected open-ended responses or qualitative datasets as was done for the survey datasets in the present study. If the previous focus of the research was on programming or other formal supports, informal supports might not have been reported nor coded as informal supports.
Relatedly, formal supports from departments and institutions might not have been interpreted within the context of multiple co-occurring informal supports.

Researchers may select a specific set of identified informal supports for more in-depth exploration, such as office space or graduate student-created online communities, as previously done for graduate students’ conversation or scuttlebutt (Lovitts, 2004). Such conversations were seen as a valuable informal source of encouragement, information, and feedback in this present research, suggesting the importance of future research on potentially marginalized groups who may lose access to such conversations (Lovitts, 2004), such as international students facing social distancing (Sato & Hodge, 2009), part-time students (Lovitts, 2004), or first generation students who have access to fewer graduate-degree-educated family members (Lunceford, 2011).

For supportive individuals working within committees, units, and departments tasked with planning, designing, or implementing supports for graduate students’ teaching, the present study shows the importance of considering both informal and formal supports, particularly the informal sources of information and resources available at the local course, peer, and faculty levels for addressing graduate students’ needs. This research also highlights how informal supports and individual circumstances may shape accessing of formal supports. By considering the availability of both informal and formal supports for graduate students, planning groups could better identify the mechanism for patterns such as lower-than-expected attendance at institution-wide programming. Such involvement might be due to graduate students’ needs being addressed more locally (e.g., GS10), a lack of awareness of resources (e.g., student services survey; GS8), priorities and competing demands (e.g., GS5), or a mismatch between offerings and current mundane responsibilities (e.g., GS3, GS5). For researchers and planning committees tasked with reporting on the state of support for graduate students’ teaching, this present study
provides a starting list for identifying existing and potential supports by highlighting both informal and formal sources of information, skills development, and encouragement.

**Argument for Broadening Support Coordination beyond a Single Unit or Layer**

Support for graduate students does not function through isolated pieces independent of each other. Their support occurs within universities, which are at their heart organizations. Such “organizations are complex. They are populated by people, whose behavior is notoriously hard to predict … almost anything can affect everything else in collective activity” (Bolman & Deal, 2008, p. 31). The social ecological framework proposed and implemented in the present dissertation allows for the layers to be named and sources of support at each layer to be identified, but these are not disconnected slices. Just as in Bronfenbrenner’s (1979) model, microsystems, mesosystems, and macrosystems all interact to shape learners’ educational experiences, including in higher education (Trowler, 2005). Changes at one level can improve or hinder support at another level. Institution-wide evaluations provided feedback to all graduate students teaching courses in every department and course; an equivalent system for teaching assistant feedback, as desired by surveyed graduate students, might similarly show benefits at other levels. However, the other levels need to be supportive through collaboration and communication. Although voluntary evaluation forms for teaching assistants existed, they were accessed only by a few graduate students (e.g., GS9, GS11). Limited awareness, poor communication, and lack of collaboration at the departmental or course level, appeared to be a barrier for at least one surveyed student. Future planning requires an understanding of these contextual layers to identify potential barriers, facilitate necessary communication, and create alignment through collaboration that recognizes that successful support requires coordination beyond a single unit or layer. Not only do educational developers need to understand the
disciplinary context in which they are working (Taylor, 2010); all policy makers need to consider the local and institutional context in which they are seeking to make changes and implement supportive initiatives. The framework allows for planners to identify and describe the sources of existing and potential supports in planning, and identify places of disconnection and breakdown in communication or collaboration.

The social ecological framework provides an approach for future research to continue trying to untangle the organizational threads (Bolman & Deal, 2008) enough to identify sources of support, disconnections between the sources, and areas needing further alignment to facilitate rather than hinder existing and new teaching and other academic initiatives. The framework allows patterns in a single type of support to be explored in depth, such as this research theme of feedback, as well as to highlight variations across layers within the same context or potentially to contrast departmental or institutional contexts (in future studies). Researchers could then map the identified similarities and incongruences to the relevant contextual layer and explore how these patterns impact individuals’ experiences and the quality of university education.

**Argument for Broadening Definition of Support Providers**

Prior research on support for graduate students has been completed from the perspectives of graduate or doctoral students (e.g., Barrington, 2001; Fagen & Suedkamp Wells, 2004), departmental chairs (Walstad & Becker, 2010), educational development program coordinators (e.g., Marincovich et al., 1998; Tice et al., 1998), and students (e.g., Cox et al., 2011). Committees writing reports, such as the teaching assistant training report, encompass educational developers, faculty members, administrators, staff, and graduate student representatives. However, support for graduate students’ teaching has generally been described in the literature as provided by teaching support units, other institution-wide units, and departments (e.g., Walstad
& Becker, 2010). Literature on graduate student completion and academic success includes support by peers through scuttlebutt (Lovitts, 2004) or social inclusion compared to marginalization (Sato & Hodge, 2009), and support from friends and family (Sweitzer, 2009).

This current research drew on the perspectives of current and past graduate students, supportive institution-wide and departmental faculty and staff, and document creators to describe the wide range of sources of support that allow graduate students to succeed or that they wish existed more consistently or at all. They drew on sector-level journals written by researchers and processed by editorial boards, institution-level programming offered by institution-wide units and facilitated by supportive individuals, resources created by faculty and staff, materials and answers from course instructors and fellow TAs, encouragement and ideas from peers, and feedback from students and much more. There were more teaching-related support providers identified through these surveys and interviews than previously listed in the literature. Graduate students were supported in their teaching and their development of teaching-related skills and knowledge by the wider community of scholarship of teaching and learning scholars, faculty at their current and past universities, staff members within their department and across the institution, educational developers of a teaching support centre, course instructors they assisted, fellow graduate students in their program or across the university interested in teaching, fellow teaching assistants in the same course, and the students they taught. By describing all of the individuals providing graduate students with support, this research provides the grounds for researchers to re-conceptualize the nature and scope of support for graduate students’ teaching.

With this new information, future studies can utilize a widened conception of supportive individuals when: planning recruitment for surveys, interviews, or observations; reviewing existing findings for literature reviews; and interpreting graduate students’ comments about
support. Institutions engaged in future planning around support could similarly broaden their scope of types of support and consideration of sources of support when identifying existing resources, gaps, and potential stakeholders.

**Argument for Support for Teaching as an Ongoing Progression Along a Continuum**

Initial support was useful before starting, including a teaching development day, course training, and departmental teaching assistant orientation. Graduate students, however, were seeking more than a single session on how to mark papers and how to teach. They informally sought out information from fellow TAs and peers when their formal supports did not provide enough clarity about expectations, strategies, and approaches to meet their need to succeed. In addition to the initial training, they wanted supports such as feedback and mentorship on an ongoing long-term basis to be able to apply newly gained knowledge and skills and to continue to refine these knowledge and skills throughout their studies. Support described in the literature on graduate student teaching tends to focus on a single course (Marincovich et al., 1998) or set of formal programs (Mintz, 1998) generally focused on specific competences (Goodlad, 1997) with limited consideration for graduate students’ progression through the supports. In essence, what has been missing in teaching development-specific literature is a program curriculum view for professional development and for growth as a scholarly teacher. Work on future faculty (e.g., Wulff et al., 2004) considers graduate students’ progression through their full academic program but focuses on a specific career path. To support graduate students currently completing studies and after graduation, future planners need to consider what supports are available to graduate students throughout their studies and how to make programming timely so scholarly formal supports are not just anticipating distant concerns, but also offering some of the just-in-time support currently provided by informal advice and Google searches that are not necessarily
evidence-based. Future research is needed to examine how the ongoing support requested by students in this study does and might operate, and what impact such a longitudinal view would have on graduate students’ teaching.

Research on assessment compares formative and summative use of assessment with the former involving the provision of information about one’s current performance (feedback) to support one’s learning and thereby improve later performance, while the latter uses the information to provide an evaluation of one’s ability up to that point with a focus on consistency (reliability) across individuals (Taras, 2005; William, 2000; William & Black, 2006). Formative assessment offers evaluative data that are most relevant to ongoing efforts to improve teaching and learning for faculty members (Theall & Franklin, 2010), suggesting that equivalent formative feedback for graduate students would offer similar teaching development benefits. For the feedback graduate students receive to be formative, the evaluations need to occur early enough for graduate students to be able to learn from the feedback and apply the changes; otherwise, it is summative. To support their development as educators, the most useful form of feedback would be the early and ongoing feedback requested and sought out by surveyed graduate students formally through self-initiated mid-term evaluations and informally through solicitations of students’ views of their teaching. Future educational development research is needed to examine how graduate students can and do receive such formative feedback, what types and sources of feedback are particularly beneficial, and when is the best timing to gather, interpret, and implement changes.

Longitudinal support involves a shift from considering isolated one-time supports as distinct entities to re-conceptualizing support as an ongoing process. Future reviews of literature and future research might identify whether the research on support is focused on such short-term
products or on the long-term process. The graduate students in this research considered what they learned and were able to use in their teaching from the formal programming and informal conversations experienced. For them, support was not over when the training session finished. Support was part of graduate students’ ongoing teaching experience as they strived to learn enough skills and knowledge about teaching to at least survive when “thrown into the fire” to teach a course (student services survey) or tutorial and later on learn enough to provide a good learning experience for their students. For example, GS12’s conversations with fellow graduate students occurred throughout the year, with suggestions before and following teaching sessions. Reviews of existing and future literature could similarly shift from assessing individual programs to examining the challenges, strategies, and impacts of embedding supportive opportunities and resources throughout graduate students’ studies. Future planning could benefit from identifying the supports available throughout graduate students’ teaching experience to identify gaps and strengths in existing offerings of information, feedback, and mentorship.

In several ways, these key findings and the four themes exemplify the four dimensions of development conceptualized by Blackmore (2009): inclusion, strategy, integration, and scholarship. Integration is the most relevant dimension, speaking of an approach that considers together the wide range of activities and people. This study’s aim of exploring all that supports graduate students, including informal and formal supports, sets the stage for research that considers all forms and sources of support experienced and then concludes that more exists than just formal support. The key finding of a need for coordination beyond a single layer or unit and the related theme of communication and collaboration highlights the value such integration can have for improved understanding that Blackmore proposes. Documents similarly reflect the
importance of communication in the existence of websites for faculty, graduate students, and instructors, and the proposed coordinator and reporting mechanisms of the sub-committee report.

While such integration identifies the depth of interconnections, Blackmore’s (2009) inclusion dimension characterizes the breadth of people engaged. Unlike prior research, this study interviews supportive individuals, notes the isolation of supportive individuals and graduate students alike, and extends the definition of support to encompass many sources not previously labeled as teaching support providers. However, this research’s narrow focus on graduate students’ teaching still defies the ideal of Blackmore’s (2009) version of inclusion that incorporates all academic activities.

Blackmore’s (2009) third characteristic of strategic development involves identifying central purposes and facilitating the learning necessary to reach those goals. The document analysis reveals goal statements linking support for graduate students’ teaching with their professional development, teaching contributions to institutions and undergraduate education, and benefits to the sector as trained personnel. Once goals such as these are identified in national reports and institutional senate policies, the question of what organizational, group, and individual learning is needed would arise. The documents and the themes of formal and informal support suggests existing and desired possibilities; however, communication and collaboration would be important for identifying options as well as disseminating up-to-date information about policies and resources.

The fourth dimension of scholarship encourages development to be scholarly-based and informed by existing theory, research, and knowledge of context (Blackmore, 2009). This dissertation serves future development endeavours related to graduate students’ teaching by providing a literature review and analysis of five data sources to identify existing and
recommended support within the context of one institution as a starting point. Although this dissertation aimed to examine what supports graduate students’ scholarly teaching, support for graduate students’ teaching does not appear to be focused on scholarly-based teaching nor to be explicitly rooted in a scholarly- or contextually-grounded process beyond examining existing practice within and across institutions in the sub-committee report.

Limitations and Directions for Future Research

Recruitment

As recruitment for this study was advertised to potential graduate student participants via the student association newsletter, graduate students who had limited communication channels and did not read this newsletter would not have seen the advertisement and would thus not be included in the study. Recruitment of faculty and staff was similarly narrow as it focused on individuals publicly reported to have provided institution-level formal support for graduate students’ teaching previously. Individuals not engaged in providing such support or not advertised as such were not included in this study. Whenever recruitment narrows the prospective sample, the resulting sample may have inherent features that differ from the wider population. For both graduate students and faculty and staff, individuals who were not already well connected to communication channels and were not collaborating with institution-wide units were not likely included in this sample. Future research could purposely identify and recruit individuals who are not accessing communication channels nor collaborating at the institutional level through recruitment strategies implemented at departmental or peer/faculty group levels to confirm or expand the themes identified in this current research.
**Lens/Levels Examined**

With the exclusion of departmental and course documents (as few were publicly available) and the limited number of sector documents in existence, the document analysis focused primarily on the institution documents. As a consequence, departmental-level variation could not be explored across documents. The departmental-level analysis was further restricted by the selection of just 4 departmental faculty and 13 graduate students for interviews. Furthermore, despite the list of over 50 programs in the exit survey, this study did not comprehensively gather such data from all departments. Interview recruitment tried to select one faculty or staff member from each of the four disciplinary categories and graduate students as equally as possible across these categories; however, graduate students were not selected or identified to be paired with faculty or staff from the same discipline. In most cases, graduate students had no faculty or staff member from their department in the study. Thus neither variation between graduate students’ and faculty members’ perspectives within a department, nor between departments could be studied in this research. Future research could recruit more departmental faculty and staff paired with graduate students of the same departments to examine such intra- and inter-departmental variation.

**Old data with new data**

The survey and interview sources spanned 15 years with exit survey data collected 1996-2005, student services survey responses gathered 2007-2008, and the interviews held 2011-2012. There may be concerns about grouping these four data sets within themes without detailed longitudinal analyses being reported due to resource and policy changes reflected in the documents analyzed. Longitudinal changes within the four themes (formal, informal, communication and collaboration, and feedback) were not reported as none existed. The only
noticeable difference was a shift in comments about a union, from a desire for a union to address workload concerns (exit survey) to confusion about its exact role and process (GS1, GS5, Mary, and James). Therefore, this limitation seems to have had minimal impact on the findings.

**Method**

Although multiple methods and participants were included in this research including interviews, surveys, and document analyses, all of these sources of data are inherently self-report. The interviews report the standpoints of the interviewed graduate student or faculty/staff member. Survey items were constructed from the frame of reference of faculty and staff on that research committee and completed from the point of view of graduate students. Documents were written by similar committees based on the interpretations of representative administrators, faculty, staff, undergraduate students, and graduate students on the committees, or drafted by faculty and staff working in units on campus. Future research could include observations to capture researchers’ perspectives.

**Concluding Reflection**

The research written within this document represents not only a study in pursuit of a doctorate, but also the opportunity to explore in depth the nature and meaning of efforts to support graduate students’ teaching. For the last five years, I have worked with colleagues to create formal supports for graduate students while also being a graduate student myself. As I continue my career as an education developer within another higher education institution, I take with me the ability to tease apart the layers of support surrounding instructors and to identify how avenues of support such as feedback are facilitated and hindered within this complexity.

Many of my fellow graduate students enter and leave their studies with a superficial understanding of the policies, procedures, values, people, and resources that have shaped their
experiences. I am grateful for the opportunity to explore more deeply the mechanism within this context. I walk away with a commitment to draw on the lessons of the interconnectedness and diversity of supports and a desire to work to reduce the isolation of individuals who seek opportunities to engage in the cyclical process of teaching, receiving feedback, revising, and trying anew. Strengthened by this experience, my curiosity about the nature of higher education institutions will continue to nudge me to better grasp the academic context in which educational developers, graduate students, undergraduate students, faculty, and staff all seek to learn and share that learning. I hope those reading my research are similarly inspired to see their higher educational context in a new light that illuminates the layers of interdependent mechanisms surrounding each initiative, and to widen the traditional view of support for teaching to encompass formal and informal, initial and ongoing, and identified experts and fellow learners.
References


Morris, M. (2001) Factors affecting the congruence of beliefs about teaching and classroom...


professoriate: Strategies for enriching the preparation of future faculty (pp. 177-193).


Smith, B. (2005). The role of United Kingdom organisations in enhancing the quality of teaching and learning in higher education. In K. Fraser (Ed.), *Education development and leadership in higher education: Developing an effective institutional strategy* (pp. 16-29). Abingdon, UK: RoutledgeFalmer.


## Appendix A: Disciplinary Groups within Datasets

<table>
<thead>
<tr>
<th><strong>Soft Pure</strong></th>
<th><strong>Hard Pure</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Conservation</td>
<td>Anatomy and Cell Biology</td>
</tr>
<tr>
<td>Art History</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Classics</td>
<td>Biology</td>
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<td>Chemistry</td>
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<td>Epidemiology</td>
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<td>Mathematics and Statistics</td>
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<tr>
<td>German</td>
<td>Pathology and Molecular Medicine</td>
</tr>
<tr>
<td>History</td>
<td>Pharmacology and Toxicology</td>
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<td>Psychology</td>
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<td>Religious Studies</td>
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<td>Sociology</td>
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</tr>
<tr>
<td>Spanish Language and Literature</td>
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| 118  Student Service Survey Responses |
| 1  Departmental Faculty/Staff |
| 3  Graduate students (2 masters; 1 doctoral) |

<table>
<thead>
<tr>
<th><strong>Soft Applied</strong></th>
<th><strong>Hard Applied</strong></th>
</tr>
</thead>
<tbody>
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<td>Education</td>
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</tr>
<tr>
<td>Economics</td>
<td>Civil Engineering</td>
</tr>
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<td>GeoEngineering</td>
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<td>Public Administration</td>
<td>Geological Sciences and Geological Engineering</td>
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<td>School of Business Executive Development</td>
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<td>School of Business MBA Programs</td>
<td>Mechanical and Materials Engineering</td>
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<tr>
<td>Urban and Regional Planning</td>
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<td>Rehabilitation Science</td>
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<td>Rehabilitation Science</td>
<td>School of Medicine</td>
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</tbody>
</table>

| 96  Student Service Survey Responses |
| 1  Departmental Faculty/Staff |
| 3  Graduate Students (2 masters; 1 doctoral) |

| 168  Student Service Survey Responses |
| 1  Departmental Faculty/Staff - booked |
| 3  Graduate students (2 masters; 1 doctoral) |

Note. The study contained participants from 44 of these 54 programs.
Appendix B: Ethics Clearance for Quantitative Analysis on Secondary Data

October 17, 2011

Ms. Carolyn Hoessler
Centre for Teaching and Learning
Queen's University
Kingston, ON K7L 3N6

GREB Romeo #: 6005491
Title: ‘GEDUC-527-10 Supports and Systems: Graduate Students’ Teaching and Teaching Development’

Dear Ms. Hoessler:

The General Research Ethics Board (GREB) has reviewed and approved your request for renewal of ethics clearance for the above-named study. This renewal is valid for one year from November 17, 2011. Prior to the next renewal date you will be sent a reminder memo and the link to ROMEO to renew for another year.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period. An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours. Report to GREB through either ROMEO Event Report or Adverse Event Report Form at http://www.queensu.ca/ors/researchethics/GeneralREB/forms.html.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example you must report changes in study procedures or implementations of new aspects into the study procedures. Your request for protocol changes will be forwarded to the appropriate GREB reviewers and/or the GREB Chair. Please report changes to GREB through either ROMEO Event Reports or the Ethics Change Form at http://www.queensu.ca/ors/researchethics/GeneralREB/forms.html.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

Joan Stevenson, Ph.D.
Professor and Chair
General Research Ethics Board

e.c.: Dr. John Freeman, Faculty Supervisor
Denise Stockley, Co-investigator
Dr. Lesly Wade-Woolley, Chair, Unit REB
Erin Wicklam, c/o Graduate Studies and Bureau of Research
Appendix C: Ethics Clearance for Interviews

July 7, 2011

Ms. Carolyn Hoessler  
Ph.D. Candidate  
c/o Graduate Studies and Bureau of Research  
Faculty of Education  
Duncan McArthur Hall  
Queen’s University  
511 Union Street  
Kingston, ON K7M 5R7

Dear Ms. Hoessler:

GREB Ref #: GEDUC-556-11  
Title: “A Contextual View of Support for Graduate Students’ Scholarly Teaching”

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled “A Contextual View of Support for Graduate Students’ Scholarly Teaching” for ethical compliance with the Tri-Council Guidelines (2nd edition) (TCPS 2) and Queen’s ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14), your project has been cleared for one year. At the end of each year, the GREB will ask if your project has been completed and if not, what changes have occurred or will occur in the next year.

You are reminded of your obligation to advise the GREB, with a copy to your unit REB, if applicable, of any adverse event(s) that occurred during this one year period (details available on webpage http://www.queensu.ca/ors/researchethics/GeneralREB/forms.html – GREB Adverse Event Report Form). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB (TCPS 2, Article 6.16). For example you must report changes to the level of risk, applicant characteristics, and implementations of new procedures on the Ethics Change Form that can be found at http://www.queensu.ca/ors/researchethics/GeneralREB/forms.html - Research Ethics Change Form. These changes must be sent to the Ethics Coordinator, Gail Irving, at the Office of Research Services or gailing@queensu.ca prior to implementation. Your request will be forwarded to the appropriate GREB reviewers and/or the GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

[Signature]

Joan Stevenson, PhD  
Professor and Chair  
General Research Ethics Board

c.c.: Dr. John Freeman, Faculty Supervisor  
Dr. Lesly Wade-Woolley, Chair, Unit REB  
EREB: c/o Graduate Studies and Bureau of Research, Attn.: Celina Caswell

JS/gi
## Appendix D: Demographics of Interviewees

<table>
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<th>Participant</th>
<th>Role</th>
<th>Disciplinary Category</th>
<th>Gender</th>
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<td>James</td>
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<td>Staff - Course coordinator</td>
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<td>John</td>
<td>Faculty</td>
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<td>Doctoral student</td>
<td>Hard Pure</td>
<td>Male</td>
</tr>
<tr>
<td>GS13</td>
<td>Doctoral student</td>
<td>Hard Pure</td>
<td>Male</td>
</tr>
</tbody>
</table>
Appendix E: Invitation to Participate for Graduate Students

Hello, my name is Carolyn Hoessler and I am a doctoral student in the Faculty of Education at Queen’s University.

I am interested in how graduate students are supported as they learn about and practice teaching. Are you interested in sharing your experiences?

As part of my doctoral thesis, *A Contextual View of Support for Graduate Students’ Scholarly Teaching*, I am conducting interviews with graduate students. The interview will take approximately 60 minutes and occur at a private location. No serious risks to participating in this research are anticipated. Your participation and responses will be kept confidential. All identifying information, such as names of people or places, will not be reported.

Are you interested in taking part in this interview? If so, please feel free to contact me at this email address (carolyn.hoessler@queensu.ca).

Sincerely,

Carolyn Hoessler
Appendix F: Letter of Information for Graduate Students

LETTER OF INFORMATION

Study Name: *A Contextual View of Support for Graduate Students’ Scholarly Teaching*

Principal Investigator: Carolyn Hoessler
Doctoral Candidate
Faculty of Education
Queen’s University
Kingston, Ontario, Canada
carolyn.hoessler@queensu.ca

Faculty Supervisor: Dr. John Freeman
Faculty of Education
Queen’s University
Kingston, Ontario, Canada
(613) 533-6000 ext. 77298
freemanj@queensu.ca

Purpose of the Study
The purpose of this study is to explore how graduate students’ scholarly teaching is supported within the context of a single higher education institution. Through the use of interviews, I will investigate how support is perceived and experienced by graduate students at this institution, and by individuals who support graduate students’ scholarly teaching as part of or beyond their official roles.

What will happen during the study?
In arranging to meet, we will identify a private location that is acceptable to you. During the one hour one-on-one interview, I will ask about your experiences of support, the opportunities and challenges related to support for teaching, and your perceptions of how support occurs within this institutional context. Interviews will be audio recorded to improve transcription accuracy. During the interview, you do not need to answer questions that you do not want to answer or that make you feel uncomfortable, and you can withdraw at any time.

After the interview, digital audio files from the interviews will be imported into a password-protected computer and will be deleted from the recording unit immediately afterwards by the principal investigator. Raw notes taken during the interview will be destroyed by the principal investigator after being transferred to a password-protected computer file. Names will be removed and replaced with pseudonyms during this process. A hard copy master list of participant names will be kept separate from all transcripts. Imported digital audio files from the interviews will be deleted immediately after transcription is completed and checked. Raw transcripts from individual interviews will remain in electronic form and will be kept in an encrypted file on a computer and back-up storage drive with password protection. In accordance with Queen’s policy, data will be retained for a minimum of five years and then destroyed after these five years have passed.

Are there any risks to doing this study?
The risks involved in participating in this study are minimal. Discussing experiences of support may bring to mind past emotional memories. You do not need to answer questions that you do not want to answer or that make you feel uncomfortable. Your participation in this study is voluntary: you can withdraw at any time, with
no consequences including to your standing as a student at <the university>. If you withdraw, you may request removal of all or part of your data. I describe below the steps that I am taking to protect your confidentiality.

Are there any benefits to doing this study?
In a prior study (Wulff, Austin, Nyquist, & Sprague, 2004), graduate students positively viewed their opportunity to reflect and speak to another person about their experiences during interviews similar to this one. I hope to learn more about how support is perceived and experienced within the context of a single institution. Reporting the findings from this research could help with future planning of support for graduate students’ scholarly teaching within institutional contexts. Participants will not receive any remuneration for this study.

Confidentiality
Every effort will be made to protect your confidentiality to the extent possible. The only individuals who will have access to the data gathered will be myself as the principal investigator (Carolyn Hoessler), my advisor (Dr. John Freeman), and potentially a hired transcriber who will sign a confidentiality agreement. I will not report your name or any information that would allow you to be identified. However, we are often identifiable to those who know us well through the stories we tell.

As part of the qualitative data analysis process, quotes will be selected from transcripts and these quotes reported in support of themes that arise across participants. The resulting themes with quotations may be published or presented, for example, in my thesis, at conferences, or in journal articles. If data are used for secondary analysis, they will contain no identifying information.

What if I change my mind about being in the study?
Your participation in this study is voluntary. During the interview, you have the right to refuse to answer any questions, and you can end the conversation at any time, even after signing the consent form or part way through the study. If you decide to withdraw, there will be no consequences to you. If you withdraw, you may request removal of all or part of your data.

How do I find out what was learned in this study?
I expect to have this study completed by approximately December 15, 2012. If you would like a brief summary of the results, please let me know how you would like it sent to you.

Questions about the Study
Any questions about study participation may be directed to Carolyn Hoessler at carolyn.hoessler@queensu.ca or my supervisor Dr. John Freeman at (613) 533-6000 ext. 77298 or freemanj@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 613-533-6081 or chair.GREB@queensu.ca.

This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.
Appendix G: Consent Form for Graduate Students

CONSENT FORM

A Contextual View of Support for Graduate Students’ Scholarly Teaching

Name of Participant (please print clearly): ________________________________________

1. I have read and retained copies of the Letter of Information and Consent form and have had
any questions answered to my satisfaction.

2. I understand that I will be participating in the study called A Contextual View of Support for
Graduate Students’ Scholarly Teaching, and that the purpose of this study is to explore how
graduate students’ scholarly teaching is supported within the context of a single higher
education institution. During the 60-minutes one-on-one interview, I will be asked about my
experiences of support, the opportunities and challenges related to support for teaching, and
my perceptions of how support occurs within this institutional context. A digital audio
recording device will be used during the interview.

3. I understand that my participation in this study is voluntary. I do not need to answer
questions that I do not want to answer or that make me feel uncomfortable, and I can
withdraw at any time. If I decide to withdraw, there will be no consequences to me, including
to my status as a student at <the university>, and I may request removal of all or part of your
data.

4. I understand that every effort will be made to maintain the confidentiality of the data now
and in the future to the extent possible. The only individuals who will have access to the data
gathered would be the principal investigator (Carolyn Hoessler), her supervisor (Dr. John
Freeman), and potentially a hired transcriber who will sign a confidentiality agreement. The
data, specifically general themes with related quotations from interviews, might be published
in professional journals or presented at scientific conferences. In these presentations, my
name or any information that would allow me to be identified will not be reported. However,
we are often identifiable to those who know us well through the stories we tell. If I am
interested, I am entitled to a copy of the findings.

5. I am aware that if I have any questions, concerns, or complaints, I may direct any questions
about study participation may be directed to Carolyn Hoessler at
carolyn.hoessler@queensu.ca or my supervisor Dr. John Freeman at (613) 533-6000 ext.
77298 or freemanj@queensu.ca . Any ethical concerns about the study may be directed to the
Chair of the General Research Ethics Board at 613-533-6081 or chair.GREB@queensu.ca.

I have read the above statements and freely consent to participate in this research.

Signature: ______________________________________

Date: __________________

☐ Please send a summary of the study’s results to the following email or mailing address

____________________________________________________________________

Please sign one copy of this Consent Form and return to Carolyn Hoessler. Retain the
second copy for your records.

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Appendix H: Interview Guide for Graduate Students

You have agreed to participate in this interview as a graduate student. The purpose of this research is to explore how graduate students’ scholarly teaching is supported within this institutional context.

Initial questions
- Could you tell me a little bit about yourself? What are you involved in at <institution name>?
- How would you describe support for graduate students’ teaching at <institution name>?
- What supports graduate students in their teaching at <institution name>?
- Who is involved in providing [supports mentioned above]?

Intermediate Questions
- Tell me how you go about seeking support.
- What opportunities or resources might you or your fellow graduate students have available?
  - (probe) What are the sources of these resources?
- What problems or challenges might you or your fellow graduate students encounter?
  - (probe) What are the sources of these problems?
- What supports would have further helped you?
- What advice would you give another person seeking support?
- Are there any other sources of support that stand out in your mind? Could you describe [each one]?

Ending Questions
- What have been the most valuable sources of support?
- Is there anything you would like to ask me or comment on?
- Is there anything you would like to add?

Thank you for participating in the interview.
Appendix I: Invitation to Participate for Supportive Individuals

Hello, my name is Carolyn Hoessler and I am a doctoral student in the Faculty of Education at Queen’s University.

I am interesting in how individuals such as yourself support graduate students as they learn about and practice teaching. Are you interested in sharing your experiences?

As part of my doctoral thesis, *A Contextual View of Support for Graduate Students’ Scholarly Teaching*, I am conducting interviews with faculty members, administrators, and staff at <the university> who support graduate students. The interview will take approximately 60 minutes and occur at a private location. No serious risks to participating in this research are anticipated. Your participation and responses will be kept confidential. All identifying information, such as names of people or places, will not be reported.

Are you interested in taking part in this interview? If so, please feel free to contact me at this email address (carolyn.hoessler@queensu.ca).

Sincerely,

Carolyn Hoessler
Appendix J: Letter of Information for Supportive Individuals

LETTER OF INFORMATION

Study Name: A Contextual View of Support for Graduate Students’ Scholarly Teaching

Principal Investigator: Carolyn Hoessler
Doctoral Candidate
Faculty of Education
Queen’s University
Kingston, Ontario, Canada
carolyn.hoessler@queensu.ca

Faculty Supervisor: Dr. John Freeman
Faculty of Education
Queen’s University
Kingston, Ontario, Canada
(613) 533-6000 ext. 77298
freemanj@queensu.ca

Purpose of the Study
The purpose of this study is to explore how graduate students’ scholarly teaching is supported within the context of a single higher education institution. Through the use of interviews, I will investigate how support is perceived and experienced by graduate students at this institution, and by individuals who support graduate students’ scholarly teaching as part of or beyond their official roles.

What will happen during the study?
In arranging to meet, we will identify a private location that is acceptable to you. During the one hour one-on-one interview, I will ask about your experiences providing support, the opportunities and challenges, and your perceptions of how support occurs within this institutional context. Interviews will be audio recorded to improve transcription accuracy. During the interview, you do not need to answer questions that you do not want to answer or that make you feel uncomfortable, and you can withdraw at any time.

After the interview, digital audio files from the interviews will be imported into a password-protected computer and will be deleted from the recording unit immediately afterwards by the principal investigator. Raw notes taken during the interview will be destroyed by the principal investigator after being transferred to a password-protected computer file. Names will be removed and replaced with pseudonyms during this process. A hard copy master list of participant names will be kept separate from all transcripts. This list will be kept in a locked filing cabinet and destroyed after five years. Imported digital audio files from the interviews will be deleted immediately after transcription is completed and checked. Raw transcripts from individual interviews will remain in electronic form and will be kept in an encrypted file on a computer and back-up storage drive with password protection. In accordance with Queen’s policy, data will be retained for a minimum of five years and then destroyed after these five years have passed.

Are there any risks to doing this study?
The risks involved in participating in this study are minimal. Discussing experiences of providing support may bring to mind past emotional memories.
You do not need to answer questions that you do not want to answer or that make you feel uncomfortable. Your participation in this study is voluntary: you can withdraw at any time, with no consequences including to your standing at <the university>. If you withdraw, you may request removal of all or part of your data. I describe below the steps that I am taking to protect your confidentiality.

**Are there any benefits to doing this study?**
I hope to learn more about how support is perceived and experienced within the context of a single institution. Reporting the findings from this research could help with future planning of support for graduate students’ scholarly teaching within institutional contexts. Participants will not receive any remuneration for this study.

**Confidentiality**
Every effort will be made to protect your confidentiality to the extent possible. The only individuals who will have access to the data gathered will be myself as the principal investigator (Carolyn Hoessler), my advisor (Dr. John Freeman), and potentially a hired transcriber who will sign a confidentiality agreement. I will not report your name or any information that would allow you to be identified. However, we are often identifiable to those who know us well through the stories we tell.

As part of the qualitative data analysis process, quotes will be selected from transcripts and these quotes reported in support of themes that arise across participants. The resulting themes with quotations may be published or presented, for example, in my thesis, at conferences, or in journal articles. If data are used for secondary analysis, they will contain no identifying information.

**What if I change my mind about being in the study?**
Your participation in this study is voluntary. During the interview, you have the right to refuse to answer any questions, and you can end the conversation at any time, even after signing the consent form or part way through the study. If you decide to withdraw, there will be no consequences to you. If you withdraw, you may request removal of all or part of your data.

**How do I find out what was learned in this study?**
I expect to have this study completed by approximately December 15, 2012. If you would like a brief summary of the results, please let me know how you would like it sent to you.

**Questions about the Study**
Any questions about study participation may be directed to Carolyn Hoessler at carolyn.hoessler@queensu.ca or my supervisor Dr. John Freeman at (613) 533-6000 ext. 77298 or freemanj@queensu.ca . Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 613-533-6081 or chair.GREB@queensu.ca .

*This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.*
Appendix K: Consent Form for Supportive Individuals

CONSENT FORM
A Contextual View of Support for Graduate Students’ Scholarly Teaching

Name of Participant (please print clearly): __________________________________________

1. I have read and retained copies of the Letter of Information and Consent form and have had any questions answered to my satisfaction.

2. I understand that I will be participating in the study called A Contextual View of Support for Graduate Students’ Scholarly Teaching, and that the purpose of this study is to explore how graduate students’ scholarly teaching is supported within the context of a single higher education institution. During the 60-minutes one-on-one interview, I will ask about your experiences providing support, the opportunities and challenges, and your perceptions of how support occurs within this institutional context. A digital audio recording device will be used during the interview.

3. I understand that my participation in this study is voluntary. I do not need to answer questions that I do not want to answer or that make me feel uncomfortable, and I can withdraw at any time. If I decide to withdraw, there will be no consequences to me, including to my status at <the university>, and I may request removal of all or part of your data.

4. I understand that every effort will be made to maintain the confidentiality of the data now and in the future to the extent possible. The only individuals who will have access to the data gathered would be the principal investigator (Carolyn Hoessler), her supervisor (Dr. John Freeman), and potentially a hired transcriber who will sign a confidentiality agreement. The data, specifically general themes with related quotations from interviews, might be published in professional journals or presented at scientific conferences. In these presentations, my name or any information that would allow me to be identified will not be reported. However, we are often identifiable to those who know us well through the stories we tell. If I am interested, I am entitled to a copy of the findings.

5. I am aware that if I have any questions, concerns, or complaints, I may direct any questions about study participation may be directed to Carolyn Hoessler at carolyn.hoessler@queensu.ca or my supervisor Dr. John Freeman at (613) 533-6000 ext. 77298 or freemanj@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 613-533-6081 or chair.GREB@queensu.ca.

I have read the above statements and freely consent to participate in this research.

Signature: __________________________________________

Date: __________________

☐ Please send a summary of the study’s results to the following email or mailing address _____________________________.

Please sign one copy of this Consent Form and return to Carolyn Hoessler. Retain the second copy for your records.
Appendix L: Interview Guide Questions for Supportive Individuals

You have agreed to participate in this interview based on your work with graduate students to help them develop their teaching. The purpose of this research is to explore how graduate students’ scholarly teaching is supported within this institutional context.

Initial questions
- Could you tell me a little bit about yourself? What are you involved in at <institution name>?
- How would you describe support for graduate students’ teaching at <institution name>?
- What supports graduate students in their teaching at <institution name>?
- Who is involved in providing [supports mentioned above]?

Intermediate Questions
- Tell me how you provide support.
- Tell me about the graduate students you aim to support.
- What opportunities or resources are available?
  o (probe) What are the sources of these resources?
- What problems or challenges are encountered in supporting graduate students’ teaching?
  o (probe) What are the sources of these problems?
- What supports would have further helped graduate students?
- What advice would you give another person seeking to provide support?

- Are there any other sources of support that stand out in your mind? Could you describe [each one]?

Ending Questions
- What are the most valuable sources of support from your perspective?
- Is there anything you would like to ask me or comment on?
- Is there anything you would like to add?

Thank you for participating in the interview.
Appendix M: Glossary of Institution-Wide Supports

*Teaching support centre programming, services and resources*

**Certificate program** – The teaching certificate program offered graduate students and other TAs and instructors preparation for their current roles and celebration of their professional development efforts through "formal recognition of development activities that enhance their teaching skills” (teaching support centre website). The four certificates in this program are gained through action, reflection, and drafting a component of a teaching dossier. The specified actions for each of the four certificates respectively are: attending workshops, gaining feedback on teaching experience, producing scholarship or literature reviews, and providing leadership.

**Consultations** – The teaching support centre offered confidential consultations that included help with collecting feedback from students, teaching observations in the classroom, curriculum and course planning, or online and library informational resources. Upon request, teaching support centre staff can “meet with [your] students to obtain feedback about appropriate instructional strategies” or “visit your classroom to observe your teaching, pay close attention to a particular feature or activity as requested, and provide feedback in general and on specific parts of your teaching” (teaching support centre webpage).

**Leadership development program** – a new program for anyone on campus seeking to develop their leadership skills involves the selection of at least one of the four workshop streams (individual leadership, team leadership, institutional leadership, and external leadership) and a choice of experiential opportunities (mentorship, peer coaching circles, and service).

**English assessment and course** – The 2005 Senate policy required all international graduate students to have their language communication skills assessed with mandatory testing. Those who did not pass had to complete this course for “non-native speakers of English and who need to improve their English language communication skills so that they may better support undergraduate students in their learning” (teaching support centre website).

**Info on teaching topics/website** – The informational resources advertised on the teaching support centre website include online topic-specific webpages that cover areas such as assessment, curriculum development, graduate supervision, and lab-based learning.

**Lecture capture** – This technology allows for instructors to record their presentations through a “fully-automated capture system records both the presenter and his/her presentation content that is displayed on the projector” (teaching support centre website).

**Online teaching course**– An online course on teaching and learning principles and course design that was originally an in-person course, then a web-based course (2009-2011). (Absent from the new teaching support centre website as of January 2012.)

**Teaching and learning course** – The cross-disciplinary graduate teaching and learning course is “intended for graduate students across the disciplines who want to become skilled, thoughtful, and confident teachers in higher education” (teaching support centre website).
**Teaching assistant associate** “works specifically on TA development … offers a series of workshops as well as one-on-one consultations to TAs on teaching and learning matters ... keeps abreast of TA needs at <the university> and develops projects to address them” (Sub-committee report, 2002, p. 3). (Absent from the new teaching support centre website as of January 2012.)

**TA awards** – The awards section of the teaching support centre website highlights existing internal departmental, faculty-wide, and institution-wide teaching awards for instructors and for TAs; and external provincial and national awards. Guidelines for creating new teaching awards are posted for departments and institutional bodies supporting further recognition of graduate students. The awards are created and adjudicated at the department and institution levels.

**TA handbook** – A document with teaching strategies and other information for TAs. (Absent from the new teaching support centre website as of January 2012.)

**Teaching development day** – An annual day of teaching development workshops in September for all graduate students and others on campus. Originally (until 2010) “TA Day” just for TAs. (Absent from the new teaching support centre website until added late-January.)

**Teaching development workshop series** – Weekly 90-minute sessions in the fall term and bi-weekly sessions in the winter term that cover a wide range of teaching topics for everyone involved in teaching including marking, equity, engaging students, technology, and more.

**Teaching dossier handbook** – The teaching dossier handbook is a detailed document outlining the sections and process involved in creating a teaching dossier; available online as a pdf file.

**Resource library** – Located within the <teaching support centre, this library houses books and articles related to teaching and learning, faculty careers, and graduate student development.

**Other Institution-wide programming, services and resources**

**Academic skills support centre PowerPoint slides** – This downloadable slide presentation describes the study skills development services available at the <academic skills support centre. It is intended for TAs and instructors, including graduate students in these roles, to show at the start of class to outline what services are available for students in their course.

**Academic skills support centre stickers** - This resource consists of sheets of stickers that show a checklist of available academic skills support centre services, which TAs and instructors can attach to students’ assignments to “indicate whether the student should seek help with their writing, research or study skills … direcl[t students] to the <academic skills support centre> website, where they can access a variety of resources to better help them make the grade” (academic skills support centre webpage).

**Mental health brochure** - Brochure on how to recognize students “in distress” co-created by students, service, and administrative bodies on campus. This resource lists signs to look for, steps for helping students in distress, and resources available on campus.

*All programs referred to by pseudonyms or by their original generic names (e.g., TA awards)*
### Quotes organized by Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Quotes</th>
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<tr>
<td><strong>Supportive Faculty and Staff Interviews:</strong>&lt;br&gt;Taught Support Centre (general)</td>
<td>“I have to give props to the &lt;teaching support centre&gt; - they are an amazing resource. We frequently refer people to the &lt;teaching support centre&gt; because they do within their general practice put such an emphasis on equity in the classroom … beyond the human resources available in the &lt;teaching support centre&gt;, there are also media and literature-based resources that are available that people can tap into” (Linda)</td>
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<td><strong>Graduate Student Interviews:</strong>&lt;br&gt;“&lt;teaching support centre&gt;” (GS1)</td>
<td>“I think a big source is the &lt;teaching support centre&gt; … a good source of support.” (GS2) &amp; At the &lt;university&gt; level, … I’ve never had much interaction … beyond the Faculty except for the &lt;teaching support centre&gt;,” (GS2)</td>
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<td><strong>Certificate Program</strong>&lt;br&gt;Supportive Faculty and Staff Interviews:&lt;br&gt;“definitely the &lt;teaching support centre&gt; … So having had something of a relationship with the &lt;teaching support centre&gt; … talking about certificates that you guys do … – obviously that’s a primary one” (Elizabeth)</td>
<td>“I encourage them to do the program at the &lt;teaching support centre&gt; the three certificate program” (Mary)</td>
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<td><strong>Teaching Development Day</strong>&lt;br&gt;Supportive Faculty and Staff Interviews:&lt;br&gt;“the &lt;teaching support centre&gt; workshops about various aspects of teaching, you know, the day-long symposia and shorter workshops about various aspects of teaching … has been a good source of support.” (GS2) &amp; “I think there’s an orientation day for TAs and TFs” (GS7)</td>
<td>“there’s a specific program I participate in which is the Teaching Assistant (TA) Training Day that’s organized by the &lt;teaching support centre&gt; each year in September - the beginning of the year” (Patricia)</td>
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<td><strong>Graduate Student Interviews:</strong>&lt;br&gt;“&lt;teaching support centre&gt; workshops about various aspects of teaching, you know, the day-long symposia and shorter workshops about various aspects of teaching … has been a good source of support.” (GS2) &amp; “I think there’s an orientation day for TAs and TFs” (GS7)</td>
<td>“My students have also generally done the teaching assistant and teaching fellow development day at the beginning of September, which we have every year” (Robert)</td>
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<td><strong>Graduate Student Interviews:</strong>&lt;br&gt;“&lt;teaching development day in September&gt; … the TA days – I love those and … not just to better my … TAing but long-term because I want to teach eventually … So the TA days are great and just for personal as well because it makes me, I think, when you can mark a paper better, it makes you – in some ways – able to write your own papers better” (GS7)</td>
<td>“I encourage all of mine to do the TA day, professional development day.” (Mary)</td>
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<td><strong>Graduate Student Interviews:</strong>&lt;br&gt;“&lt;teaching development day in September&gt; … the TA days – I love those and … not just to better my … TAing but long-term because I want to teach eventually … So the TA days are great and just for personal as well because it makes me, I think, when you can mark a paper better, it makes you – in some ways – able to write your own papers better” (GS7)</td>
<td>“There’s a lot of opportunities for seminars and workshops; we went to the Teaching and Development day, which I found quite useful … a bunch of us signed up but … we all wound up in different seminars … It was useful. I went to some interesting stuff. All of which you can kind of take into account and some of it too was just even refresher stuff – like refreshing of the basics – and it’s always good to get little reminders like that.” (GS10)</td>
</tr>
<tr>
<td><strong>Graduate Student Interviews:</strong>&lt;br&gt;“&lt;teaching development day in September&gt; … the TA days – I love those and … not just to better my … TAing but long-term because I want to teach eventually … So the TA days are great and just for personal as well because it makes me, I think, when you can mark a paper better, it makes you – in some ways – able to write your own papers better” (GS7)</td>
<td>“One day Teaching Development Day … the other TAs … didn’t attend because they were outside &lt;the city&gt;. But to me, that was a very helpful kind of introduction about my roles and how I can engage students.” (GS11)</td>
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| **English Assessment & Course** | **Supportive Faculty and Staff Interviews:**
|--------------------------------|--------------------------------|
|                                | “providing extra or different support for graduate students aside from the course … <course code> which is a pass/fail course that graduate students” (Elizabeth)
|                                | “there is a course that they complete prior to being teaching assistant for language” (Patricia) |

| **Teaching & Learning Course** | **Supportive Faculty and Staff Interviews:**
|--------------------------------|--------------------------------|
|                                | “sessions here on research assignment assessment in the … course for graduate students learning how to teach that’s run out of the <teaching support centre>” (Barbara)
|                                | “one of my own grad students took the <course code>, or whatever course it is – the higher education course” (Robert)
|                                | “I suppose some of them do go on to do <course code> … through the <teaching support centre>” (Mary) |

| **Graduate Student Interviews:** | “the one course I took was <course code>, which is teaching and learning in higher education that wasn't for credit but it was a pass or fail” (GS1) & “<Teaching support centre> <course code> that course because it was voluntary and because it wasn't for credit brought out a lot of students who were passionate about improving their teaching and learning and some students were doing it to build their resumes because that was what they wanted to get into but other students were really there for the value that the course offered.” (GS1)
|                                | “Not a whole lot I mean, they… it was kind of hands off I mean, I know they have the <teaching support centre> and there were courses on teaching – on the basics of teaching – that you could have taken. It would have just been way too much for me. To have done that with my… with the teaching I already had with the classes that I already had, with the thesis I was working on ‘cause I was an MA student but I took… all the courses I took were PHD-level…” (GS6)
|                                | “the <course code>” (GS7)
|                                | “I really want to do … the teaching course … I know it’s in winter … I know the space is limited but I haven’t signed up for it yet because I’m not sure what things will be like … at that point … But I think I go looking for it because teaching is important to me.” (GS7)
|                                | “So I started attending … in my first year, in the winter semester, I took <course code>.” (GS9) |

| **Online Teaching Course** | **Supportive Faculty and Staff Interviews:**
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<td></td>
<td>“&lt;online teaching course&gt;” (Barbara)</td>
</tr>
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</table>

| **Teaching Support Centre Workshops** | **Supportive Faculty and Staff Interviews:**
|--------------------------------------|--------------------------------|
|                                      | “workshops, such as the ones we do for the <teaching support centre> " (Elizabeth)“
|                                      | “the workshops that go on in the <teaching support centre> … it’s through <workshop series>, it’s with other workshops through the <teaching support centre>” (Barbara) |

| **Graduate Student Interviews:** | “<Teaching support centre workshop series> is the first one that comes to mind that I’ve been going out to and participating in. I’d kind of like to see that more.” (GS1) & “I’ve gone to a couple of the <workshop series> sessions and have met like-minded students who share an interest in the teaching and learning.” (GS1)
|                                | “I have been to several workshops … shorter workshops about various aspects of teaching.” (GS2)
|                                | GS3: So, we were mandated to go to … the <teaching support centre> TA training seminars … I went to the required, the minimum number of them … in terms of formal pedagogy training there wasn’t a lot. (GS3)
|                                | “I went to some <workshop series> workshops” (GS9) |

| **Consultations at Teaching support centre** | **Graduate Student Interviews:**
|---------------------------------------------|--------------------------------|
|                                             | Well, I guess like just in general terms for a new TA like for someone coming who’s newly TAing, I think my advice would be … if I could go back to myself a year ago at this time last year when I was brand new … be a little bit more resourceful. I could have gone and sought out help or just a second opinion on some of the situations I had that were… I wasn’t really sure what to do. That I was just kind of like feeling my way through it. Maybe to go to the <teaching support centre> and get a second opinion about those things (GS7)

| **Info on teaching topics/ website** | **Graduate Student Interviews:**
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<td></td>
<td>“The &lt;teaching support centre&gt;. I haven’t used it yet but I believe there are some really good resources … there’s probably some online resources. Like the other day I was looking at TA evaluation and … guides about what your role as a TA is and things like that.” (GS11)</td>
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<tr>
<td>Inst.-wide workshop series</td>
<td>Supportive Faculty and Staff Interviews:</td>
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<td>“upcoming winter term because &lt;name&gt; over at the School of Graduate Studies is sort of spearheading the certificate program, so had added … a couple of workshops to the roster … and now we’re offering a total of &lt;number&gt; specifically designed for grad students” (Elizabeth)</td>
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<td>“Grad School is getting more on-board with putting together program for grad students looking at their scholarly career in a broader way and so I think that there are people in place within the graduate school who are able to offer some guidance on those kinds of things.” (Linda)</td>
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<td>“&lt;graduate studies office&gt; has made a really great effort in … categorizing what’s on offer into these streams under the umbrella of &lt;institutions-wide workshop series&gt; … a few years ago started out small and then all these student services and other offices came forward with different kinds of programming … and all of a sudden there were more than 130 sessions … [then] over the last year … think logically: Ok, what kinds of skill sets and experience do people want to have – what’s most pertinent and so they’ve culled that down to a few. And I think that makes it easier for students to figure out: Ok, this is really what I’m after … like a road map” (Patricia)</td>
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<td>Graduate Student Interviews:</td>
<td>“All of the extra workshops that they offer through the … &lt;graduate studies office&gt;, I’ve been going to a whole bunch of these different workshops. For various different things; for my personal development and for TA development that have been useful too, so there’s a lot of extra learning opportunities that &lt;university&gt; provides that I think is really nice too.” (GS10)</td>
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<th>Teaching and Learning events</th>
<th>Graduate Student Interviews:</th>
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<td>“Full-day workshops that focus on how learning works; the slow professor which was a two-hour seminar at night. And you see the same familiar faces but then only at those sessions.” (GS1)</td>
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<td>“When they hold the big half day workshops like ‘&lt;institution-wide event about teaching with invited speaker&gt;] people from the faculty will show up, but again you see kind of the same few select people who are interested. It's like pockets of people that would just show up there but no coordinated effort at the faculty level I haven't seen.” (GS1)</td>
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<th>Resources for their students (indirect support/referrals)</th>
<th>Supportive Faculty and Staff Interviews:</th>
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<td>“TAs … how can they be creative with library or information resources to design projects and it could be about technologies that are available … examples of teaching with bit strips or the smart board, Wordle, other web-based resources … apart from finding books and that sort of thing”. (Barbara)</td>
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<td>“tutorial program [for undergraduates]- so I imagine what that would do is sort of take some of the pressure off of graduate students to address all things … if you’re marking student writing or you have students who are having difficulty with the material, you can focus on … Concerns of content, course themes, bigger picture.” (Elizabeth)</td>
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<td>“grad students who get in touch with us now and then who want workshops for their seminar groups, which is nice. … and we also get graduate students who are TA-ing referring students to us specifically.” (Elizabeth)</td>
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<td>Graduate Student Interviews:</td>
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<td>“counseling services” (GS7)</td>
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<tr>
<th>Inst.-wide online resources</th>
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<td>Website:</td>
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<td>“I know there have been efforts over the past few years to develop websites that have a graduate student section, that are user friendly, that are set up along theme lines that graduate students would say: This are important to me.” (Patricia)</td>
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<td>Blog:</td>
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<td>“The &lt;graduate studies office&gt; – have two students who blog for them” (Patricia)</td>
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<td>Graduate Student Interviews:</td>
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<td>Website:</td>
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<td>“What I would like to see is maybe something like on the… on the &lt;university&gt; webpage for graduate students or something directly for like TAs. Kind of like, what to experience. I don’t find our website extremely user friendly, so maybe that’s part of it. It could be in there and just buried.” (GS5)</td>
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<td>Supportive Faculty and Staff Interviews:</td>
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<td>“more of a union kind of thing but I do think there are discrepancies … certain disciplines graduate students are going to be expected to mark a lot more and the task will be a lot more intensive, I think, than in other disciplines and I’m not sure that that’s very fair considering that I think most grad students are funded” (Elizabeth)</td>
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<td>“so now we have the first year with the union so I think that that’s really important because I know that grievances are often initiated need support” (Mary)</td>
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<td>“union” (Robert)</td>
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<td>Graduate Student Interviews:</td>
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<td>“I know now with the union coming in, they’ve introduced some documents to outline your tasks for the week, and this is where you hours will be allocated and you have to sign a contract … I don’t think that's really what they are there for and what they were trying to do with that” (GS1)</td>
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<td>“I know, we’re formally unionized now but even that process isn’t clear … where you can go or like what steps you can follow. So if you’re not getting along with the person you’re marking for or what to do if you are completely stressed out. Or I would like to see some kind of cut off, so then you aren’t getting a paper the night before the marks have to be in. Something like that. Something a little bit more formal.” (GS5)</td>
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<th>Union</th>
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<td>Accessibility Services: “&lt;accessibility services&gt;” (Linda)</td>
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<td>Language Training: “&lt;on-campus school for learning English&gt;” (Linda)</td>
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<td>&lt;International Student Centre&gt;:</td>
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<td>“A support group &lt;the international student centre&gt; which hasn’t run for a couple of terms now, and was mainly to do with their own work but I think anytime graduate students can kind of cluster together in some way and share experiences” (Elizabeth)</td>
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<td>“ &lt;the international student centre&gt;” (Linda)</td>
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<td>“One-on-one sort of volunteer – language volunteer” (Patricia)</td>
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<td>“an English conversation group that meets weekly. The purpose of that group is not so much to teach English … but … the chance to be conversational in English … it gives people a sense of community … beyond their faculty or their own department. … The second reason … is to gain confidence with English” (Patricia)</td>
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<td>“The orientation that &lt;the international student centre&gt; provides to incoming graduate students …case study discussion … information in paper form as a takeaway” (Patricia)</td>
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<td>Graduate students association:</td>
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<td>“&lt;graduate students’ association&gt;” (Mary)</td>
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<td>“The &lt;graduate students’ association&gt; have done a lot work in the last few years to create structures within the organization” (Patricia)</td>
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<td>“&lt;graduate students’ association&gt; have peer advisors and that the traditional role has been for the peer advisor to support people who have run into difficulty and what are some options here after it’s all clarified. But … this year … the peer advisors are holding - I think it is monthly meetings and there are themes … There are kinds of little case studies or stories or whatever the people talk through and work around” (Patricia)</td>
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<td>Library: “a librarian that does their materials and … comes to departmental meetings and she offers graduate students hands-on sessions on library research … hands on library labs for all of our undergrads and our TAs, obviously, come with their students during their tutorial time … So they do get support from the library in that way” (Mary)</td>
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<td>&lt;writing support centre&gt;: “&lt;writing support centre&gt; … they offer writing courses and … speaker series as well, where other grad students or profs come in and talk about things like: how to do a lit. review or how to this or that and those are … always well attended” (Mary)</td>
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<td>“a support group … which hasn’t run for a couple of terms now, and was mainly to do with their own work … It was really small though but the feedback was really good and positive so” (Elizabeth)</td>
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<td>“Initially … random workshops as requested. … [now] a more ongoing, consistent type of thing” (Elizabeth)</td>
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<td>Support staff: “I certainly realize as we were talking, the implicit sources of support like support staff and &lt;teaching support centre&gt; … I hadn’t appreciated all the forms of support.” (GS2)</td>
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